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ENVIRONMENTAL SUSTAINABILITY DISCLOSURE AND MARKET VALUE OF LISTED OIL AND GAS FIRMS IN NIGERIA

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Abstract

The disclosure of sustainability activities has been a factor in improving firm performance, market value and share price of firm. This study was conducted to investigate the effect of sustainability disclosure on the market value of Oil and Gas firms listed in Nigeria. The study population covers all the ten (10) Oil and Gas firms in Nigeria listed as at 31st December, 2020 and census sampling approach was adopted. Secondary source of data was used to extract the data from the annual reports and accounts of the 10 listed Oil and Gas firms in Nigeria for period of five years (2016-2020). Robust Ordinary Least Square Regression was used as a technique of data analysis. The study used the combination of GRI and Carroll's index and stratified the disclosure items into Philanthropic activities, Legal/ethical activities and Economic activities to proxy sustainability disclosure while Tobin's Q was used to proxy firm market value. The study revealed that, legal/ethical activities and economic activities positively and significantly affecting the market value of Oil and Gas firms listed on the Nigerian Stock Exchange. It is recommended that government through the NNPC and other accounting standard setters develop standards, means or methods by which sustainability reporting can be measured and reported. Furthermore, the government through the NNPC should enforce and ensure compliance to the disclosure of ethical and economic activities of listed oil and gas firm as it was discovered to have a significant effect on market value. Lastly, the disclosure of ethical and economic activities of these firms should be incentivize ensuring that firms that make adequate disclosure of these activities are been rewarded with tax wavers, tax holiday and the likes.

Keywords: Philanthropic activities, legal/ethical activities, economic activities, tobin's q, Oil and Gas firms

1. Introduction

The emergence of industrial revolution paved way for economic development with improved and mechanized forms of production and manufacturing of goods to meet the need of people

all over the world. But this development is not without consequence especially to our environment and its inhabitants. The thirst and desire for Economic development has resulted into some environmental activities that are detrimental to the environment and the ecosystem. Some of the effects of these industrial activities are pollution, rise in sea level, deforestation, global warming, land degradation and desertification.

In Nigeria, the inhabitants of communities or areas where industries are located or places where oil exploration takes place usually complain of emission of dangerous substances, gas flaring, oil spillages and other pollutions that are harmful to the health of the people and the ecosystem (Ojo, 2016). They sometimes agitate about lack of concern towards the environment and lack of compensation from the companies and marginalization from the part of the government. As a result of the foregoing, the operating companies grieve from disruptions by those agitators, the government also complains about fall in oil and gas revenue as a result of wastages, vandalization and sabotage of government resources by the agitators (Udo, 2018).

However, there is an increasing rate of awareness by the government, individuals, and non-governmental organizations on concern and attention of businesses to the environment they operate. These awareness has helped in redirecting the focus of businesses to be environment and towards being environmentally friendly and contributive. Despite the contributions of oil and gas firms to the economies of a lot of countries in the world, their operations are those with the most negative impact on the environment compared to other manufacturing or industrial firms. Because of the negative effects the operation of oil and gas and other firms have on the environment, there is a growing need for businesses or firms to make disclosure of their contributions to the society and environment as a whole (Huang and Kung, 2010). According to environmental accounting guidelines (2012), environmental accounting “aims at achieving sustainable development, maintaining favorable relationship with community, and pursuing effective and efficient environmental conservation activities”.

The information to be disclosed with respect to sustainability reporting are classified as voluntarily disclosed information. This is due to the fact that, in most countries there are no specific legislations that mandates the disclosure of sustainability information. However, according to Adeeko, 2019; and Sholotan, 2016, in countries like France, Sweden, United State of America (USA), Denmark and Netherlands, it is mandatory for companies operating in those countries to disclose environmental information on their financial statements. In Nigeria, the laws of the Federal Republic of Nigeria 1992 Decree No.82 on Environmental Impact Assessment requires that before companies embark on activities that may harm the environment, it should submit an environmental impact assessment policy (Abubakar, Moses and Inuwa, 2017). This requirement is however not regulated and there are no specific enactments on how environmental information should be disclosed. Firms only adhere to international standards of disclosures like the GRI and ISO14000 to prepare social and environmental reports. These therefore makes it voluntary for firms to disclose sustainability information in Nigeria.

