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Determinants of Corporate Sustainability Performance of Listed Oil and Gas Companies in Nigeria: The Role of Internal Governance Mechanisms

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Abstract
Purpose: This research examines the factors that drive corporate sustainability performance of listed oil and gas companies in Nigeria.
Design/methodology/approach: This research is a longitudinal study on the drivers of CSP of listed oil and gas companies. The study period covers five years from 2010-2019 and data were collected from the listed companies annual report and account. The data were analyzed using panel regression technique and Hausman specification test was conducted to select the best model estimation between random and fixed effect models.
Findings: The panel regression results reveal that board size, board gender diversity and independent directors positively and significantly influence CSP. The results also shows that the size of the company positively influence CSP. Further, the findings reveal that leverage and profitability are negatively associated with CSP.
Research limitations/implications: This study covers only companies in the oil and gas sector in Nigeria; therefore, the findings cannot be generalized to other quoted companies in Nigeria. The data for this research covers only ten years from 2010-2019, this is because most listed companies in Nigeria are not included in the independent sustainability databases such as ASSET4 Thomson Reuters and Dow Jones Sustainability Indices. Thus, the data for this study is manually collected from the annual report and company's website.
Practical implications: The outcome of the study shows that the presences of female directors' influence company management to proactively implement CSP initiatives to satisfy wide range of stakeholders. Thus, the study encourages corporate organization to design their board to include more female directors and independent directors with different backgrounds, knowledge and experience that can improve their CSP and contribute to sustainable development. Therefore, the study recommends that an increase of female representation and independent directors on the corporate board of oil and gas companies.
Originality/value: Drawing from the stakeholder theory, the study proposed six hypotheses that relate CSP with internal governance and firm-specific characteristics. Findings reveal a

positive and significant effect of board size, board gender diversity, board independence and CSP. Thus, in addition to the external regulations on CSP, internal governance mechanisms also drive companies to engage in sustainability programs.

Keywords: Corporate Sustainability Performance, Board Independence, Oil and Gas Companies.

Introduction

Traditionally, profit maximization has been the driving force behind corporate organizations, with a greater emphasis on generating shareholder wealth. This approach overlooks the importance of the environment and society in which economic operations are often conducted. Firms, on the other hand, rely on the environment for resources and waste disposal, as well as the community for labor, markets, and regulations (Walker, Yu, & Zhang, 2020). Accordingly, there is a greater need for corporate sustainability performance (CSP). CSP refers to an organization's policies and practices aimed at creating profit and shareholder wealth while sustaining human and environmental resources for the future (Artiach, Lee, Nelson, & Walker, 2010; Bernard, Godard, & Zouaoui, 2018).

The oil and gas sector in Nigeria accounts for more than 85% of the country's foreign exchange and is still the primary source of revenue to the government. Nigeria has the largest oil and gas sector in Africa, with a daily production rate of over 1.4 million barrels per day. However, the activities of the oil and gas industry have generated a negative impact on the livelihood of indigenous people who rely on ecosystem services for their survival, resulting in increased poverty and the displacement of individuals and communities. Corporate organizations are expected to contribute significantly to the accomplishment of UN Sustainable Development Goals 2030. In line with this mandate, the revised Nigerian Code of Corporate Governance (2018) has provided several sustainability performance principles that require companies to sustain the environment and add value to the society. Likewise, the Apex Bank of Nigeria that regulate the operation of financial institutions also issued sustainability reporting principles for banks and other financial services companies to report their sustainability practices. However, empirical research has not been extensively conducted on the factors that drive corporate organizations in Nigeria toward sustainable performance.

The vast majority of prior empirical investigations on the drivers of CSP were carried out in developed countries (See. Artiach et al., 2010; Bernard et al., 2018; Walker et al., 2020) with very little attention to the developing countries and Sub-Saharan Africa countries. The studies by Aksoy, Yilmaz, Tatoglu and Basar, (2020), Crisóstomo, Freire and Freitas (2019) and Lourenço and Branco (2013) are among the few studies conducted in developing countries. However, in Sub-Saharan Africa, there is currently a scarcity of empirical study on the possible drivers of CSP. Moreover, the role internal governance mechanisms, including corporate board diversity and board independence are not fully explored in Nigeria. The board of directors is in charge of defining organizational policies and ensuring their effective execution by overseeing day-to-day management process. As a result, in addition to internal characteristics such as company size, profitability, leverage, liquidity, and ownership structure.

The board of directors is responsible for establishing organizational policies and ensures its effective implementation by monitoring the management in charge of day-to-day operations. Thus, in addition to the internal characteristics of the company, such as its size, profitability, leverage, liquidity and ownership structure as documented by Artiach et al. (2010), Aksoy et al. (2020) and Lourenço and Branco (2013), internal governance mechanisms, may also play an important role toward CSP in Nigeria.

Therefore, the aim of the study is to empirically explore into the determinants of CSP in Nigerian listed oil companies, as well as the impact of internal governance systems in a firm's decision to invest in CSP. Six (6) hypotheses are developed based on stakeholder theory that relates internal governance and firm-specific characteristics to CSP. Our results indicate board size, board gender diversity, board independence and firm size are positively associated with CSP. Unlike what we expected, neither leverage nor profitability have a significant role in determining CSP.

Overall, our findings reveal that internal governance mechanisms such as board gender diversity, board independence and firm size are positively and significantly connected to CSP investment, which support the stakeholder theory paradigm. These findings provide a support that organizations are driven to invest in corporate sustainability programs because such investments boost their reputation and competitive advantage.

