
MODERATING CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE WITH BOARD SUSTAINABILITY COMMITTEE ON VALUE OF OIL AND GAS COMPANIES IN NIGERIA

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ABSTRACT

This study examined the moderating effect of corporate social responsibility disclosure with board sustainability committee on market value of oil and gas companies in Nigeria. The explanatory variable of interest was the corporate social responsibility disclosure whereas the outcome variable was the market value proxied by the yearly market value added. The relationship between the outcome and the predictor variables were moderated with board sustainability committee. Data was sourced from 10 oil and gas companies listed on the Nigeria Exchange Group from 2014-2023. The data were analysed using structural equation's modeling. It was found that corporate social responsibility disclosure had positive and significant effect on market value but the coefficient of explanation of the explanatory variable was weak. However, when the predictor variable was moderated with board sustainability committee, the coefficient of determination of the CSR and market value became strong with a positive effect. It was recommended that oil and gas companies should form more robust board sustainability committees to further increase their market value through synergized effect with CSR disclosure.

Keywords: *corporate social responsibility, market value, board sustainability committee, signaling theory, mediation, Tobin's Q, structural equations and market value added.*

1. INTRODUCTION

The value of the firm is of global concern to all stakeholders as it connotes the sustainable trajectory of the firm. The value of the firm could be conceptualised as the net goodwill of the firm in the market and the net assets owned by the firm. The value of the firm is equal to the total of the assets it owns minus the liabilities that it owes to outsiders. Value paints an accurate picture of the net worth of the firm which makes many perceive value as the worth of an organisation. Value exists in many forms but this study is concern with business value and specifically the market value. Market value denotes the worth of a business at a giving point which is usually considered as the trading value of a company's stocks at a particular time.

Market value is a concept that is vulnerable to a number of factors that compares its value to remain unstable. The factors of demand and supply cause fluctuation in the market value of many firms. This fluctuation has been a puzzle to many business organisations. This is partly because business organisations expect some form of stable increase in the market value added. The concern of many firms may not be in the sharp increase in value but in the consistency of the value added. The problem of the inconsistency in the value addition has spurred many companies to adopt strategies to maintain a value-added based market value; this has given rise to the issue of corporate social responsibility (CSR) disclosure. The expectation is that, CSR will attract to invest in the firm boosting the market value of the firm and consequently increasing the market value added. The belief is that if the attraction is consistent, the increase in market value will also be consistent.

Corporate social responsibility is the conscious efforts made by business organisations to give back to the society part of what it earns for using the resources of the society. Nana et, al (2019) opined that corporate social responsibility is a business model by which companies make concerted effort to operate in ways that enhance rather than degrade the society and the environment. In line with the definition, Buallay, (2020) asserted that Common examples of CSR programs include donating cash and in-kind goods to nonprofits, providing grants for employee volunteer hours, implementing grant programs, changing production or purchasing processes to benefit environmental or social justice causes, committing to diverse hiring practices, and more. Similarly, the United Nations (2024) postulated that Corporate Social Responsibility is a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders.

Corporate social responsibility as a way of attracting investors and potential investors is consciously done to promote the image of the firm and position the firm towards grater collaborations towards the achievement of market value. Uwalomwa et, al (2018) Posit that CSR is of great concern to variety of stakeholders as such efficient CSR attracts stakeholders to invest more into the organisation believing that the organisation has complied with best practices and is socially responsible. This assertion is consistent with the stakeholder theory which states that all stakeholders should be of concern to a business entity. Shafat (2017) Stated that the attraction of stakeholders brings competition for the shares of the company and causes the share prices to rise giving birth to increased market value. It is obvious therefore, that CSR attracts investors with consequences on the market value however, the concern of the business should be on the market value added and not just on the effect of the CSR on the market value.