Researchers like Ayoola (2017), and Uwaoma and Ordu (2016) revealed that the absence of unvarying regulations, guidelines and lack of commitment on the part of listed firms impedes the disclosure of environmental information in Nigeria. Although, IFRS has recommended that “if environmental issues are within the scope of particular accounting principles, such issues must be dealt with under that relevant standard”. For instance, International Accounting Standard (IAS) 1, “Presentation of Financial Statements (Revised)” -requires

disclosure of material facts for a proper understanding of financial statements. IAS 37, “Provisions, Contingent Liabilities and Contingent Assets” -requires provisions for environmental damages and benefits to be made in financial reports, and “IFRS 6, Exploration for and Evaluation of Mineral Resources-requires a reporting entity to disclose information that identifies, quantifies and explains the amounts recognized in its financial statements arising from the exploration for and evaluation of mineral resources”.

However, to monitor and control the activities and operations firms and to ensure their effective contribution to the environment by controlling spillages, flaring, contamination of water and air, discharge of other harmful substances to the environment, agencies like National Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2008, National Environmental Standards and Regulations Enforcement Agency Act 2007, Environmental Impact Assessment Act 2004, and Harmful Waste Act 2004 were established (Alhassan and Anwarul Islam, 2019).

Many studies were conducted in both developed and developing nations examining the impact of environmental disclosure on performance, profitability, share price, firm value etc. Most out which found environmental disclosure as a voluntary form of reporting the impact of companies on their environment. The studies on environmental and social disclosures have been surrounded by diverse measurements and definitions based on the methodologies and approaches of the researchers (Alhassan and Anwarul Islam, 2019). Some of the studies conducted in developed countries such as; Norhasimah, Norhabibi, Nor, Sheh Muhammad, and Inaliah (2016), Yongliang, Jin, and Yi (2020), Guthrie, Cuganesan and Ward (2016), Amran and Siti-Nabiha (2017) etc showed a positive and significant effect of environmental disclosure on performance. On the other hand, Alsahlawi, Chebbi, and Ammer (2021), Lang (2016) and Domenico (2014) etc. found an insignificant negative impact of environmental disclosure on financial performance.

In developing countries like Nigeria, the studies of Alhassan and Anwarul Islam (2019), Adegbe, Ogidan, Siyanbola and Adebayo (2020), Salawu, Mamman, Tahir, Ado and Yunusa (2021), Okpala and Iredele (2019), Nwaiwu and Oluka (2018) indicated the existence of a significant positive connection between environmental accounting and firm value. Conversely, Abubakar, Moses and Inuwa (2017), Polycarp (2019), Oba and Fodio (2012) etc. found no significant association between the variables under study. These therefore indicate the lack of congruence of findings in Nigeria and elsewhere on the connection between environmental disclosure and firm value or performance of companies. Hence, the need for a new evaluations and justifications.

Furthermore, of the studies conducted in Nigeria, there is scantiness of studies evidencing the effect of sustainability disclosure on market value of oil and gas firms listed on the Nigerian Exchange Group as most of the reviewed literatures focused on manufacturing firms, industrial companies, and construction companies. These provides more reasons and need for further studies to be conducted in oil and gas industry due to its obvious negative impact on the environment. Also, to the best of the researchers’ knowledge, most of the studies in the area lumped total disclosure to represent environmental or sustainability information. However, this study categories sustainability disclosure into three units. Therefore, in line with the above established gaps in literature, this study deems it necessary to examine the effect of sustainability disclosure on market value of oil and gas firms listed on the Nigerian Exchange Group. The following hypotheses are formulated in null form for the study:

- H₀₁:** Philanthropic activity has no significant impact on market value of listed Oil and Gas firms in Nigeria
- H₀₂:** Legal/ethical activity has no significant impact on market value of listed Oil and Gas firms in Nigeria
- H₀₃:** Economic activity has no significant impact on market value of listed Oil and Gas firms Nigeria

Theoretically, this study affirms the stakeholder theory which requires firms to be responsible to every component that makes up the environment they operate. On the other hand, the study will enable regulators and policy makers in making policies with regards to the environment and policies that will help improve the market value of firms.