The remaining part of the research is organized in the following manner. The literature review, theoretical framework and hypothesis development are presented in Section 2. The study method is explained in Section 3, findings are discussed in Section 4 and the paper is summarized and concluded in Section 5.

Literature Review

CSP entails incorporating sustainable development goals into the company's operational practices. Promoting social fairness, increasing economic efficiency and improving environmental performance are among these goals. International organizations have launched several initiatives to promote corporate sustainability, including the United Nations Global Compact (UNGC), the Global Reporting Initiatives (GRI) Sustainability Reporting Guidelines, and the International Organization for Standardizations (ISO) 14001, which guides environmental management. At the business level, however, balancing the social, environmental, and economic aspects of sustainability performance is highly challenging (Aksoy et al., 2020).

Previous studies have examined different determinants of CSP, including financial and operating characteristics (Aksoy et al., 2020; Artiach et al., 2010; Dincel & Gungor, 2018; Lourenço & Branco, 2013). However, the influence of CSP on financial performance has been the subject of numerous empirical investigations. Notwithstanding the sustainable development challenges facing African continent, an empirical investigation has not been directed toward factors that drive companies to sustainable development.

Aksoy et al. (2020) examine the determinants of CSP of Turkish manufacturing companies listed in the Sustainability Index of Borsa Istanbul. Based on agency and stakeholder theories, six hypotheses related to CSP with firm-specific characteristics, ownership structure, and board attributes were formulated. Their findings show that institutional and foreign ownerships are favorably related with CSP, the size of the corporate board and the proportion of independent directors also influence positively the CSP of Turkish enterprises. These findings consider sustainability activities as part of the corporate strategy for managing the company's relationship with the environment can be linked to the diverse skills of the independent directors. On the other hand, CEO duality and female directors have insignificant effect on CSP likewise financial performance is negatively associated with CSP.

In the United States, Artiach et al. (2010) has investigate what motivates companies to invest in CSP. They examined the firm internal factors that are associated with high-level CSP by comparing leading CSP companies with conventional companies, their findings reveal that leading CSP companies are very larger, have better growth prospects and earn higher return on equity. Contrary to their propositions, neither firm’s liquidity nor leverage have a significant influence on CSP.

Similarly, Lourenço and Branco (2013) also investigate the factors that lead to high level of CSP in Brazil. The level of CSP was proxied by the membership of the Bovespa Corporate Sustainability Index and drawing stakeholder and resource-based view theories. Accordingly their findings indicate that leading Brazilian CSP enterprises are large in size and have a higher return on equity than other firms. In United State, Artiach et al. (2010) also found similar results. In addition, their findings also reveal that leading CSP firms have low ownership concentration and high listing status than other firms. These findings suggest that the CSP of publicly traded companies in Brazil is unaffected by financing characteristics.

Dincel and Gungor (2018) assessed the link between CSP and financial performance of companies listed in BIST 100 for the period of 5years from 2012-2017. Using the sustainability index based on Dow Jones Corporate Sustainability assessment and analysis of variance, they found that firms' level of sustainability practices significantly influence financial performance proxied by gross profit margin, current ratio and corporate governance index. In another study, Yilmaz, Aksoy and Tatoglu (2020) also investigates the effect of CSP on the firm value of Turkish companies. CSP was measured by the inclusion of listed companies on the BIST sustainability index for 2014-2017. Their findings have not indicates any significant effect of the inclusion status on the stock returns of the companies. On the other hand, the findings demonstrated that inclusion in the BIST sustainability index lowers the company's absolute risk and saves it from going bankrupt in the event of a severe crisis.

In Asia, Laskar, Chakraborty and Maji (2017) empirically investigate the effect of CSP on financial performance of companies from India and Japan. Using content analysis and logit regression model, the study found that CSP has a strong and considerable impact on financial performance. CSP is proxied by economic, social and environmental performance indicators, while financial performance is measured using the market to book value ratio. Based on the data collected from 63 listed non-financial companies, the analysis further indicates that environmental and social performance have more influence on the financial performance of companies in both countries. Likewise, in Nigeria, previous studies have focused on the effect of CSP on corporate financial performance. Following the Central Bank of Nigeria publication of Sustainability Reporting Guidelines, Nwobu (2015) examined the impact of sustainability reporting on profitability and shareholders fund of listed Banks in Nigeria. Using content analysis from the sustainability information extracted from the annual report of the sampled companies, their results indicate a positive association between sustainability reporting index and profitability measured by PAT and shareholders' fund. Johnson-Rokosun and Olanrewaju, (2016) has also explored the trend of sustainability reporting of listed companies in Nigeria and found that social and governance sustainability performance are more disclosed in the annual report of companies than environmental sustainability performance. Although the companies in Nigeria utilized CSP to manage stakeholder pressure, the overall performance is still lagging compared to the global best practices.

Atoyebi and Okpe (2021) empirically examine the effect of sustainability reporting on the financial performance of manufacturing companies in Nigeria. Based on data from the sampled companies' annual reports, the findings suggest that economic and environmental performance has a favorable and significant impact on the financial performance of listed manufacturing enterprises. On the contrary, Asuquo, Esther Temitayo and Udonna Raphael, (2018) did not found any significant influence of sustainability performance disclosure on the corporate financial performance of Brewery companies in Nigeria. Their findings show that economic, social and environmental performance disclosures have no strong effect on the ROA of the selected Brewery companies.