Based on the argument of the need to examine the value addition created by CSR disclosure, which has hitherto been lacking in extant literature, this study was further motivated to examine the moderating effect of board sustainability committee on the relationship between

corporate social responsibility disclosure and market value of oil and gas companies in Nigeria. The choice of the oil and gas companies spur from the perception that the oil and gas companies are disposed to release their CSR information to the public and as a sector that is vantage in the Nigerian economy, it needs frequent examination to ascertain its compliance with best practices such as CSR disclosure.

Corporate social responsibility was moderated with board sustainability committee because the board sustainability committee superintends over CSR activities of the company and is capable of increasing or reducing the effect of CSR on market value. In addition, the moderation was necessary because the literature reviewed indicated that most of the studies had a low coefficient of determination of the relationship between CSR and market value. This implied that CSR alone may have a weak effect on market value and needed to be synergized with other variables to have an appreciable coefficient of determination on the market value of the firm. Furthermore, other methodological gaps were identified where some researchers like Renata and Petr (2019); Lukasz and Ewa (2024) concentrated on the use of multiple regression to examine the relationship between CSR and market value. This study has used the structural equations model to examine this relationship; the justification for the use of this model is based on the fact that multiple regression is actually designed to find the multiple linear relationship between the independent and the dependent variables but for complex relationships where moderation is involved, the use of structural equation's model is more appropriate.

Another methodological gap identified was in the model constructions. Some of the researchers such as Vazquez et, al (2019) formulated models that appeared as if the CSR of the same year will affect the market value of the firm in that same year. This contravenes the matching principle in accounting and findings from such models may be doubtful as the models may not have captures the signals of CSR in the market value of the firms examined. This study corrected this methodological gap by lagging the model of the study by one year to allow the CSR signals to effectively signal the capital market. In line with this methodology, the signaling theory developed by Spence in 1973 underpinned the research ontology on the moderating effect of board sustainability committee on the relationship between corporate social responsibility disclosure and market value of oil and gas companies listed on the Nigerian Exchange Group.

2.0 LITERATURE REVIEW

2.1 Corporate social responsibility disclosure

Corporate social responsibility disclosure is the information disclosed to the public by a corporate organization regarding activities on the use of human and society resources within the social ambit of the organization. Corporate social responsibility disclosure has been theorized in different forms; to Nana et al. (2019) corporate social responsibility is a voluntary and complex term that deals with the active contribution of business resources to actions that are aimed at achieving economic social and environmental development. This study defines corporate social responsibility reporting as the release of voluntary information on the activities of corporate organizations that bother on the use of community resources and the benefits therefrom.

Rahmantari et al. (2019) conceptualized social disclosure as a concept of corporate responsibility committed to sustainable economic development looking at the balance of social, economic and environmental aspects. Ng and Rezaee (2015) defined social disclosure as the preparation and publication of a report on a company's social, environmental,

employee, community, customer, and other stakeholder interactions and activities, as well as the consequences of those interactions and activities, where applicable.

Two different perspectives exist on the issue of corporate social responsibility and its effect on corporate value. The first group views CSR with a negative influence on corporate value particularly in the area of financial performance. According to this group, CSR consumes the resources of a company without any evenhanded return. This means that social activities are costs that affect the profit of an organization negatively and should be jettisoned (Omoike, et al 2018). The dominant perceptions opine that CSR provides some form of competitive age and also earns strong reputational advantage which finally improves market strength (Vazquez, et al., 2019). Freeman (1983) also stated in the stakeholder's theory that CSR promotes the market value of the firm. The theory further explained that stakeholders are central in the achievement of organizational goal therefore, managing the stakeholders is an integral part for value addition in an organisation.

2.2 Market Value

Market value is synonymous with the market capitalization of a firm; market value could be seen as the product of the price of the stocks of a company visa viz the outstanding shares of the company. Market value could be conceptualized in different form as the concept has no unified acceptable definition. However, for the purpose of this study, emphasis will be more on the concept of market value added. Market Value Added (MVA) is a reflection of investors' expectations on the total value they expect from the company to create future value of the total capital invested in the company. The greater the market value added, the better the market value of the company. A negative market value added means that the value of investments run by the capital management is less than financial capital submitted to the company by the capital markets, which means that wealth has been destroyed (Brigham & Houston, 2010).