The remaining part of this study covers the following areas; section 2 as Empirical review and theoretical framework, section 3 discourses on the methodology of the study, section 4 discourses the result and findings of the study while the final part, section 5 provides the conclusion and gives logical recommendations based on the findings.

2. Review of Empirical Studies

Environmental disclosure connotes the information usually of financial nature, describing the activities of organizations that are engaged in economic activities, in this case oil companies in Nigeria as they relate to their adherence to regulations and best practices as well as portraying the impact of such activities upon the environment, geographical space and or land area (Aluwong and Fodio, 2019). This concept became widely known and used around the world since the United National Conference on Environmental Development (UNCED) held in Rio de Janeiro in June 1992.

Environmental Agency of the United Kingdom (UK) (2006) stated that “businesses consider practicing environmental accounting as part of their accounting system for the following reasons: possible significant reduction or elimination of environmental costs; environmental costs and benefits may be over looked or hidden in overhead accounts; possible revenue generation may offset environmental costs (examples, transfer of pollution allowances, recycling of wastes) through practicing environmental accounting; improved environmental performance which may have a positive impact on human health and business success; possible competitive advantages as customers may prefer environmentally friendly products and services”.

Market value is sometimes referred to as firm value. Therefore with respect to this study, the two words are used interchangeably. Firm value is an economic measure that indicates the market value of a firm in the given period. Market value of a firm serves as an indicator and an influencer to the investors’ conceptualization of the ability of managers to and anticipate and act immediately to future changes in the firms’ environment (Emeka-Nwokeji and Osioma 2019). Qamruzzaman, Jahan, and Karim (2021) believed that firm value is the present value of cumulative profits that are likely to be produced by a business enterprise in the future. Tobin’s Q has been one of the widely used proxy of market value of firms (Qamruzzaman et al., 2021, and Albuquerque, Durnev, and Koskinen, 2013). Tobin’s Q is a representation of stockholders’ perceptions of a firm’s market value in relation to its book value. Tobin’s Q is measured as the ratio of the market value of equity plus book value of debt to total assets.

Salawu, Mamman, Tahir, Ado & Yunusa (2021) empirically examined the impact of firm specific attributes on environmental disclosures with focus on the oil and gas sector of Nigeria. They made use of Generalized Least Square regression to test their hypothesis. Their study covered a period of seven (7) years from 2012-2018 using an adjusted population of 9 listed oil and gas firms. Their study evidenced a positive and significant relationship between board composition, financial leverage, existence of foreign directors on the board and environmental disclosure. However, the study findings also revealed an insignificant association between firm age, financial performance and environmental disclosures. Their study is however deficient because, despite conducting the study in 2020, the study only cover period from 2012 to 2018 leaving out 2019 and 2020 within which a lot of activities like inflation and the pandemic have taken place and these two activities have a lot of effect on performance.

Qamruzzaman, Jahan, & Karim (2021) studied the impact of voluntary disclosure on firm's value of Manufacturing firms in Bangladesh. The study covered a period of three years 2017-2019 and used a sample of 26 manufacturing firms listed on the Dhaka stock exchange. General Least Square regression was used to analyze the data extracted from secondary sources. Their study revealed a positively significant impact of voluntary disclosure on firm value. This study covers only three year from 2017-2019. The findings of study would have been stronger if the study period covers more years as this will provide a superior argument to the present one presented.

Adegbie, Ogidan, Siyanbola & Adebayo (2020) carried out a study on environmental accounting practices and share value of food and beverages manufacturing companies quoted in Nigeria. They used firm size to moderate the connection between environmental accounting and share. The study was conducted over a period of ten (10) years using a sample of ten food and beverage firms listed in Nigeria. Ex-post factor research design was adopted and data used in the study were collected from the accounts of the firms under study. The empirical findings of their study revealed a significant positive impact of environmental accounting practice on share price without the moderating effect of firm size. Similarly, with firm size as the moderator, the relationship has failed to change. Therefore, they concluded that, there exists an influence of environmental accounting on share price of food and beverage firms in Nigeria.

