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Sustainability Reporting and Firm Value of Listed Oil and Gas Companies in Nigeria

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Abstract: Aside adequate financial capital, companies also require strong governance and workplace practice that recognizes environmental and social needs of current and future stakeholders for it to achieve long term sustainability. The work examined the effect of sustainability reporting practices of environmental, social and economic on the firm value proxied by Tobin's Q of listed oil and gas firms in Nigeria. The work relied mainly on secondary source of data and comprised of published annual reports. The analytical tools consist of descriptive and correlation matrix. The hypotheses were tested using multiple regression. The research answered that; environmental sustainability reporting has a positive significant effect on the value of listed oil and gas firm in Nigeria. Also, economic sustainability reporting has a negative significant effect on the value of listed oil and gas firm in Nigeria. The result also showed that firm characteristics proxied by sales growth and leverage exerts a negative significant effect, whereas, firm size exerts a positive significant effect on sustainability reporting and firm value of oil and gas companies in Nigeria. The work concluded that adequate compliance with sustainability rules and regulation will go a long way to bring more investors to the company which will in turn ultimately increase the firm value. Based on the above findings, the work recommended that oil and gas firms should comply 100% with the rules and regulations of sustainability reporting to increase the value of their firm in the long run.

Keywords: Financial capital, Sustainability reporting, Firm value, oil and gas companies, Nigeria, Tobin's Q

1. Introduction

Companies, world over, are increasingly being challenged to extend their accounting information reportage to encompass sustainability reporting practices as part of their corporate strategy and competitive advantage. Pricewaterhouse Coopers (2017) stated that recognizing and incorporating such social and environmental factors into the governance and strategic operations of the firm is referred to as Corporate Sustainability (CS). In essence, corporate sustainability entails aligning the competitive activities of the organization to meeting the short-term needs of the current stakeholders without jeopardizing the long-term ability of future stakeholders in meeting their own needs, thereby adding economic, environmental and social values. These three lines of values (Tripple bottom line), according to Asaolu, Agboola, Ayoola and Salawu (2011), this is targeted at the economy, society and environment respectively.Sustainability reporting is frequently perceived as the combination of three performance areas: economic, social, and environmental; it is viewed as a vital practice for modern commercial enterprises' existence. According to Ballon, Heitger, and Landes (2009), businesses have gradually learned that meeting stakeholders' expectations is a vital requirement for long-term viability and, as a result, is required to achieve the overall strategic business goal.

Sustainability reporting covers environmental protection, protection of sea lives and lives above sea level such as aquatic and terrestrial animals, poverty eradication, tackling inequalities and building strong institutions. Organizations are more and more concerned with a modern operation that has been recognized as development that satisfy the demands of the present generation, without compromising the needs of future generations. Oil firms can strive to achieve these objectives by implementing a triple bottom line which includes environmental, social, and economic responsibilities in their mission statement. Today corporate survival depends on the level at which organizations integrate sustainability aspects in their strategies. Integrating sustainability issues in the industry's strategy will assist organizations in waste reduction, emission reduction, energy efficiency and conservation. Organizations that excel in sustainability implementation and disclosure are not only doing it to gain societal acceptance, but it is also a business strategy that produces enormous returns on investment (Nasiru, Abdulrahman, Babangida & Abubakar, 2020).

The activities of oil firm involve many interactions with local communities during exploration, production, and marketing. This has resulted in demands on oil companies to invest in the development of their local communities. Besides, government, non-governmental organizations and World Bank have in recent years made claims about the positive role that sustainability could play in contributing to poverty eradication and community development. Socially sustainable organizations are those that add value to the local communities. Social sustainability involves ensuring the political and economic rights of citizens. These rights may include but not limited to proper and socially conscious corporate governance structures, labor rights, community culture, and sustainable human development. Consequently, this may lead to a higher level of trust amongst the multifarious stakeholders, which would help organizations in achieving lower operating costs (Abdulsalam, Abdulraham, Garba, Mohammed &Abubakar, 2020).

However, sustainability reporting (environmental, social & economic reporting) does not replace traditional financial reporting. Sustainability reporting integrated relevant financial and non-financial information and communicates organizational strategies and business performances to multifarious stakeholders. Simply put, financial performance can be linked to sustainability reporting and then linked to business models and strategies. Internationally, a study by an accounting firm - Klynveld Peat Marwick Goerdeler (2015) shows growing interest in corporate transparency, particularly with respect to sustainability reporting and disclosure. According to the study, sustainability reporting is necessary to equip stakeholders with information of an organization's performance in tangible aspects. In 2011, the International Federation of Accountants (IFAC) came up with a sustainability framework, which consolidates the important aspects of embedding sustainability into the Deoxyribonucleic Acid (DNA) of an organization and can be applied to entities of all sizes and complexities, enabling business organizations to incorporate sustainability issues in their business approach, process and reporting practices. The reporting aspect of IFAC's sustainability framework involves providing audit and assurance on sustainability performance to improve the credibility of sustainability reports, incorporating sustainability impacts in financial statements, and employing narrative reporting to capture sustainability information not included in financial statements.