According to Steward (2013), market value added (MVA) is defined as an estimate of the company's market value for total obligation and capital capitalization which is calculated as the differences between market value (debt and capital) and the amount of capital invested. The MVA explains the value added to a particular equity share over its book value. It informs how much value has been added to the economic value of the shareholders. The MVA is the difference between the total market value of a firm and the economic capital. A firm's total market value is equal to the sum of the market value of its equity and debt. The Market Value Added can be defined as the difference between the market value of a company's equity and book value as presented in the balance sheet, market value is calculated by multiplying the share price by the number of shares outstanding (Brigham & Houston, 2010).

2.3 Theoretical Framework

This study was underpinned by the signaling theory however, other theories were used as complementary theories to the underpinning theory. The Signaling Theory was developed by Spence in 1973. The thrust of the theory is the idea that the managers of an organization are duty bound to transmit credible and accurate information about the organization. The signaling theory was developed to arrest the issue of information asymmetry in the labour market this is because the agents of any corporate organization usually have more information than the other stakeholders. The information is usually used to prepare the mandatory disclosure information prepared by the management. Thus, any other information available to the other shareholders about the organization is viewed as a signal. Signals could be seen as hints about the company that may be vital to investors when making investment

decisions. This is because the investors do not have the same information with the management of the organization and may depend largely on the signals released to make decisions. Omoike, et al. (2018) asserts that credible signals released by a business organization can spur high reputation for the company and consequently increase its performance. CSR reports are signals that give further information to avoid information asymmetry which may put the external stakeholders on equal information level with the internal stakeholders to bridge the gap in knowledge about the transactions of the organization; this forms the major link between the theory and the subject matter. Notwithstanding signaling theory has been criticized by scholars like Horn et, al (2018) that the management of corporate organisations are used to information creativity where information that negate the activities of management is not disclosed as the information is not mandatory. This gives room for internal stakeholders to take advantage of the external stakeholders impairing the reliability of the signals. The situation where the managers of the firm still take advantage of the other stakeholders in spite of the signaling theory introduced the agency theory in the study.

The agency theory was developed by Jensen and Mecline (1976), the theory states that managers who are agents of the firm are likely to act in a way as to achieve their aim against the interest of their principals. This theory supports this study because agents are the ones that carry out CSR activities and the responsibility of disclosing the CSR is also vested in the powers of the management. This means the management of the organization has the right to disclose only the CSR information that favours them. The position of the agency theory has been criticized by the stakeholder's theory that an organization is established for the benefit of all the stakeholders and that the disclosure of information must be made for the benefit of all the stakeholders and not for the benefit of internal stakeholders alone. This introduces the stakeholder's theory in the work.

The Stakeholder's theory which was developed by Edward Freeman in 1983 is another theory that explains the relationship between CSR disclosure and market value. The theory stated that the major aim of a business organization is to maximize value for all the stakeholders (Freeman, 1984). The stakeholder theory was developed with the notion that business organizations have many stakeholders to be taken into consideration and not just the owners of the business (shareholders) alone. The theory defined a stakeholder as one who is affected or affects the operations of the organization. In that wise the theory recognizes that stakeholders could include but are not limited to shareholders, the employees, customers, investors, the environment, the suppliers, government and the host community. The theory stresses that organizations have social responsibilities that are beyond profit making. The theory further posits that contrary to the opinion that businesses are meant to maximize wealth for the owners, the stakeholder theory was developed to introduce an added version of what a business purpose should include. The stakeholder's theory is optimistic that if companies have strong relationship with other stakeholders it will be easier for the organizations to achieve their objectives. The link between the stakeholder's theory and this study is the fact that CSR is an activity that mainly takes care of stakeholders and attracts some of them to become shareholders with positive consequences on the market value of the firm.