Overall, prior literature tends to concentrate on CSP short-term financial effect, which may be negative because of the cost involved in implementing sustainable practices. Sometimes the effective implementation of sustainable operations to reduce environmental pollution and hazard will require complete replacement of production plants which is capital intensive. Accordingly, CSP is a long-term investment that helps companies build a good relationship with the stakeholders (Aksoy et al., 2020). Thus, CSP may not have a positive short-term effect on corporate performance.

Theoretically, previous studies adopt different theories to examine the determinants and effects of CSP. The commonly used theories include stakeholder theory, agency theory, resource dependency theory, legitimacy theory and institutional theory (Aksoy et al., 2020; Crisóstomo et al., 2019; Johnson-Rokosu & Olanrewaju, 2016; Lourenço & Branco, 2013). This research adopts stakeholder and agency theories to investigate the determinants of CSP of firms in the oil and gas sector in Nigeria. According to stakeholder theory, companies implement sustainable practices to meet the stakeholder demand. Companies engage in sustainable activities to ensure that their operations are conducted in accordance with the expectations of their stakeholders because they believe that maintaining positive relationships with their stakeholders will result in increased financial returns and valuable intangible assets.

To be competitive in the market, corporations should manage their connections with stakeholders effectively, according to the stakeholder hypothesis. This need is crucial since, more recently, both individual and institutional investors have taken sustainability into account when making investment decisions. In this regard, the board of directors and ownership structure may impact the company strategic and financial policies (Crisóstomo et al., 2019). An effective board should improve a company's performance and reputation, resulting in proactive, long-term performance. The board is expected to maintain and balance the interest of shareholders and stakeholders (Biswas, Mansi, & Pandey, 2018; Chams & García-Blandón, 2019; Martín & Herrero, 2019). Thus, this study will utilize stakeholder theory to investigate the effect of the board of directors and firm characteristics on the CSP of listed companies in Nigeria

Hypothesis Development

Board Size and Corporate Sustainability Performance

An effective board of directors may help a company to improve performance and reputation, and also drive proactive CSP implementation. Accordingly, the size of the company and the operation complexity determine the size of the board of directors, which is an essential factor influencing the company's operation (Aksoy et al., 2020). In ensuring sustainability practices and improving CSP, larger boards are more efficient than smaller boards (Manning, Geert, & Reimsbach, 2018; Valls Martínez, Martín Cervantes, & Cruz Rambaud, 2020). An increase in board size may improve access to resources, talents, and expertise in a variety of fields (Amran, Lee, & Devi, 2014; Katmon, Mohamad, Norwani, & Farooque, 2019). A large board of directors may also aid in reducing stakeholder conflicts. In addition, large board is more likely to have capable directors who can deal with various sustainability challenges more effectively than a smaller board, such as environmental pollution, biodiversity, and stakeholder pressure. Previous studies have documented that board size is positively related CSP (Cancela, Neves, Rodrigues, & Gomes Dias, 2020; Chams & García-Blandón, 2019; Manning et al., 2018). Accordingly, this study proposed that:

H1: Board size is positively related to corporate sustainability performance

Board Gender Diversity and Corporate Sustainability Performance

The presence of female on the corporate boards may have a favorable impact on CSP, because women are more vulnerable to environmental and societal problems than men and they think more positively about ethical issues (Cancela et al., 2020; Chams & García-Blandón, 2019; Nadeem, Zaman, & Saleem, 2017; Zaid, Wang, Adib, Sahyouni, & Abuhijleh, 2020). Biswas et al. (2018) examined the effects of board composition and sustainability committee on listed Australian firms' corporate social and environmental performance. They documented that firms with higher female board members tend to have better social and environmental performance. Similarly, Chams and García-Blandón, (2019) found a positive and significant relationship between board gender diversity and CSP of listed 478 Multinational companies. Many prior studies (Aksoy et al., 2020; Fakir & Jusoh, 2020; Katmon et al., 2019; Lu & Herremans, 2019; Naciti, 2019; Zaid et al., 2020) CSP is positively related to the number of female directors on boards, since female directors tend to have more access to vital resources and communication channels than male board directors. Accordingly, this study proposed that:

H2: Board gender diversity is positively related to corporate sustainability performance

Board Independence and Corporate Sustainability Performance

In line with the stakeholder theory, it is anticipated that independent directors will positively influence CSP because non-executive directors are less subjected to pressure from the shareholders and managers than executive directors (Hussain, Rigoni, & Orij, 2018; Shahzad, Rutherford, & Sharfman, 2016). Moreover, because they are external board members, they have a greater sense of responsibility towards a wide range of stakeholders. The presence of independent directors signifies higher transparency which leads to long-term value creation. Despite the fact that there is a strong link between board independence and CSP in the literature, few researches have suggested that having more independent directors' lead to low CSP. For instance, Naciti (2019) investigates the effect of board composition on the sustainability performance of 362 firms listed on the Global Fortune 500 most prominent companies and found that the presences of independent directors on a board leads to low CSP. On the other hand, Biswas et al.(2018), Martín and Herrero (2019) and Manning et al. (2018) have found a positive and significant effect of board independence on CSP. This indicates that high proportion of independent directors will increase the company's attention on social and environmental issues to satisfy the interests of stakeholders. Thus, this study proposed that:

H3: Board independence is positively related to corporate sustainability performance

Firm Size and Corporate Sustainability Performance

The size of a company is expected to have a significant influence on CSP (Aksoy et al., 2020; Amran, Ooi, Mydin, & Devi, 2015). Large firms are more prominent to the general public, attracting more attention of the regulators and other stakeholders (Artiach et al., 2010). Because of the scale of their operations, large corporations are more likely to cause and environmental and social problems than small businesses. For instance, the amount of pollution emitted will be influenced by the size of the company's operations. The size of the organization is also likely to impact its strategic response to stakeholder demands.