Companies' accountability is incomplete without a reporting mechanism, which is why sustainability reports are published and sustainability disclosures are included in corporate annual reports. In recent years, the contents of sustainability reports produced as stand-alone reports or integrated into corporate annual reports in

Nigerian corporations have gotten a lot of attention. According to Asaolu, Agboola, Ayoola, and Salawu (2011), multinational oil and gas corporations in Nigeria voluntarily conduct sustainability reporting; nevertheless, reporting was insufficient because they were not guided by any legislation on what to disclose.

Financial results express responsibility, which is an important part of transparency that cannot be overlooked; nevertheless, financial results alone cannot define and communicate a company's social and environmental implications. The definition of corporate value is being redefined as a result of these effects. As a result, external factors and organizational environment play a part in the transformation process in order to improve the content of sustainability reports.As a result, the focus of this research was on evaluating the institutional context and internal organizational factors of sustainability reporting in Nigeria.Other research on sustainability reporting and company value have been conducted in other parts of the world, including Malaysia (Abidin, Kamal & Jusoff 2009), Singapore

2. Conceptual Framework

Sustainability reporting is an Accounting performance measurement designed to go beyond the report on financial information and brings about report on the impact of the organization's activities on the planet and the people that dwell in it. This solves the problem of giving partial attention to business activities. Sustainability reporting is voluntary practiced by multinational firms in Nigeria. The reporting was different as companies were not guided by any legislation on what to report. Sustainability report is important because it enhances corporate issues and reports. It comprised of economic, social and environmental.Sustainability reporting is the process of disclosing the performance of firms as regards the practice of sustainable development to both internal and external stakeholders (Emeka Nwokeji and Osisioma, 2019). Likewise, Konstantinos and Dimitrios (2016) opined that sustainability reporting is the disclosure of an integral approach to sustainable issues which is driven by stakeholders' pressure, legislative and ethical reasons. According to Whetman (2017), sustainability reporting is the practice that encompasses a company's value, governance model and its approach towards creating a sustainable global economy. In the same vein, Gnanaweera and Kunori (2018) explained that sustainability reporting is the reporting system that enhances transparency, the reputation of the firm and meeting the interests of the stakeholders. Therefore, sustainability reporting refers to the disclosure of non-financial information following four main aspects of economic, environmental, social and governance sustainability in a strategic manner. Ceulemans et al. (2015) observed that there is an increase in companies that are now integrating environmental, social and governance sustainability (ESG) dimensions in their annual reports both in developed and developing countries which shows that companies are promptly responding to the concerns of their stakeholders. Sustainability reporting is based on four dimensions of economic, environmental, governance and social sustainability practices. Various bodies have developed sustainability guidelines, among which are GRI. The GRI sustainability framework has been globally recognised as an international reference for companies on sustainability reporting. Thus, this study developed its JFRA sustainability reporting index based on the GRI performance indicators from economic, social, environmental and governance dimensions. Reporting of economic, environmental, governance and social sustainability performance is often seen by stakeholders as a platform to build ethical reputation of firms (Okpala and Iredele, 2018). The ethical reputation can translate to increase in demand for the shares of firm. Investors are interested in corporate responsibilities that can guarantee long-term sustainability and not just profit maximisation (Emeka-Nwokeji and Osisioma, 2019).

The current state of sustainability reporting can be divided into two parts; namely voluntary and mandatory sustainability reporting. Voluntary sustainability reporting occurs when managers' according to their discretion decide what, how and when to disclose sustainability information, even, when on the other hand there are no mandatory requirements to do so. Mandatory sustainability reporting is one that is demanded by the national government or its delegated regulatory authority, such as Securities and Exchange Commission that oversees the activities of business organizations quoted on the stock market.