2.4 Review of empirical studies

Erhirhie and Ekwueme (2024) used the descriptive research design to study social disclosure and firm performance of oil and gas companies in Nigeria. The explanatory variable of interest to the study was corporate social responsibility disclosure. The variable was measured by way of content analysis through the use of dummy variables. The outcome

variable was measured using market value. The population of the study was made up of 15 Oil and Gas companies; ten companies were purposively sampled. Data were obtained from the annual reports of the Oil and Gas companies from 2007-2016. The data were analysed using descriptive statistics and the OLS multiple regression analysis technique. The summary of findings revealed that corporate social disclosure had negative and insignificant effect on market value. The reviewed study used adequate sample but did not lag the model. This could have been the reason for a weak model as witnesses from the low R^2 of 0.362. The study could have given a more convincing result if it had adopted a more robust methodology by using some control variables like firm size and firm age. This is because CSR is an expensive venture and the financial strength to handle it may be a function of size and age of the firm.

Renata and Petr (2024) researched on the relationship between corporate social responsibility reporting and the performance of US companies. The study focused on the disclosure of social community, human rights and employee welfare so as to evaluate the effect of these social disclosure aspects on the performance of the US companies. Performance was measured using market value per share. A representative sample of 1380 companies in the year 2021 was used. The annual reports of the 1380 US firms were obtained from the US Securities and Exchange Commission for the purpose of data collection. The data were obtained using content analysis for the explanatory variables and ratios for the outcome variables. The test of multicollinearity showed high correlation amongst the predictor variables therefore, factor analysis based on maximum likelihood estimates was used to obtain a factor called CSR-social representing the correlated variables. Other tests like that of heteroscedasticity, Durbin-Waston statistics and the Shapiro-Wilk test were also conducted. The simple linear regression analysis was used as the major technique of data analysis. Findings indicated that significant effect exist between corporate social responsibility disclosure and firm market value per share. The reviewed study took empirical evidence from US companies. The result of CSR on performance in US and that of Nigeria may not be the same because these countries operate in different environments and societies. The two nations are also affected by different economic, social and environmental policies; thus, a Nigerian specific study is also needed; but more importantly since the predictor variable had multicollinearity issues, forming the CSR-social variable was formed to replace the variables with multicollinearity problems. It is opined that since the CSR-social was formed to take care of multicollinearity, a more robust technique of analysis would have been done. The appropriate technique to analyse the data would have been the structural equation modeling and not the simple regression analysis. This would have been done using the CSR-social as a latent variable and the social community, human rights and environmental issues as observable variables this would have given the effect of the social disclosure proxies on the performance measure.

Nana et al (2023) empirically examined corporate social responsibility and performance of companies in China. The explanatory variable was the corporate social responsibility disclosure which was measured using the results obtained from the Ranking of corporate social responsibility rating produced by the Chinese firms. The control variables were size measures as the logarithm of total assets and age as the number of years firms were established. The dependent variable was measured using Tobin's Q. The study population was 434 and a census approach was used to obtain the sample. Data were obtained from annual reports using Ranking of corporate social responsibility rating produced by the Chinese firms to measure CSR from 2016-2020 which gave rise to 2170 observations. The fixed effect multiple regression analysis was used as the major technique of data analysis. The study found that within the study period, CSR had negative insignificant effect on

Tobin's Q. The study recommended that companies investigated should voluntarily disclose CSR in their annual reports to enable the growth of the capital market and the society. The reviewed study made recommendations for improved social disclosure to affect the capital market but the model of the study was not stated to capture signals in the capital market. A signaling model has to be lagged. Also, signaling may not be between five years but can occur even after that so the use of five years only may not be enough for signaling to occur.