Yang, Wen, & Li (2020) in their study titled "The Impact of Environmental Information Disclosure on the Firm Value of Listed Manufacturing Firms: Evidence from China" found environmental information disclosure to have a significant impact on firm value of listed manufacturing firms in China. The study used difference-in-differences model and propensity score matching (PSM) method to examine the effect of Environmental Information Disclosure Measure on firm value.

Ismail & Anwarul Islam (2019) carried out a research examining the impact of environmental and social disclosures on financial performance of oil and gas companies in Nigeria for a period of ten years from 2010-2019 using a sample of seven (7) oil and gas firms listed in Nigeria. Ex post factor research design was adopted in their study with data extracted from the annual reports of the sampled firms. They used return on asset to represent the dependent variable financial performance and environmental disclosure and corporate social responsibility disclosure to represent the independent variable. They found that both environmental and social disclosures have a significant impact on performance at 5% significance level. They recommended that companies should have a clear and good attitude

towards environmental and social services and disclose more of such information in their annual reports because it was found that high disclosure of such information has considerably impacted on financial performance of companies.

Polycarp (2019) studied the effect of environmental accounting on financial performance of Oil and Gas Companies in Nigeria. The data used in the study were extracted using questionnaires to obtain first hand data from his respondents. The study found that lack of standards that guides the reporting and disclosure of environmental information has significantly affected the uniformity in disclosure and reporting of environmental related information on financial statements of oil and gas firms.

Udo (2019) examined the effect of environmental disclosure practices by listed oil and gas companies in Nigeria using a sample of ten (10) listed oil and gas companies in Nigeria over the period of ten years from 2009-2018. Ex post factor research design was used to analyze the data extracted from secondary sources. The study found out that there is inadequate disclosure of financial and non-financial environmental information by listed Nigerian oil and gas companies. The result of the analyzed data disclosed that leverage and liquidity have significant positive influences on EADP while long-term financing contribution has insignificant positive influence on environmental accounting disclosure practices also significant negative influence on environmental accounting disclosure practices. The study recommended that, there is need to standardize environmental accounting disclosure practice in Nigeria and enforcing the disclosure making it mandatory on oil and gas firms in Nigeria.

Okpala & Iredele (2018) studies the association between corporate social and environmental disclosures and market value of listed firms in Nigeria using a sample of 84 listed firms for periods from 2011-2016. Corporate social and environmental disclosure was measured using Global Reporting Initiative (GRI) and market value of firms using Tobin Q. They found that corporate social and environmental disclosures have a significant influence on market value of firms listed in Nigeria. The study however, recommended that, firms should make proper and full disclosure of their environmental reporting as it was found to be a way of adding value to both the firms and environment as a whole.

Nwaiwu & Oluka (2018) evaluated the effect of environmental cost disclosure on financial performance of listed oil and gas firms in Nigeria. They adopted a causal comparative research design in analyzing the data extracted from the annual reports and account of oil and gas companies listed in Nigeria over a period of five years 2011-2015. The result of their investigation indicated that, compliance to the disclosure requirement of environmental information has a significantly positive effect on financial performance of oil and gas firms in Nigeria. They recommended that regulatory agencies should enforce the disclosure of environmental cost and proper reporting of such.

Abubakar, Moses & Inuwa (2017) examined the association between environmental disclosures and performance of cement and brewery companies in Nigeria. They used OLS regression technique to analyze the data extracted from the annual reports of the firms under study. The study adopted Content analysis to measure quantitative environmental disclosure and unweighted approach was used to rank environmental accounting disclosure index for measuring qualitative voluntary environmental disclosure. Performance was measured using return on asset, return on equity, and earning per share. The empirical result indicates that environmental disclosure quantitative (EDQN) has a positive insignificant impact on ROA and EPS. It however has negative and an insignificant impact on ROE. Convexly, there seem

to be positive and significant influence of environmental disclosure qualitative (EDQL) on ROA and EPS. There exist however a positive but insignificant impact environmental disclosure qualitative on ROE. They recommended that, cement and breweries companies should embark on proper disclosure of environmental accounting information while the government should develop clearly define policies on environmental disclosure issues and ensure its full implementation.