Larger corporations are subjected to public scrutiny and external pressures than smaller businesses; thus, they are more likely to respond to the stakeholders demand. Furthermore, multinational organizations are more likely to gain from increased efficiency in sustainability initiatives than small companies. For large firms, the cost of managing waste emissions from industrial activities can be spread across a large volume of production. Amran et al. (2015) argued that company size is one of the factors that directly influence CSP because larger companies have enough resources to implement sustainability initiatives effectively. Accordingly, the study proposed:

H4: Firm size is positively related to corporate sustainability performance

Leverage and Corporate Sustainability Performance
The amount of debt in the capital structure of the company indicates how influential financial stakeholders are to the organization. Following the stakeholder perspective, the company has many stakeholders, both financial and non-financial stakeholders. These stakeholder groups have varying degrees of influence over the resources and activities of the organization. Debt holders are important stakeholder since they contribute funds to the company. Management are more inclined to satisfy to address their interest than less powerful stakeholders such as employees and the general public (Artiach et al., 2010). Companies with higher debt levels are expected to have better sustainability reporting practices to meet the information requirements of lenders and other stakeholders (Orazalin & Mahmood, 2020). As a result, we anticipate that as the firm's leverage increases, it will place a greater emphasis on the interest of debt holders over the less powerful stakeholders. Accordingly, the study proposed that:

H5: Leverage is positively related to corporate sustainability performance

Profitability and Corporate Sustainability Performance
CSP requires a certain level of financial resources in the form of liquid cash; thus, profitability may influence the CSP decision. When the economic performance is good, the corporation will have enough financial resources to meet the interest of its shareholders and other stakeholders. Thus, a firm will have the financial capacity to invest in social and environmental programs. High profitability allow the company to meet the shareholders expectation and still have enough resources to meet the needs of other stakeholders through CSP (Bodhanwala & Bodhanwala, 2018). Profitability provides a company with available resources to invest in sustainability initiatives. Previous studies (Orazalin & Mahmood, 2020; Xie, Nozawa, Yagi, Fujii, & Managi, 2019) has documented a positive association between profitability and CSP. Accordingly, this study proposed that:

H6: Profitability is positively related to corporate sustainability performance

Methods
The population of this study comprises all the listed oil and gas companies on the Nigerian Stock Exchange as at 31st December 2020. There are twelve (12) quoted companies in the Nigerian oil and gas sector. The entire population is considered as the sample based on two criteria. Firstly, a company must be quoted on the floor of NSE without being delisted throughout the study period. Secondly, the company must publish its annual report and account on the floor of NSE throughout the study period. After applying the criteria, eleven (11) companies qualified and formed the sample size. The study covers a period of ten (10) years from 2010-2019. Thus, secondary data from the annual report and account of the sample companies were collected and utilized in this study.

Measurement of Variables
CSP is used as a dependent variable and is measured using the disclosure index method consistent with prior studies (Amran et al., 2014; Hussain, Rigoni, & Orij, 2018; Orazalin, 2019). The disclosure index is based on GRI sustainability reporting guidelines which consist of economic, social and environmental sustainability dimensions. The disclosure indexes composed of twenty (20) sustainability performance indicators were utilized. For each sustainability performance indicator on the disclosure index, a binary score of 1 is assigned when information on that indicator is disclosed or otherwise 0. The aggregate score is calculated by dividing the company's scores with the total scores on the disclosure checklist.
Two independent variables are used including operating and monitoring characteristics. The operating characteristics include firm size, leverage and profitability, while the monitoring

characteristics include board gender diversity, board independence and board size. Board Size (BSIZE) is measured as the total number of directors on the governance board (Abu Qa'dan & Suwaidan, 2019; Hussain et al., 2018). Board Gender Diversity (GDV) represents female directors on the corporate board and is measured as the ratio of female directors to board size (Biswas et al., 2018; Chams & García-Blandón, 2019; Orazalin & Baydauletov, 2020). Board Independence (BIND) is measured as the proportion of independent directors to the total number of directors (Jizi & Nehme, 2018; Rashid, 2018).
Firm Size (FSIZE) is measured as the natural logarithms of the company's total assets (Crisóstomo et al., 2019; Hussain, Rigoni, & Orij, 2018). Leverage (LEV) is measured as total debt divided by the company's total assets (Crisóstomo et al., 2019; Li, Gong, Zhang, & Koh, 2018). Profitability (PROF) is calculated as profit after tax divided by the total assets of the company (Kyere & Ausloos, 2020; Yang, Bento, & Akbar, 2019).

Model Specification
This study aims to assess the determinants of CSP of listed oil and gas companies for ten (10) years. Therefore, the study utilized a panel regression model based on the following equation:

$$CSP = f(BSIZE, GDV, BIND, FSIZE, LEV, PROF) \ldots\ldots\ i$$

$$CSPit = \beta 0it + \beta 1BSIZEit + \beta 2GDVit + \beta 3BINDit + \beta 4FSIZEit + \beta 5LEVit + \beta 6PROFit + \ldots\ldots \mu it \ldots\ldots\ ii$$

Where:
$\beta 0$- denote constant coefficient of the panel regression model
$\beta 1$- $\beta 6$ denote coefficients of the explanatory variables of the study
μ is error term of the regression model
BSIZE = size of the board, GDV= ratio of female directors, BIND = ratio of independent directors, FSIZE = firm size, LEV = leverage, PROF = profitability
i denote the number of companies
t denotes the number of years

Findings
This section presents the summary statistics of the variables of the study, correlation analysis and panel regression.