Mohammed et al (2022) evaluated the impact of corporate social responsibility disclosure (CSR) on the performance of listed manufacturing firms in Nigeria. In specific terms, the study examined the influence of four CSR dimensions (human resources, environment, community and product) on earnings per Share (EPS) of the sampled firms. The study utilized a sample size of ten (10) manufacturing firms out of a population of 51. CSR was measured using '1' if an item is disclosed or '0' otherwise. The dependent variable was measured using earnings per share (EPS). Data were analyzed using descriptive statistics and multiple regression analysis using panel data approach. The summary of findings revealed that Human resource disclosure had significant positive effect on Earnings per share. The study concluded therefore that CSR disclosure has effect on performance of Nigerian quoted manufacturing firms. This study was well structured and well analyzed however; the study did not justify the use of OLS regression against the fixed effect and random effect that are more appropriate for a panel analysis. Test like Hausman specification tests and Lagrangian multiplier effect test ought to be conducted to justify the use of OLS regression analysis. Moreover, the coefficient of determination of the model was 0.234, which indicated a weak model formation that should have been strengthened by lagging the data of the independent variables against the dependent variable. Apart from that the weak coefficient of determination suggests that CSR needs some form of moderation like the one done in this study.

Lukaasz and Ewa (2021) examined the impact of corporate social responsibility disclosure and the performance of Banks listed on the Warsaw Stock Exchange. The study used the content analysis method to measure CSR disclosure while the dependent variable was measured using share prices. The population of the study was not stated but it was stated that a sample of 18 banks were drawn from banks that were listed on the Warsaw Stock Exchange as at 31st of December, 2015. The method of sampling was not stated but the study indicated that foreign bank offices were excluded from the sample. Data were collected from the annual reports and websites of these banks from 2008-2015. The data were analysed using OLS multiple regression analysis and the descriptive statistics. Findings indicated significant effect between CSR disclosure and share prices. The study concluded that CSR disclosure has effect on corporate performance and recommended that CSR should be a priority amongst banks studied. The reviewed study has some confounding issues that may impair the reliability of the findings. These include the fact that the study may have selected banks that would tailor the results towards some predetermined objectives since the method of sampling was not properly disclosed. Also, the study data was collected in a panel form but the analyses of panel data were not followed; this could also inhibit the dependability of the result. The study would have had a more convincing result if the use of fixed effect regression analysis or the random effect analysis were conducted. Besides if the necessary tests leading to panel data analysis like the Hausman specification test and the Lagrangian Multiplier test for random effect were done to see how they support the use of OLS, then the use of OLS regression would have been justified.

Farah and Rachmawati (2020) studied the effect of corporate social disclosure on the performance of Indonesian companies. The explanatory variable used was the corporate

social disclosure and it was measured based on content analysis using 1 if the company reports on employee, community and employee performance or 0 otherwise. The performance variable was measured using Tobin's Q. the study population was not stated but a sample of 30 firms was obtained using purposive sampling method. The multiple regression analysis was used to analyse the data obtained from the annual reports of the 30 companies listed on the Indonesian Stock Exchange from 2010-2013. The study discovered that corporate social responsibility disclosure had negative effect on Tobin's Q. The study recommended an improvement in the reporting quality of social disclosure by the sampled firms. The methodology of the study could have been improved by subjecting the data set to some test like that of heteroscedasticity and multicollinearity and more importantly the Hausman specification test to ascertain the use of fixed effect regression analysis; but since the study did not carry out some of these tests, the result is opened to some form of reservations. The study also had a weak coefficient of determination of 0.442 meaning that based on the study, Tobin's Q is not strongly affected by the social disclosure this could be as a result of poor model formation by the inability to properly lag the social disclosure variable against Tobin's Q. furthermore, the poor coefficient of determination could have been improved by some moderating variables to strengthen the relationship