Norhasimah, Norhabibi, Nor, Sheh Muhammad, & Inalialah (2016) examined the effect of environmental disclosure on financial performance in Malaysia using a sample of top 100 company of market capitalization for the year 2011. They made use of four performance indicators which are, return on assets (ROA), earnings per share (EPS), return on equity (ROE) to measure financial performance and used environmental disclosure index to measure environmental disclosure. The result of their findings showed a significantly positive association between total environmental disclosure and profit margin. However, other findings showed that ROA, ROE, and EPS have no significant relationship with total environmental disclosures.

Stakeholder theory is used to underpin this study. This is with evidence to the fact that stakeholder theory aims at ensuring the responsibility of firms towards the entire environment and how they can forward activities that will positively affect the environment. The stakeholder theory was postulated by Freeman in 1984. The theory defines stakeholders of a firm as; employees, shareholders, investors, society, customers, government, competitors and all those affected directly or indirectly by the activities of the firm (Saleh, Abdulkarim and Ibrahim, 2020). The theory stated that disclosure of environmental information by firms is due to the pressure these stakeholders exert on those charged with management of companies.

3. Methodology and Data

This study adopts Ex-post facto as design. It is due to fact that the design adopted examines the possible effect of the independent variable on the dependent variable. The study population covers all ten (10) oil and gas companies listed on the Nigerian Exchange Group (NGX) as at 31st December, 2020. Further, census sampling approach was adopted by the study. The study covers a period of five (5) years from 2016-2020 and the data extracted for the period under review are secondary in nature. This is because they were extracted from annual reports and accounts of the firms under study. To determine the influence of sustainability disclosure on market value of firms, a multiple regression model was used to incorporate the dependent, independent and the control variables of the study. The dependent variable of the study which is market value of firms is proxied by Tobins Q. Global Reporting Initiative (GRI) and Carroll's Index as modified by Ja'afar and Shehu (2020) will be adopted in measuring sustainability disclosure and its further categorized in three units (philanthropic activity, legal/ethical activity and economic activity) which proxy the independent variable. Philanthropic activity comprises of 15 components, legal/ethical activity is made up of 8 components, while economic activities is made up of 15 components. Each disclosed item on the checklist is scored "1" and "0" for each undisclosed item. Firm size and leverage serves as control variables of the study.

The following model is specified to test the formulated hypotheses of the study:

$$FMV_{it} = \alpha + \beta_1 PA_{it} + \beta_2 LEA_{it} + \beta_3 EA_{it} + \beta_4 FSZ_{it} + \beta_5 LEV_{it} + \epsilon_{it}$$

Where:

FMV= firm market value

PA= philanthropic activity

LEA= legal/ethical activity

EA= economic activity

FSZ= firm size

LEV= leverage

ε_i = error term

$\beta_1 - \beta_3$ = coefficients

i= firms

t= time

Table 1: Measurement of Variables

Variables	Acronyms	Measurement	Source(s)
Firm market value	FMV	Market value of equity plus book value of total liabilities divided by total assets	Okpala and Iredele (2018)
Philanthropic Activity	PA	Each item disclosed on the checklist is represented by “1” otherwise “0”	Ja’afar and Shehu (2020)
Legal/ethical Activity	LEA	Each item disclosed on the checklist is represented by “1” otherwise “0”	Ja’afar and Shehu (2020)
Economic Activity	EA	Each item disclosed on the checklist is represented by “1” otherwise “0”	Ja’afar and Shehu (2020)
Firm Size	FSZ	Log of Total asset	Okpala and Iredele (2018)
Leverage	LEV	Total debt/total asset	Okpala and Iredele (2018)

Source: Authors’ Compilation (2021)

4. Results and Discussions

This section presents and discusses the results obtained from the data extracted. It first present descriptive statistics that provide the trend of the firms under study. It is followed by correlation matrix that describes the relationship or association between the variables and lastly the regression result which examines the impact of the dependent variable on the independent variables