Table 1
Summary statistics

Variables	Mean	Standard Dev.	Minimum	Maximum
CSP	0.5891	0.3182	0.2000	1.0000
Board size	8.5636	2.0973	4.0000	12.000
Gender diversity	0.1655	0.1163	0.0000	0.4286
Board independence	0.6142	0.1290	0.3333	0.8571
Firm size	24.095	2.1854	19.126	27.923
Leverage	0.6982	0.3907	0.1004	2.2223
Profitability	1.2004	4.6027	-0.0017	20.217

Source: Author's Compilation, generated using STATA 16.

The summary statistics of the variables is presented in table 1; on average the number of directors sitting on the corporate board of oil and gas companies is 9 directors. The maximum number is 12 directors, while the least number of directors on the board is 4 directors. Although some companies do not have female board members on the average 17% percentage of the directors on the board are female. The maximum participation of the female directors on the board activities is 43%. Similarly, more than 50% of the directors on the board of listed oil and gas companies in Nigeria are independent and non-executive directors; this has contributed to the level of CSP. The summary statistics table also shows that the CSP of the oil and gas companies is suitable, with a mean value of 58.9%. In addition to economic performance, Seplat Petroleum Development Plc, Mrs Oil Nigeria Plc and Eternal Oil Plc are also very active in both social and environmental performance.

Furthermore, the mean leverage from the descriptive statistics is 69% which indicates that the companies utilized more debt in financing their activities which may affect the level of CSP. If a company uses more debt to finance its activities, the cost of the debt financing may affect the CSP. Finally, the average return on assets is 1.20, meaning that for every N100 worth of assets of the study companies, the profit after tax is N1.20 annually. Nevertheless, some companies incurred losses during the period of the study.

Table 2
Correlation matrix

Variables	1	2	3	4	5	6	7
1. CSP	1.0000						
2. BSIZE	0.5170	1.0000					
3. GDV	0.0137	-0.2651	1.0000				
4. BIND	0.6215	0.3617	0.0613	1.0000			
5. FSIZE	0.5432	0.5163	-0.5123	0.2915	1.0000		
6. LEV	-0.0682	-0.0385	-0.2179	-0.1152	0.1240	1.0000	
7. PROF	-0.3143	-0.1941	0.4716	-0.2105	-0.3571	-0.0068	1.0000

Table 2 present the correlation analysis of the dependent and independent variables. All the corporate governance variables in the study, the board size, board gender diversity and board independence, are positively associated with CSP. This indicates that large board members, female participation, and a higher proportion of independent directors positively influence the CSP. Firm size is also positively associated with the CSP because large companies have enough financial resources to implement sustainability policies and strategies than small companies. Thus, the company's size determines the level of CSP of oil and gas companies in Nigeria.

On the other hand, leverage and profitability have a negative association with CSP, which means that the more debt a company used in financing their activities, the lower the level of CSP because of the payment of interest, which may affect the financial resources needed to undertake social and environmental performance. Likewise, the negative association between profitability and CSP could mean that too much concentration on short-term profit negatively affects the CSP. Managers may decide to invest huge amounts of resources in economic activities regardless of social and environmental consequences. Thus, too much focus on short-term profitability may affect the level of social and environmental performance. The association between the independent variables is both positive and negative. There is also a negative correlation between gender diversity and profitability. As documented in the literature, female board members have more concern for society and environmental performance than financial performance. The association among the independent variables has values not more than 0.62, indicating the absence of multicollinearity between the predictor variables.

Table 3
Panel regression results

Variables	POLS	Random effect	Fixed effect
Constant	-3.47	-1.96	0.35
	(-1.039)	(-0.726)	(0.312)
	0.001	0.054	0.726
BSIZE	1.74**	1.87***	1.68**
	(0.214)	(0.521)	(0.317)
	0.002	0.000	0.006
GDV	1.97**	1.93**	0.70
	(0.481)	(0.319)	(0.217)
	0.054	0.021	0.466
BIND	8.66***	5.94***	4.39***
	(1.164)	(0.899)	(0.774)
	0.000	0.000	0.000
FSIZE	2.56**	1.83**	-0.13
	(0.037)	(0.0954)	(-0.012)
	0.014	0.067	0.896
LEV	0.44	-0.61	-0.91
	(0.025)	(-0.041)	(-0.072)
	0.662	0.541	0.825
PROF	-1.14	-1.11	-0.45
	(-0.006)	(-0.954)	(-0.003)
	0.260	0.027	0.656
R-square	0.641	0.683	0.527
F-value	28.85***	37.21***	6.24***
P-value	0.0000	0.0000	0.006

*** and ** indicate 5% and 10% significance levels, respectively, while the coefficient is in parenthesis, and on top is the t-stat. and under is the p-value.

Table 3 displays the panel regression results on the effects of internal governance and firm-specific characteristics on CSP. The results from POLS, random effect and fixed effect estimations are presented in table 3. The chi-square from the Hausman specification test is not significant ($p > 0.10$); therefore, we interpret the results of random effect estimation.
The regression result indicates board size and board independence have positive and significant influence on CSP ($p < 0.01$), and board gender diversity also have positive and significant influence on CSP ($p < 0.05$). This indicates that an increase in female representation and board independence increases the CSP of oil and gas companies in Nigeria. Likewise, the larger the size of the board, the more likely it is that the directors will influence the CSP of these companies. This findings are in line with the prior studies (Aksoy et al., 2020; Biswas et al., 2018; Hussain, Rigoni, & Orij, 2018; Martín & Herrero, 2019; Naciti, 2019) and provide

support for accepting the hypothesis 1, 2 and 3 which stated that board size, gender diversity and board independent directors positively influence CSP.