Based on Global Reporting Initiative (2011), economic indicators of sustainability reporting include revenue, costs arising from operations, cash outflows to capital providers in form of dividend, cash outflows to pay for taxes, community investments, cost of managing risks or opportunities posed by climate change, defined benefit plan obligations, government grants, tax relief and spending on local suppliers. The purpose of the economic indicators of sustainability reporting is to measure the impact of organizations on the state of affairs of their local and international stakeholders. Specifically, the Global Reporting Initiative (GRI) recognizes two main aspects of impact with respect to economic indicators namely: capital flows from organizations to stakeholders and economic impacts of organizations at the national and international level. Financial reporting standards such as International Financial Reporting Standards (IFRS) play crucial roles in the measurement and reporting of economic transactions. For example, International Accounting Standards (IAS) 18 deals with revenue, IAS 2 is on operating costs, IAS 19 deals with employee wages and benefits, IAS 1 and 7 deal with payments to providers of capital, IAS 12 is about payments to government, IAS 19 deals with defined benefit plan obligations and IAS 20 deals with financial assistance received from government.

According to Deloitte Global Services Limited (2016a) on IAS 18, revenue is the total economic benefits received from the normal operating activities of a business and includes goods sold, services rendered, interest, royalties and dividends. This implies that a transaction that leads to monetary benefit or inflow to an organization can be described as revenue. Usually, operating costs includes raw materials, consumables, labour and other costs are deducted from revenue. Deloitte Global Services Limited (2016b) stated that IAS 19 is concerned with employee benefits which include short-term and long-term benefits.

Short-term benefits are wages, salaries, paid annual leave, profit-sharing and cash bonuses, and non-monetary benefits for employees of an organization. Postemployment employee benefit plans could be defined contribution or benefit plans. Defined contribution plans entails that the employer pays definite contributions into a separate fund which is expected to have adequate resources to off-set the entire benefits of employees who have served in current and prior periods. The employer is not liable to pay further contributions or make direct payments to employees in the absence of sufficient assets by the fund. On the other hand, in the case of defined benefit plans, an employer is under obligation to pay benefits to past and present employees. The benefits could cost more or less than expected; return on assets set aside to fund the benefits could differ from expectations. These risks are borne by the employer (IFRS Foundation education staff, 2013).

Based on Deloitte Global Services Limited (2016c), IAS 1 deals with dividend payment and it requires the disclosure of dividend proposed before the financial statement date which was not distributed to shareholders before that date. Based on Deloitte Global Services Limited (2016d) IAS 7 requires the disclosure of dividend paid to shareholders under Statement of Cash Flows. Other forms of capital include debt and it attracts interest. Although, the ability of a business to pay providers of capital is one of the indicators of sustainability reporting, it has been argued that payment of dividend while issuing new debt stock could reduce the availability of cash to pay existing debt holders of a business in event of financial distress (Healy and Palepu, 2001). Recent argument (EC staff consolidated version, 2010) shows that disclosures on payments to providers of capital helps to ensure a business is adequately managing its capital and predicting claims on future cash flows by providers of capital to the business.

Environmental indicators of sustainability include environmental indicators such as renewable (non-renewable) materials, recycled materials, fuel/electricity consumption, electricity sold, energy conservation, water, greenhouse gas emissions, organic pollutants, waste, spills, environmental protection, assessment of suppliers and clients based on environmental risks (Global Reporting Initiative, 2013a). According to the Department for Environment, Food and Rural Affairs (2006), environmental indicators of sustainability reporting are those disclosures that show the manner in which a company measures, manages and communicates its environmental performance. These indicators could pose risk to the long-term value of a business. Environmental indicators can be grouped under direct and indirect impacts. Direct environmental impacts arise from business operations while indirect impacts arise from the supply chain.

Tol (2009) notes that climate change is the mother of all externalities, and this makes it more susceptible to change compared to any kind of environmental problem. Climate change affects places, including businesses, and the livelihoods of people. It is one of the results of carbon emissions and pollution. There is a need for the issue of carbon emission to be addressed by businesses due to its economic, environmental and social implications. The economic effects of climate change were based on some indices such as extent of global warming, sea level rise, changes in rainfall. The economic effects of climate change were based on physical impacts of each of these indices and a price was given to each physical impact and it was added up.

In the oil and gas sector, there are several environmental impacts associated with upstream and downstream activities. Some of these impacts are oil spills, gas flaring and venting, discharges of chemical wastes, water contamination, soil and sediment contamination, destruction of farmland and marine environment (Ite *et al.*, 2013). Oil spills have been found to be a source of environmental issues and occur when liquid petroleum hydrocarbon arising from human activity diffuse into land and marine areas. They also release harmful substances into the environment. Egbe and Thompson (2010) state that oil spills can be categorized into four namely minor, medium, major and catastrophic spills. The difference between the four groups lies in the volume of the spills. When more than 250 barrels of oil are discharged in offshore or coastal waters, a major oil spill is said to have occurred. On the other hand, a catastrophic oil spill occurs when there is a pipeline rupture or storage tank failure which is detrimental to public health.