Table 2: Descriptive statistics

Variables	N	Minimum	Maximum	Mean	Std. Dev.
FMV	50	0.4664	2.9862	1.1232	0.6374
PA	50	0.1333	0.8000	0.5813	0.1876
LEA	50	0.2500	0.6250	0.4150	0.1169

EA	50	0.2000	0.7333	0.5560	0.1404
FSZ	50	5.8337	9.1635	7.6167	0.8727
LEV	50	0.5390	2.2223	0.7798	0.5900

Source: Authors' compilation from STATA Output, 2022

From Table 2 above, the result shows that the sampled oil and gas firms in Nigeria have an average firm value of 112%, with minimum and maximum values of 46% and 298%. This shows a low variation in corporate social responsibility of the sampled of listed oil and gas companies as portrayed by the standard deviation of 63% which is much lower than the mean value. The mean value of 1.1232 indicates that, most of the oil and gas firms listed in Nigeria have a high firm value, meaning they earn higher than their replacement cost. The minimum and maximum value of philanthropic activities (PA) are 0.1333 and 0.8000 respectively with a mean of 0.5813. This implies that on average oil and gas firms in Nigeria discloses 58% of their philanthropic activities on the annual reports and the highest proportion of disclosure for philanthropic activities is 80%. While deviation from the mean is about 19%. Also, legal and ethical activities (LEA) has a mean value of 0.4150 with minimum and maximum values of 0.2500 and 0.6250 respectively and standard deviation of 0.1169. This implies that the average disclosure of legal and ethical activities of oil and gas firms listed in Nigeria is about 42% while the minimum and maximum disclosures is about 25% and 63% respectively.

Furthermore, economic activities (EA) has an average disclosure rate of about 56%. It has a minimum and maximum disclosure level of 20% and 73% respectively. The deviation of the minimum and maximum values from the mean is 14%. Firm size which is one of the control variables has a minimum and maximum values of 5.8337 and maximum values of 9.1635. It has a mean of 7.6167 and standard deviation of 0.8727. The result shows a very high deviation from the mean. Lastly, leverage has minimum and maximum values of 0.5390 and 2.2223 respectively with mean and standard deviation of 0.7798 and 0.5900 respectively. These indicates that most of the oil and gas firms in Nigeria are levered with an average debt to equity level of about 78%. It also indicated a low dispersion of the minimum and maximum value from mean.

Table 3: Correlation Result

variables	FMV	PA	LEA	EA	FSZ	LEV
FMV	1.0000					
PA	0.2371	1.0000				
LEA	0.4313	0.1355	1.0000			
EA	0.4007	0.8464	0.2752	1.0000		
FSZ	0.5007	0.3315	0.4062	0.6076	1.0000	
LEV	0.7606	0.2018	0.1003	0.2437	0.2985	1.0000

Source: Authors' compilation from STATA Output, 2022

Table 3 shows the correlation results, it shows the association between firm market value with the explanatory variables (philanthropic activities, legal and ethical activities and economic activities) and the control variables (firm size and leverage). The table indicated that philanthropic activities, legal and ethical activities, economic activities, firm size and leverage are positively and strongly correlated with firm market value of listed Oil and Gas firms in Nigeria. However, the result showed that there is a strong and positive correlation amongst the explanatory variables and control variables except for PA and LEA, LEA and LEV that have positive but weak association.

4.1 Regression and Robustness Results

The table 4 below presents the summary of regression result obtained from model of robust Ordinary Least square Regression (OLS) as well as summary of the diagnostic tests conducted. The table shows the impact of each independent variable on the dependent variable. It also shows the combined impact of the independent variables on the dependent variable. The table is presented as below.