Hypothesis 4 postulates that firm size positively influences CSP and from the regression result, the coefficient of firm size is 0.037 and the p-value is 0.067 which is positive and significant at 10%. This provides support for accepting hypothesis 4. As documented by Aksoy et al. (2020) and Lourenço and Branco (2013), the larger the company's size, the higher the level of CSP. Contrary to our predictions, leverage and profitability have a negative relationship with CSP. This result indicates that if a company finances most of its activities using debt, it will affect its ability to undertake sustainable performance because it has to pay for the debt. At the same time, too much concentration on short term profitability will lead to lower CSP.

Therefore, hypothesis 5, which predicts a negative relationship between leverage and CSP, is supported. But hypothesis 6 is rejected because the coefficient of profitability is -0.0954, which indicates a negative effect of profitability on CSP. Contrary to the findings of Hussain, Rigoni, and Cavezzali (2018) and Dincel and Gungor (2018), an increase in the profitability of companies in the oil and gas sector in Nigeria negatively affect their CSP. The R-square of the regression result is 0.683, which means the predictor variables account for 68.3% of the determinants of CSP while 31.7% is determined by other variables not included in the model of the study.

Overall, the F-value is 59.21 and the p-value is 0.0000, significant at 1%; this indicates that the predictor variables jointly play an essential role in determining the CSP of oil and gas companies in Nigeria.

Discussion and Conclusion

This study investigates the determinants of CSP of companies in the oil and gas sector of Nigeria. The research offers an insight into the role of internal governance mechanisms and firm-specific characteristics in driving CSP. Using panel data collected from the annual report and account of the listed oil and gas companies, six hypotheses were formulated on the effects of board size, board gender diversity, board independence, firm size, leverage and profitability on CSP. The hypotheses were drawn from the stakeholder theory, predicting the positive effects of the predictor variables on CSP.

The panel regression results reveal that corporate board size, board gender diversity and board of directors' independence positively relate to CSP. These findings provide a support for stakeholder theory. Thus, an increase in the proportion of female representation and independent directors increases the level of CSP. These findings can be attributed to the diverse backgrounds and experience that the independent directors bring to the board and female directors' concerns over social and environmental issues. Independent directors relate more with the stakeholders; thus, they view CSP as a corporate strategy that can be applied to manage the relationship with the external environment, increasing corporate reputation and competitive advantage. Moreover, female directors on the board tend to consider broader stakeholder interests that go beyond the short-term economic performance. As documented in the previous studies, women tend to have more incredible communal characteristics than men, for example women are very kind, sympathetic and show more concern to the welfare of others, as well as being more sympathetic to their own needs.

The result also shows that firm size is positively and significantly associated with CSP. These findings support the fourth hypothesis that large companies tend to have more CSP because they are confronted with high stakeholder pressure than smaller firms. Further, large companies have more resources and a better chance to enjoy economies of scale in investing in sustainable programs.

However, the study has not found support for the positive effect of leverage and profitability on CSP. This can be attributed to the cost of debt financing, and that short-term profitability requires more investment in the economic activities than social and environmental performance. Based on the findings of this study, we conclude that internal governance mechanisms including the size of the board, board gender diversity and independent directors are important determinants of CSP of oil and gas firms in Nigeria. Further, the size of the company is also an important factor that drives CSP.

Theoretical Implications

This research utilized stakeholder theory to investigate the role of internal governance mechanism on CSP. The stakeholder theory asserts that a company is responsible not only to the providers of capital but multiple stakeholders including the society and environment. Therefore, corporate organization can use CSP to sustain the environment and add value to society. Moreover, corporate governance over the years is viewed from agency perspective where corporate board of directors monitor the managers to ensure the maximization of shareholders wealth. Nonetheless, the board of directors are expected to balance the interest of both shareholders and other stakeholders for long-term value creation. Therefore, this study in line with stakeholder theory examines the role of corporate board of directors toward effective implementation of sustainable policies and initiatives.

Practical and Social Implications

The results of this research offer a number of practical relevance to the managers, policy makers and regulators. The outcome of the study shows that the presences of female directors' drive the management to proactively engage in social and environmental performance to satisfy wide range of stakeholders. Further the result also encourages companies to constitute their board to include more female directors and independent directors with different backgrounds, knowledge and experience to increase their CSP and contribute to the sustainable development. In addition to the external regulations on CSP, internal governance mechanisms also drive companies to engage in sustainability programmes. Therefore, policy makers and regulators can utilize the findings of this study to recommend a board structure that will ensure the implementation of sustainable initiatives that add value to the society and protect the environment.

Limitations and Suggestions for Further Research

This study has certain limitations that need to be taken into consideration. First, the study is limited to companies in the oil and gas sector of Nigeria, therefore the outcome cannot be generalized to all listed companies on the Nigeria Stock Exchange. Secondly, the dataset covers only five years from 2015-2019, this is because most listed companies in Nigeria are not included in the independent sustainability databases such as ASSET4 Thomson Reuters and Dow Jones Sustainability Indices. Thus, the data for this study is manually collected from the annual report and company's website. Thirdly, this research focused on the role of internal governance mechanisms on CSP, other factors such technology innovation, firm growth opportunities, market competition and stakeholder engagement can be examined as potential drivers of CSP in the future. Likewise, a comparative study can be conducted on the drivers of CSP especially in the developing countries.