Another aspect of sustainability reporting includes social indicators. According to Otusanya *et al.* (2012), anti-social practices of organizations have economic and political implications on countries. These anti-social practices have overriding effect on a country's Gross Domestic Product (GDP). These social practices relate to employees, governance, host community, corruption, suppliers and supply chain, amongst other business stakeholders. The Center for Corporate Citizenship and Ernst & Young LLP (2013) note that these practices also pose risks that might have significant financial impacts on their business value. However, managing these risks could help reduce their financial implications, thus, resulting in higher market returns for investors. The issue of corporate social practices is a source of sustainability because businesses that have good return on capital employed but fail to manage the risks associated with social practices could have their returns lose value with time.

Social indicators of sustainability reporting show the organizational performance in reducing the risks associated with inadequate training of employees on health and safety, local community development programmes, stakeholder engagement, anticorruption policies and procedures, assessment of suppliers based on impacts on society and identification of negative impacts on society in the supply chain. These risks could further lead to costs such as insurance, medical, compensation for lives lost, legal, and could further affect the goodwill of the organization.Governance indicators of sustainability reporting show the board of directors' approach to improving environmental, social and economic performance of organizations. The governance disclosures include structure, composition and competencies of the board of directors, highest governance body's role in strategy setting, tenure and conflicts of interest of board members, remuneration (fixed pay, bonuses, allowances), role of the board in management of sustainability impacts, role of the board in risk management, whistle blowing mechanisms (Global Reporting Initiative, 2013a).

Nigeria as a member of United Nations impliedly adopted the UN global compact on Global Reporting Initiative (GRI) which provided sustainability reporting guidelines in 2000 to design and build acceptance of a common framework for reporting on the linked aspects of sustainability. It is in the light of the above amidst growing demand by the society, over economic, social and environmental accounting company's performance that more research work on sustainability accounting becomes imperative.

Sustainability Reporting is not an end in itself but a means to an end. Sustainability reports are meant to provide stakeholders with information on economic, social, and environmental performance of the reporting organization. Various reporting standards exist as guidelines for Sustainability Reporting typical of which is the Sustainability Reporting guidelines developed by Global Reporting Initiative (GRI). The GRI guidelines are the world most widely used Sustainability Reporting guidelines used to benchmark organizational performance with respect to norms, codes, performance standards and voluntary initiative; demonstrate a company's commitment to sustainable development and compare company performance.

Environmental concerns such as environmental protection, energy savings, fair business practice, etc. are not given priority in annual reports. The corporate environmental report is established to provide environmental information, such as corporate activities in protecting and preserving the natural environment (Shearer, 2002). This report shows the organizations stride toward the environment and strategists adapted to source for alternative measures that are less harmful to the environment. The companies are expected to voluntarily establish a report of their non-financial activities that improved the well-being of human, community, workplace, market and environment.

However, Rouf (2011) argues that corporate environmental reporting more at times does not serve the need of external users because top management of the organization are more likely to pursue their personal interests when taking managerial decisions, and the resultant effect is more disclosure gap such as the variance between actual and expected disclosure.Universally, committee of nations, supranational organization and government have also established their concern over the environment through initiating policies and rules, such as the International Financial Reporting Standard Board (IFRSB), Global Reporting Initiative (GRI)and the Association of Chartered Certified Accountants (ACCA). For instance, the IFRSB has introduced Financial Reporting Standard (FRS) 101 – Presentation of Financial Statements which require firms to declare their environmental information on human activities that could have an effect on the environment.

Global Reporting Initiative (GRI) is an international, non-profit, network-based organization meant to promote social, economic, environmental and sustainability through developing a framework of sustainability reporting that is widely and globally used for all types of businesses, large or small. It is a multi-stakeholder effort to provide a comprehensive sustainability reporting framework which can be widely used by all companies around the world. The Sustainability Reporting Guidelines are the basis and spine of GRI‘s Framework. They promote transparent disclosure of company performance along key sustainability aspects. The GRI committee delivered the first set of sustainability reporting guidelines in June 2000. The fourth generation version – G4 guidelines has recently been launched at GRI‘s 2013 Global Conference held on 22nd May, 2013. The G4 version is the most recent, comprehensive and recommended version. This newly improved framework includes an harmonization with other vital global frameworks, including the Organization for Economic Cooperation and Development Guidelines for Multinational companies, the United Nation Global Compact Principles and the United Nation Guiding Principles of Business and Human Rights. It is more user-friendly and is more accessible for new reporters. Moreover, it harmonizes with other major and significant global frameworks.