Buhuyan et al (2019) investigated the effect of corporate social responsibility on performance with empirical evidence drawn from Bangladesh. CSR disclosure was measured using dummy variables of '1' if a company discloses a particular item and '0' otherwise. Corporate social disclosure index was categorised into three: the long term, short term and the general disclosure. The dependent variable was measured using market capitalization and Tobin's Q. The population of the study was 300 firms listed on the Dhaka Stock Exchange. The sample size was 134 firms purposively selected using the top 200 firms listed on the Dhaka Stock Exchange. Data were collected from the annual reports of the firms from 2011-2013 for corporate social disclosure and from 2012-2014 for the performance variables. The data were analysed using the Ordinary Least Square (OLS) regression and the Two Stage Least Square (2SLS). The study found a significant relationship between corporate social responsibility disclosure and all the performance measures used in the study. The study also discovered that long term disclosure plays a key function in influencing the performance of the firms studied. The study concluded that corporate social responsibility disclosure has significant effect on firm performance. The reviewed study aimed at testing the long term and short term effect of CSR on market value but did not specify how data were collected for the respective periods. Evidence of data collection indicated a period of 2011-2013 for CSR disclosure and 2012-2014 for market performance measures but how these periods connote short-term and long-term disclosure were not stated in the study. The model was however properly lagged by one year to capture the signaling effect in the market. In addition, the choice of OLS regression was not properly justified.

Elif (2019) did a study on the impact of corporate social responsibility on the performance of companies in Turkey. The predictor variable for the study was the corporate social responsibility disclosure which was measured using sustainability index formed by the Borsa Istanbul. The index includes some CSR dimensions like global warming, draining of natural resources, health, security and employment. The dependent variable was the earnings per share. Firm size, growth, age, leverage, liquidity and diversification were used as control variables. The variables were moderated against ownership concentration. The population of the study was not stated numerically but as all the firms listed on Borsa Istanbul 100 index in December 2018. The sample of the study was determined by sieving all firms that were without complete required information to arrive at a total sample of 70 firms. The data on the

dependent and independent variables were collected from 2014-2018 using annual reports while that of the moderating variable was collected using website of the Turkish Public Disclosure Platform. The data were analysed using descriptive statistics and OLS multiple regression analysis. It was found that, CSR had positive effect on firm performance. It was further found that the relationship was negative when CSR was moderated with ownership concentration. The study recommended that Turkish firms should place more emphasis on corporate social reporting. Also, that firms investigated should establish control mechanisms necessary to protect minority shareholders since ownership concentration has negative effect on performance.

The reviewed study was organized in an impressive manner however; the study would have given a more convincing result if the dependent variable was also moderated. This is because if the moderator can moderate both variables, then there is no need moderating only one type of variable so that the effect can be felt on both sides. In the case of the reviewed study, it is opined that earnings per share should have been moderated to capture the minority interest as intended by the researcher. This would have brought out the component of earnings by the minority shareholders to clearly match how CSR disclosure affects their earnings per share

Shafa and Nasir (2018) conducted a study on corporate social responsibility disclosure and the performance of Indian Deposit Money Banks quoted on the Bombay Stock Exchange. The dependent variable was the CSR measured using content analysis from the annual reports of the banks investigated. The measurement was done using dummy variables like '1' when the company reports on any of community, environment and workplace and diverse and '0' otherwise; some control variables like age, size and leverage were also examined. The dependent variable which is firm performance was measured using earnings per share. The population of the study was 45 Deposit Money Banks listed on the Bombay Stock Exchange out of which 28 banks were purposively sampled. Data were collected using annual reports from 2007-2016. The data were analysed using descriptive statistics, correlation matrix and the OLS multiple regression analysis. The result of analysis showed that CSR exert significant effect on the earnings per share of the Banks investigated. The study recommended that companies investigated should continue to give adequate concern to their social responsibilities. Also, that CSR should not be treated as an optional activity but as a long-term business strategy. The reviewed study was well structured, organized and used the appropriate methodology to arrive at findings because the use of OLS regression was justified and the period of the study was enough to cause some signals in the capital market. However, this study differs from the reviewed study because the philosophy of this study argued that CSR forms signals that may change market value but CSR has to be moderated by board sustainability committee to strengthen the signal in the capital market.