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References
Abu Qa'dan, M. B., & Suwaidan, M. S. (2019). Board composition, ownership structure and corporate social responsibility disclosure: the case of Jordan. *Social Responsibility Journal*, *15*(1), 28–46. https://doi.org/10.1108/SRJ-11-2017-0225

Aksoy, M., Yilmaz, M. K., Tatoglu, E., & Basar, M. (2020). Antecedents of corporate sustainability performance in Turkey: The effects of ownership structure and board attributes on non-financial companies. *Journal of Cleaner Production*, *276*, 124284. https://doi.org/10.1016/j.jclepro.2020.124284

Amran, A., Lee, S. P., & Devi, S. S. (2014). The influence of governance structure and strategic corporate social responsibility toward sustainability reporting quality. *Business Strategy and the Environment*, *23*(4), 217–235. https://doi.org/10.1002/bse.1767

Amran, A., Ooi, S. K., Mydin, R. T., & Devi, S. S. (2015). The Impact of Business Strategies on Online Sustainability Disclosures. *Business Strategy and the Environment*, *24*(6), 551–564. https://doi.org/10.1002/bse.1837

Artiach, T., Lee, D., Nelson, D., & Walker, J. (2010). The determinants of corporate sustainability performance. *Accounting and Finance*, *50*, 31–51.

Asuquo, A. I., Esther Temitayo, D., & Udonna Raphael, O. (2018). *The Effect of Sustainability Reporting on Corporate Performance of Selected Quoted Brewery Firms in Nigeria*. *6*(3), 1–10. Retrieved from www.seahipaj.org

Atoyebi, T. A., & Okpe, E. (2021). Corporate Sustainability Reporting and Financial Performance of Listed Manufacturing Companies in Nigeria. *Journal of Business and Management*, *23*(8), 8–17. https://doi.org/10.9790/487X-2308020817

Bernard, Y., Godard, L., & Zouaoui, M. (2018). The Effect of CEOs' Turnover on the Corporate Sustainability Performance of French Firms. *Journal of Business Ethics*, *150*(4), 1049–1069. https://doi.org/10.1007/s10551-016-3178-7

Biswas, P., Mansi, M., & Pandey, R. (2018). Board composition, sustainability committee and corporate social and environmental performance in Australia. *Pacific Accounting Review*, *30*(4). https://doi.org/10.1108/PAR-12-2017-0107

Bodhanwala, S., & Bodhanwala, R. (2018). Does corporate sustainability impact firm profitability? Evidence from India. *Management Decision*, *56*(8), 1734–1747. https://doi.org/10.1108/MD-04-2017-0381

Cancela, B. L., Neves, M. E. D., Rodrigues, L. L., & Gomes Dias, A. C. (2020). The influence of corporate governance on corporate sustainability: new evidence using panel data in the Iberian macroeconomic environment. *International Journal of Accounting and Information Management*, *28*(4), 785–806. https://doi.org/10.1108/IJAIM-05-2020-0068

Chams, N., & García-Blandón, J. (2019). Sustainable or not sustainable? The role of the board of directors. *Journal of Cleaner Production*, *226*, 1067–1081. https://doi.org/10.1016/j.jclepro.2019.04.118

Crisóstomo, V. L., Freire, F. de S., & Freitas, M. R. D. O. (2019). Determinants of corporate sustainability performance – evidence from Brazilian panel data. *Social Responsibility Journal*. https://doi.org/10.1108/SRJ-04-2018-0102

Dincel, C., & Gungor, N. (2018). Does corporate sustainability practices have an impact on financial performance: A study based on BIST manufacturing firms. *Pressacademia*, *8*(1), 9–13. https://doi.org/10.17261/pressacademia.2018.971

Fakir, A. N. M. A., & Jusoh, R. (2020). Board gender diversity and corporate sustainability performance: Mediating role of enterprise risk management. *Journal of Asian Finance, Economics and Business*, *7*(6), 351–363. https://doi.org/10.13106/JAFEB.2020.VOL7.NO6.351

Hussain, N., Rigoni, U., & Cavezzali, E. (2018). Does it pay to be sustainable? Looking inside the black box of the relationship between sustainability performance and financial performance. *Corporate Social Responsibility and Environmental Management*, *25*(6), 1198–1211. https://doi.org/10.1002/csr.1631

Hussain, N., Rigoni, U., & Orij, R. P. (2018). Corporate Governance and Sustainability Performance: Analysis of Triple Bottom Line Performance. *Journal of Business Ethics*, *149*(2), 411–432. https://doi.org/10.1007/s10551-016-3099-5

Jizi, M., & Nehme, R. (2018). Board monitoring and audit fees: the moderating role of CEO/chair dual roles. *Managerial Auditing Journal*, *33*(2), 217–243. https://doi.org/10.1108/MAJ-10-2016-1464

Johnson-Rokosu, S. F., & Olanrewaju, R. A. (2016). Corporate Sustainability Reporting Practice in an Emerging Market: a Case of Listed Companies in Nigeria. *Knowledge Horizons / Orizonturi Ale Cunoasterii*, *8*(2), 148–156. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=afh&AN=118552756&site=ehost-live

Katmon, N., Mohamad, Z. Z., Norwani, N. M., & Farooque, O. Al. (2019). Comprehensive Board Diversity and Quality of Corporate Social Responsibility Disclosure: Evidence from an Emerging Market. *Journal of Business Ethics*, *157*(2), 447–481. https://doi.org/10.1007/s10551-017-3672-6