The GRI Sustainability Reports are prepared on the basis of certain principles which define the contents and quality of report. These include: Materiality, Stakeholder Inclusiveness, Sustainability Context, Completeness, Balance, Comparability, Accuracy, Timeliness, Clarity and Reliability. The standard disclosures under GRI Sustainability Reporting Guidelines include - Strategy and Analysis, Organizational Profile, Report Parameters, Governance, Stakeholder Engagement, and Management Approach and Performance Indicators that is, Economic, Environmental, and Social Performance Indicators. Social indicators are further divided into four categories: Labor Practices and Decent Work, Human Rights, Society, and Product Responsibility.

The term firm characteristics is associated with a variety of terminologies. Its meaning and context differ across the industrial sector. Lack of consensus regarding the definition and substance of firm characteristics makes it highly contentious and debatable amongst practitioners and academics as noted by Mgni and Nayak (2016). Firm structure, market and capital structures are intricately linked to form firm characteristics. Firm size, firm age and firm ownership are the most common features of structural firm characteristics. Similarly, market-related variables take account of the industry type, environmental uncertainty and market environment. Moreover, capital-related variables include liquidity and capital intensity (Wang, 2017).

Firm size reflects how large a firm is in assets and number of employees. Larger companies have more stakeholders in their organizational field. Thus, they are susceptible to scrutiny from more stakeholders in the business environment. Also, larger companies are more visible to a broader range of stakeholders (Wang 2017; Souha& Anis 2016;Dioha, Mohammed &Okpanachi 2018). Therefore, there is a tendency for them to seek legitimacy from more stakeholders who control the resources they require for organizational operations. Size in terms of asset, employee and foreign presence are factors that are capable of influencing the sustainability reporting and profitability of organizations. Mimetic pressures could arise from the foreign presence of organizations. Consequently, organizations that operate in a foreign country may copy the reporting practices that are prevalent in that foreign country; the organization may like to access certain benefits by emulating or mimicking their reporting practices (Ioannou&Serafeim, 2014). The level of sales growth is a crucial determinant of firm value as well as reporting on sustainability issues (economic, environmental and social performance). The selection of sales growth to measure the effect of firm characteristics on sustainability reporting and value of a firm is vital for any meaningful communication on sustainability performance (Wang, 2017).

Firm value is an indicator of the firm's attainment of economic or financial objectives. The long-term survival and value of a firm is dependent on its ability to maintain desirable profit levels through its operating activities. Information regarding a firm's value is obtained from the financial statements on which stakeholders base their decisions in terms of either investment or sustenance of contractual business relationships with the entity. According to Weiss & Nusbaum (1994), the American Institute of Certified Public Accountants (AICPA) are of the view that financial statements permit analysis of a wide range of trends and relationships among the data providing insight into a company's opportunities and risks, including growth, market acceptance, costs, productivity, firm value, liquidity amongst others. The most common measures of a firm's financial performance are categorized into Firm value and Market value measures.Firm value is an indication of the efficiency with which the operations of the business are carried out i.e. firm value is related to operating performance which can be measured in various ways such as Return on Assets and Return on Equity, together, commonly referred to as returns on the investments made to generate them. These ratios express the relationship of a firm's earnings defined as Profit After tax with its capital employed.

Return on Equity measures the return earned on funds contributed by a company's ordinary shareholders. Since ordinary shareholders of a company are the owners who bear the greatest degree of risks with regard to the capital they have contributed. ROE is viewed as one of the most important financial ratios to measure the ultimate firm value of their investment.Return on Asset is a form of measure of a firm's Return on Capital Employed which indicates how efficiently are firm is putting resources at its disposal such as assets in maximizing firm value. This indicator shows the relationship of earnings to assets of a firm. Earnings as previously highlighted, is defined as Profit after Tax. However, some schools of thought prefer to define it as profit before interest and taxes in order to curtail the effects or implications of the method of financing in the acquisition of assets e.g. the use of debt, and the taxation policies of the business operating environment.

Subsequent to the individual and aggregate definitions of ROE and ROA as measures of return on investments, the distinction between these two can further be highlighted in terms of the entity to which returns are measured as accruing to. ROA measures returns to the providers of capital irrespective of the form of capital provided- equity or debt. ROE on the other hand, can be viewed as a penetrating measure of returns to the providers of equity capital i.e., the ordinary shareholders.An important variable used in measuring firm value is Tobin's Q. It is an accounting variable and depicts the value added by the management. Thus, it is a performance variable in terms of company valuation (Garg, 2007). Tobin's Q is defined as the ratio of market value of the company to the book value of total assets, where the market value of the company is measured by the sum of the market value of equity and the book value of total liabilities.