Table 4: Summary of Regression Result

Variables	Coefficient	t-value	P-value
PA	-0.6811	-1.46	0.151
LEA	1.5303	3.13	0.003
EA	1.2624	1.83	0.074
FSZ	0.0591	0.99	0.326
LEV	1.3309	19.74	0.000
Constant	-1.2973	-3.01	0.004
Prob > F	0.0000		
R-sq.	0.7435		
Mean VIF	3.01		
Hetest	0.1863		
Hausman	0.9990		

Source: Authors' compilation from STATA Output, 2022

From the table 4 above, the R^2 result of (0.7435) explains that over 74% of the variation in firm market value (FMV) is caused jointly by the independent variables of the study and three variables the control the noise in the model. The result of mean VIF of 3.01 indicates the absence of harmful multicollinearity. According to Gujarati (2003), when the VIF and tolerance values are below 10 and 1 respectively, it is assumed that there is absence of perfect correlation among the independent variables. It means that multicollinearity is not a problem in the data set of this study. The hettest value of (0.1863) presented is the probability value, it indicates that hettest is insignificant. This shows that constant variance and the disturbances u_i appearing in the population regression function is homoscedastic. Despite this, fixed and random effect regression were runned and hausman specification was conducted to provide

the statistical evidence of which of the two should be explained. However, the hausman results indicated an insignificant probability value of (0.9990). The rule states that when the probability value of Hausman is insignificant, robust OLS regression should be run and interpreted. Therefore, the regression result above is the robust OLS and it is interpreted below.

Table 4 above shows that, philanthropic activities of listed Oil and Gas firms in Nigeria has a negative insignificant impact on firm market value, this is from the coefficient of -0.6811 and a significance value of 0.151. This implies that any increase in philanthropic activities by listed oil and gas firms in Nigeria will result to an insignificant reduction on firm market value. This result is in line with the findings of Abubakar et al. (2017) and Alsahlawi, Chebbi, and Ammer (2021) but contrary to that of Yang et al. (2020), and Okpala & Iredele (2018). This result therefore provides evidence to fail to reject the null hypothesis 1 of the study. The table also shows that, legal and ethical activities have a coefficient of 1.5303 and p-value of 0.003 which is significant at 5% level. These values indicate that LEA has a significant positive impact on firm market value of listed oil and gas firms in Nigeria. The coefficient value of 1.5303 implies that, an increase in disclosure of one of the LEA, firm market value will increase by N1.53k. The findings of this is in consistence with that of; Qamruzzaman et al. (2021), Yang et al. (2020), and Okpala & Iredele (2018) who found a significant effect of environmental disclosure on firm market value. It is however in disagreement with the findings of; Udo (2019) and Abubakar et al. (2017) who found no significant impact of environmental disclosure on market value of firms. This is also, provides evidence to reject the null hypothesis 2 of the study which states that, LEA has no significant impact on firm market value of listed oil and gas firms in Nigeria. Further, the result of economic activities reveals that, EA has a significant and positive association with FMV with coefficient of 1.2624 and a p-value of 0.074 which is significant at 10%. It indicates that, the positive coefficient of 1.2624 confirms that an increase in disclosure of one economic activity will increase firm market value by N1.26k. The findings of this is in consistence with that of; Qamruzzaman et al. (2021), Yang et al. (2020), and Okpala & Iredele (2018) who found a significant effect of environmental disclosure on firm market value. It is however in disagreement with the findings of; Udo (2019) and Abubakar et al. (2017) who found no significant impact of environmental disclosure on market value of firms. This study therefore rejects the null hypothesis 3 which states that economic activities has no significant impact on firm value of listed oil and gas firms in Nigeria.

5. Conclusions and Recommendations

The study investigated the impact of environmental disclosure on market value of Oil and Gas firms listed on the Nigerian Exchange Group from 2016-2020. From the regression result used to examine the impact of environmental disclosure on market value, it is concluded that the disclosure of some legal/ethical activities and economic activities go a long way in increasing the market value of oil and gas firm in Nigeria and philanthropic activities impact negatively on the market value of firms. These indicated that some investors are willing to pay more for firms that discloses their environmental activities ore spending while other do not recognize the differences in disclosure and non-disclosure. Based on the findings of the study, it is recommended that, government and other accounting standard setters should develop a standard means or method by which environmental reporting can measure and reported. Sequel to the development of standards and laws requiring the disclosure, the government through the function of NNPC should ensure compliance to those standards and laws Furthermore, the government should incentivize the disclosure of environmental activities making sure that firms that make adequate disclosures are giving incentives like tax

wavers and the likes. The government can also make proper disclosure of sustainability activities as one of the requirements for listing a firm on the Nigerian Exchange Group.

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