Kyere, M., & Ausloos, M. (2020). Corporate governance and firms financial performance in the United Kingdom. *International Journal of Finance and Economics*, (October 2019), 1–15. https://doi.org/10.1002/ijfe.1883

Laskar, N., Chakraborty, T. K., & Maji, S. G. (2017). Corporate Sustainability Performance and Financial Performance: Empirical Evidence from Japan and India. *Management and Labour Studies*, *42*(2), 88–106. https://doi.org/10.1177/0258042X17707659

Li, Y., Gong, M., Zhang, X., & Koh, L. (2018). The impact of environmental , social , and governance disclosure on firm value : The role of CEO power. *The British Accounting Review*, *50*(1), 60–75. https://doi.org/10.1016/j.bar.2017.09.007

Lourenço, I. C., & Branco, M. C. (2013). Determinants of corporate sustainability performance in emerging markets: The Brazilian case. *Journal of Cleaner Production*, *57*, 134–141. https://doi.org/10.1016/j.jclepro.2013.06.013

Lu, J., & Herremans, I. M. (2019). Board gender diversity and environmental performance: An industries perspective. *Business Strategy and the Environment*, *28*(7). https://doi.org/10.1002/bse.2326

Manning, B., Geert, B., & Reimsbach, D. (2018). Corporate governance and sustainable business conduct — Effects of board monitoring effectiveness and stakeholder engagement on corporate sustainability performance and disclosure choices. *Corporate Social Resonsibility and Enviromental Management*, 1–16. https://doi.org/10.1002/csr.1687

Martín, C. J. G., & Herrero, B. (2019). Do board characteristics affect environmental performance ? A study of EU firms. *Corporate Social Resonsibility and Enviromental Management*, 1–21. https://doi.org/10.1002/csr.1775

Naciti, V. (2019). Corporate governance and board of directors: the effect of a board composition on firm sustainability performance. *Journal of Cleaner Production*, *237*, 117727. https://doi.org/10.1016/j.jclepro.2019.117727

Nadeem, M., Zaman, R., & Saleem, I. (2017). Boardroom gender diversity and corporate sustainability practices: Evidence from Australian Securities Exchange listed firms. *Journal of Cleaner Production*, *149*, 874–885. https://doi.org/10.1016/j.jclepro.2017.02.141

Nwobu, O. (2015). The Relationship between Corporate Sustainability Reporting and Profitability and Shareholders Fund in Nigerian Banks. *Journal of Accounting and Management*, *5*(3).

Orazalin, N. (2019). Do board sustainability committees contribute to corporate environmental and social performance? The mediating role of corporate social responsibility strategy. *Business Strategy and the Environment*, *29*(1), 140–153. https://doi.org/10.1002/bse.2354

Orazalin, N., & Baydauletov, M. (2020). Corporate social responsibility strategy and corporate environmental and social performance: The moderating role of board gender diversity. *Corporate Social Responsibility and Environmental Management*, *27*(4), 1664–1676. https://doi.org/10.1002/csr.1915

Orazalin, N., & Mahmood, M. (2020). Determinants of GRI-based sustainability reporting: evidence from an emerging economy. *Journal of Accounting in Emerging Economies*, *10*(1), 140–164. https://doi.org/10.1108/JAEE-12-2018-0137

Rashid, A. (2018). Board independence and firm performance: Evidence from Bangladesh. *Future Business Journal*, *4*(1), 34–49. https://doi.org/10.1016/j.fbj.2017.11.003

Shahzad, A. M., Rutherford, M. A., & Sharfman, M. P. (2016). Stakeholder-Centric Governance and Corporate Social Performance: A Cross-National Study. *Corporate Social Responsibility and Environmental Management*, *23*(2), 100–112. https://doi.org/10.1002/csr.1368

Valls Martínez, M. del C., Martín Cervantes, P. A., & Cruz Rambaud, S. (2020). Women on corporate boards and sustainable development in the American and European markets: Is there a limit to gender policies? *Corporate Social Responsibility and Environmental Management*, *27*(6), 2642–2656. https://doi.org/10.1002/csr.1989

Walker, K., Yu, X., & Zhang, Z. (2020). All for one or all for three: Empirical evidence of paradox theory in the triple-bottom-line. *Journal of Cleaner Production*, *275*, 122881. https://doi.org/10.1016/j.jclepro.2020.122881

Xie, J., Nozawa, W., Yagi, M., Fujii, H., & Managi, S. (2019). Do environmental, social, and governance activities improve corporate financial performance? *Business Strategy and the Environment*, *28*(2), 286–300. https://doi.org/10.1002/bse.2224

Yang, M., Bento, P., & Akbar, A. (2019). Does CSR Influence Firm Performance Indicators ? Evidence from Chinese Pharmaceutical Enterprises. *Sustainability*, *11*, 1–18.

Yilmaz, M. K., Aksoy, M., & Tatoglu, E. (2020). Does the stock market value inclusion in a sustainability index? Evidence from Borsa Istanbul. *Sustainability*, *12*(2). https://doi.org/10.3390/su12020483

Zaid, M. A. A., Wang, M., Adib, M., Sahyouni, A., & Abuhijleh, S. T. F. (2020). Boardroom nationality and gender diversity: Implications for corporate sustainability performance. *Journal of Cleaner Production*, *251*, 119652. https://doi.org/10.1016/j.jclepro.2019.119652.