3. Theoretical Framework

Despite the various theoretical methods that can have been used to explain sustainability reporting, the legitimacy, stakeholder, and agency theories are the most frequently advanced theoretical perspectives in the social and environmental accounting literature (Branco, Eugenio, & Ribeiro, 2008; M. Islam & C. Decgan, 2010; Joshi & Gao, 2009). These theories represent the belief that corporations who share their social and environmental activities with stakeholder groups acquire a competitive edge over enterprises that are less socially and ecologically active.

At a conceptual level, legitimacy theory recognizes groupings of stakeholders; it deals with "views and the processes involved in redefining or maintaining those perceptions, as well as conceptions of power relationships and discourses at a global level" (Moerman& Van der Laan, 2005). Relevant stakeholders assess an organization based on their impressions of the alignment of their values with the value of the organization (Mobus, 2005). Organizations exist in communities under the terms of an explicit or implicit social compact, according to this logic (Campbell, 2000). As a result, changes in the social system's value system will result in social changes in organizations. In particular, it is thought that an organization's survival will be jeopardized if society believes it has broken its social contract.Legitimacy theory is founded on the premise that in order for businesses to succeed, they must perform within the parameters of what society considers acceptable behavior. Firms constantly endeavor to guarantee that they operate within the constraints of their own societies, according to legitimacy theory. As a result, the firm is thought to be influenced by the society in which it operates, and to have an impact on it. As a result, disclosure rules are seen as a way for management to influence public impressions of their organization (Deegan, 2002). For example, a firm may use disclosure strategies to educate and update its relevant publics about changes in the company's performance and operations (Lindblom 1994). Additionally, a corporation that has lost some credibility may be able to reclaim it through positive disclosure (Campbell, Craven & Shrives, 2003).In light of disclosure, a corporation could voluntarily disclose on its operations if management believes that the community expects it (Deegan, 2000). Guthrie (2004) claims that corporations are more likely to disclose on their sustainability if they are recognized as symbols of corporate success, based on legitimacy theory. As a result, enterprises with high sustainability indexes are more likely to participate in voluntary sustainability reports because they cannot legitimize their status using traditional financial accounting information (Guthrie,2004).The incentives for disclosure in the annual report have been investigated using the legitimacy theory (O'Dwyer, 2002). The hypothesis, in particular, presents a number of key problems about disclosure difficulties.

Stakeholder theory is a view of capitalism that stresses the interconnected relationships between a business and its customers, suppliers, employees, investors, communities and others who have a stake in the organization. The theory argues that a firm should create value for all stakeholders, not just shareholders. In 1984, Edward Freeman originally detailed the stakeholder theory of organizational management and business ethics that addresses morals and values in managing an organization.

Signalling theory was developed to help explain how decision makers interpret and respond to settings where information is both incomplete and asymmetrically distributed among parties to a transaction (Spence, 1973). Signals are a form of credible communication that transmits information from sellers to buyers (Spence, 2002). For signals to be effective, they should meet two conditions: first, the signal has to be sufficiently costly to differentiate the selling firms from one another; and second, external parties such as buyers must believe that there is a positive correlation between the signal and the underlying quality (Stiglitz, 1985). As Spence (1973) mentioned, a signal is only as good as how it enables signallers to set themselves apart from the rest. Firms may use signalling theory to provide insights to their employees. McNall, Masuda and Nicklin (2010) suggests observable personnel actions by the organisation may be interpreted as a signal of more unobservable characteristics, such as care and concern for employees on behalf of the organisation.

4. Empirical Review

Sustainability reporting emerged as a new trend in corporate reporting. Integrating the financial and none-financial performance of a company. There are strong arguments by scholars and industrialists that companies received more than proportionate benefit from embedding sustainability policies in the organizational settings. The measurement of sustainability performance falls in the general area of social accounting. Under this area, various activities may be delineated: economic activities, social activities and environmental activities (Natalia, 2017). That is to say, the general concepts and disclosure of sustainability performance are products of corporate social responsibility, corporate governance, and human resource planning, amongst others. Sustainability reporting is the process of selecting the firm level of social performance variables, measures, and measurements procedures, systematically developing information useful for evaluating the firm's social performance and communicating of such information to a concerned social group, both within and outside the organization (Duke & Kankpang, 2013).