Riana et al (2018) studied the association between corporate social responsibility reporting and the firm value for South African Firms. The dependent variable was measured using Tobin's Q whereas corporate social responsibility reporting was measured based on data collected by Klynveld Peat Marwick Goerdler (KPMG) International on CSR reporting practices of large South African Firms. The data was collected in 2008, 2011 and 2013. The population of the study was 113 companies out of which 65 companies were purposively sampled. The regression analysis and descriptive statistics were used for the purpose of data analysis. Findings indicated no significant effect between corporate social responsibility disclosure and market value. The study concluded that corporate social responsibility disclosure has no significant effect on market value. The reviewed study adopted data collected by KPMG in 2008, 2011 and 2013 but time series data are characterised with some lagged issues between the years. Therefore, between these years a lot could have happened

that may not be captured by the study. It may be more appropriate to use data for a consistent number of years so that overlapping issues may be contained.

3.0 METHODOLOGY

This study adopts the correlational research design with a population of 15 oil and gas companies that are listed on the Nigerian exchange group as at December 2024. 10 companies were sampled using the filter method. The only filter adopted for the study was the availability of online relevant data from the oil and gas companies. The data was analysed using descriptive statistics and structural equation's modeling. The justification for the use of this technique of data analysis was because the structural equation's modeling is a technique of data analysis that can analyze data where complex relationship among variables is involved like the one of moderation. The data for the study was measured as shown in the table below.

Table 1: Measurement of Variables.

Variable name	Type	Measurement
Corporate social responsibility disclosure (CSR)	Independent	It is measured as the ratio of the disclosure on CSR in a year to total expected disclosure in the year.
Board sustainability committee (BSC)	Moderating	It is measured as the ratio of the committee members to the total members of the board.
Firm size (SIZ)	Control	Log of total assets of the company in a year.
Market value	Independent	Measured as market value of year 2 minus the market value of year 1.

Source: Authors compilation, 2025

The model specification is the structural equation's model and it is stated as follows:

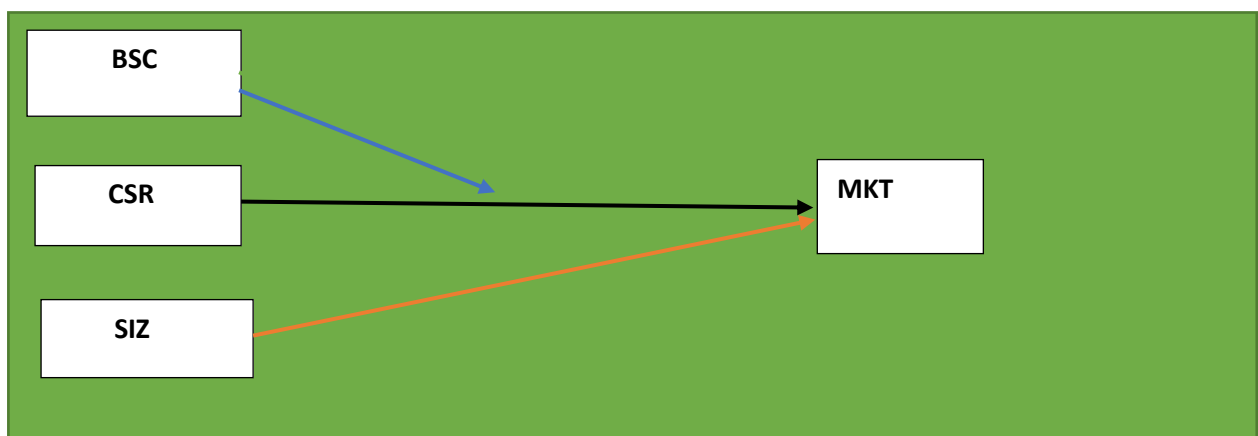


Fig 1: Structural Equation's Model

In the model above, BSC= Board sustainability committee; CSR = corporate social responsibility disclosure; SIZ = firm size and MKT = market value. The arrows indicate the direction of movement of the effect. The arrow coming from BSC to join the arrow moving

from CSR to MKT represents the mediating effect while the arrow from SIZ to MKT represents the control relationship.