Sustainability reporting emerged as a new trend in corporate reporting, integrating the financial and none-financial performance of a company into a single report. At the moment, there is a significant number of companies that voluntarily integrate social and environmental issues into their strategic plans. Sustainability reporting can either be mandatory in countries such as Germany, France, Finland, South Africa among other few countries, with legislative backing (Ioannou&Serafeim, 2014). It can also be voluntary, driven by soft external and internal pressures or market differentiation strategies (Joshi & Li, 2016).The results of the empirical studies of the relationship between SR and firm value are mixed and results remain inconclusive. Some identify a positive link between SR and the firm's market value (e.g. Menon and Menon, 1997; Wahba, 2008; Chava 2010; Schadewitz and Niskala, 2010; C. Reverte, 2011). Some evidence also suggests that firms with strong environmental management enjoy better financial performance (ROA, ROE and cash flow) (e.g. Wagner *et al.,* 2002; Margolis and Walsh, 2007; Nakao *et al.,* 2007; Clarkson et al., 2008). On the issue of increasing firm value by reducing the cost of equity capital, several reviews (Plumlee et al., 2008; El Ghoul et al., 2010; Dhaliwal, *et al.,* 2011; C. Reverte, 2011) suggest that SR disclosure by firms with superior sustainability performance leads to the lower cost of equity capital. However, there are also findings to the contrary. One example is Berthelot *et al.* (2003), who conclude that while capital market responses to the environment and financial statement disclosures are mixed, disclosures regarding accidents, fines, penalties, or other government actions are consistently associated with negative returns. Also, a negative correlation was found between SRs and corporate financial performance (e.g. Richardson and Welker, 2001; Brammer *et al.,* 2006). Furthermore, some studies discovered no impact of SR on firm value (Antonia Garcia-Benau, 2013; Ioannou and Serafeim, 2014). The main conclusion from prior research is that no clear conclusion can be drawn regarding the value relevance of sustainability disclosure as the results are inconclusive. A detailed analysis of empirical results is discussed below;

Okpala and Iredele (2018) carried out a study in Nigeria to examine how the market value of quoted firms can be influenced by their corporate social environmental disclosure (CSED). The study found CSED as a significant factor that companies can engage in improving their market value. In the same vein, Emeka-Nwokeji and Osisioma (2019) concluded that the market value of quoted firms in Nigeria could be enhanced through sustainability disclosures. In contrast to the above area of study, Loh et al. (2017) examined Singapore quoted companies and concluded that sustainability reporting has a significant effect on the market value of the companies. In Singapore, Loh and Tan (2020) examined the impact of sustainability reporting on brand value of Singapore firms. The study examined 100 leading brands in Singapore by collating their sustainability information and scoring each firm by using GRI guideline as the benchmark. The study revealed that about one-fifth of the 100 leading brands do not engage in sustainability. Also, the findings revealed that sustainability reporting has positive relationship with brand value of firms. Similarly, Swarnapali et al. (2018) found that sustainability reporting of Sri Lanka companies has the capability of improving their market value. This indicates that in line with value-enhancing theory, firms that practice and reporting sustainability dimension will attract more investors. In India, Mittal and Sandhu (2018) conducted quantitative research and concluded that companies could rely on their CSR activities to improve their valuation.

Also, Daszynska-Zygadlo *et al.* (2016) assert that there is a value increase attached to CSR activities of firms. Furthermore, Mohammadi et al. (2018) suggested that sustainability reporting enhance the value of companies at sensitive industries in Iran than the non-sensitive sectors owing to the difference in their disclosure levels. Ucheagwu (2019) carried out a study on the relationship between corporate sustainability practices and financial performance of firms listed on the NSE. The study found out that corporate sustainability practices have a significant and positive relationship with the financial performance of quoted firms in Nigeria Adams, Thornton and Sepehri (2010) found that corporate sustainability label has no statistically significant impact on the financial performance of business organizations. Clarkson et al (2010) noted that voluntary environmental disclosure was positively and significantly associated with share price/market value of equity. Similarly, Gozali et al (2002) found that there are economic consequences of voluntary environmental information disclosure. Companies with positive environmental disclosure perform significantly better in the market than companies that disclose negative environmental information. They noted that the empirical research into the relationship between corporate social responsibility and economic performance is far from conclusive. Positive environmental disclosures are the information which presents the company as operating in harmony with the environment. Negative environmental disclosures are the information that present the company as operating to the detriment of the natural resources.