4.0 RESULTS AND DISCUSSIONS

The result of this study was analysed using descriptive statistics however, some econometric tests were done to ascertain the reliability of the data set for analysis. The descriptive and the econometric tests are shown in the table below.

Table 2: Descriptive Statistics

Variable	Mean	St. Dev	Max	Min
MKT	0.536	0.267	0.801	0.364
CSR	0.735	0.367	1.000	0.521
BSC	0.378	0.341	0.661	0.123
SIZ	0.816	0.782	0.966	0.693

Source: STATA 15

The result of the descriptive statistics indicated an average market value of 0.536 with the deviation from the average of 0.267, the maximum and minimum were 0.801 and 0.364 respectively. This was an indication that within the study period, the market value added of the oil and gas companies increased by 54%. This corroborated with the high CSR disclosure of 73% with a deviation of 0.367 and a maximum and minimum of 1.00 and 0.521 meaning that within the period, the oil and gas companies has high CSR disclosure that had positive effect on the market value. BSC had an average of 0.378 with a low deviation of 0.341 and maximum and minimum of 0.661 and 0.123. This implied that the number of board sustainability committee members compared to the total number of board members was not high. The SIZ of the companies was high (0.816) the deviation was also high (0.782) with a maximum and minimum of 0.693. This maintained the stability of size and disallowed size from interfering with the result.

Econometric Tests

Econometric tests conducted indicated that the data was good for analysis. Tests such as the test of heteroscedasticity indicated that the error term of the data set was consistent. This was witnessed from the P-value of 0.723. The test of multicollinearity also indicated the absence of multicollinearity with a mean VIF of 2.164 which is below 10 that is the threshold above which multicollinearity would be a problem for the data. The test of correlation also supported the absence of multicollinearity as the highest correlation between the moderating variable, the control variable and the independent variable was 0.152 which was less than 0.8 that is considered as high correlation amongst independent variables.

Results of Analysis from Structural Equation's Modeling

Variable	Coef.	t-value	Prob.
Prob. F	-	-	0.001
R²	-	-	0.621
CSR	0.352	2.201	0.035
BSC	0.289	2.011	0.044
CSR*BSC	0.563	3.172	0.000
SIZ	0.031	1.650	0.068

Source: STATA 15

The probability of the entire structural equation's model was 0.001 which was statistically significant at 95% level of confidence meaning that the model was fit for generalization of the results obtained therefrom. The model coefficient of determination was 0.621 which was an indication that 62% of the changes in the market value added was as a result of the changes in corporate social responsibility disclosure. This result is consistent with the findings of Erhirhie and Ekwueme (2024), the result is also supported by the signaling theory which states that corporate social responsibility signals attract investors with positive changes on the market value. CSR had a significant (0.035) positive effect on market value while BSC also had a significant (0.044) effect on market value. The synergized effect of CSR and BSC also had significant (0.000) effect on market value. Contrary, SIZ had an insignificant effect on the market value of the oil and gas companies.

5.0 CONCLUSION

The conclusion for this study is based on the results obtained from structural equation's modelling. First, it was concluded that CSR has positive effect on the market value added by oil and gas companies in Nigeria but the percentage of change is 35% which is low. Secondly, the results declared that BSC also had a low effect on the changes in the market value added by the oil and gas companies however, the synergy between CSR and BSC had a high impact on the changes in the market value added of the companies. The result indicated that the combined effect of CSR and BSC was able to attract 63% of the changes in the market value of the companies. It was recommended that oil and gas companies should maintain robust board sustainability committees by increasing the number of the committee members. The increase in number will enable work efficiency and more pressure on the board on CSR matters this will further attract more investors who will create more value addition in the market value of the companies.

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