Disclosures regarding sustainability, corporate social responsibility, environmental reporting is mainly voluntary. Firms that adopt these disclosures account for the environmental and social impact of the company in addition to financial performance. Inconclusive findings still exist with respect to the relationship between corporate performance as measured by financial performance (accounting performance measures) and stock market performance (share returns). Firms that are sustainable may have lower financial performance because of high labor costs. They may also have higher financial performance because they avoid costly controversies with nearby communities (Eccles, Ioannou and Serafeim, 2012).Eccles et al (2012) tracked the stock market performance of high sustainable and less sustainable firms in a longitudinal study. High sustainability firms were found to significantly outperform those in the low sustainability group. Companies can adopt environmentally and socially responsible policies without sacrificing shareholder wealth creation. High sustainability firms significantly generate higher stock returns, deducing that sustainability is a source of competitive advantage and represents addition of value to a firm.

According to Marsat and Williams (2011) a business organization's ethical actions are bound to generate additional costs which in a competitive environment may not lead to maximization of shareholder value. This may lead to more unethical behaviors being condoned by the investors. Also, investments in ethical actions could provide financial benefits. For example, avoiding environmental disasters, reducing waste, financial lawsuits may reduce future costs. The latter argument has been affirmed by Khaveh et al (2012) who noted that companies with higher level of sustainability disclosure have higher share price and net profit.Ngwakwe (2009) explained that increased investment in sustainability indicators leads to increase in ROA; reduction in amount spent on fines, penalties and compensations; and improved relations with stakeholder, using employee health and safety, waste management, and community development as his sustainability reporting indicators and Return on Total Assets (ROA), and amount expended on fines, penalties and compensations (FPC), including litigation costs as his measure for financial performance. Using a field survey methodology, a sample of 60 manufacturing companies in Nigeria was studied; which were categorized into 30 responsible firms and 30 irresponsible firms. Test Period was from1997 to 2006. The data was collected from financial statements of these firms and questionnaire. This result was gotten using only manufacturing companies which may not be applicable to other sectors therefore the outcome may not be generalized

Rahman, Jauhari and Roslan (2013) examined the link between sustainability reporting practices and firm performance of Malaysia Public Listed Companies for the year 2009. They used content analysis to work on their framework which consists of sustainability reporting as independent variable, and return on equity (ROE) and return on assets (ROA) as dependent variables. In addition, control variables such as company size, leverage and industry sensitivity were used within the framework.

The sample size was determined by using online sample size calculator by Raosoft. The study revealed that 68.1% of 299 companies provided environmental information in their annual reports with an average of 7.82 sentences and 18.3% of the companies have separate environmental section in their annual reports. Moreover, insignificant relationship has been found between sustainability reporting and ROA, while a significant relationship was found between environmental reporting and ROE, along with company size, leverage and industry sensitivity. The study is limited in that it considered the annual reports of the selected listed companies for only one year (2009).

Khaveh, Nikhasemi, Haque and Yousefi (2012) investigated the effect of voluntary sustainability disclosure on revenue, and shareholders wealth a perspective from Singaporean companies. Sustainability reporting index scores, using 5 environmental and 5 social indicators, based on G3.1 GRI Guidelines was the measure for sustainability and Revenue, Average share price was the dependent variables. 45 public companies listed on Singapore Exchange main market was the sample size and the period from 2008 to 2010 was considered. All financial data were collected from companies' annual reports, and scores from sustainability index constructed. The study found a positive and significant relationship between sustainability reporting and revenue and share price as well. The sector chosen for this study is quite narrow hence the result from such a study cannot be generalized to all the sectors in the economy. As such the result may not be applicable to the oil and gas sector, which this study is focusing on.

De Klerk and De Villiers (2012) the value relevance of corporate responsibility reporting: South African evidence. Using two measures of CRR: 1st is a comprehensive disclosure measure against 87 items using KPMG survey. 2nd measure is a dummy variable indicating whether company uses GRI guidelines for CRR or not and Share prices (market value of equity) using modified Ohlson (1995) model, as developed by Semenova, Hassel and Nilsson, (2005) as a measure for financial performance. Data for the study was collected from 69 companies; out of top 100 South African companies by revenue, as identified in KPMG Survey of 2008 using KPMG data set on CRR and McGregor BFA database for financial data. The finding shows that the share prices and market value of companies with higher levels of CRR are likely to be higher and CRR is value-relevant for investment decision-making. The classification scheme used to select environmentally sensitive industries may be too restrictive. For more extensive evidence, this study can be replicated over a longer period of time and CRR measures can be redefined further.

Lopez, Garcia and Rodriguez (2007) studied the interaction between Sustainable development and corporate performance for a period of seven years starting from 1998 to 2004. Sustainability development was proxied by Dummy variable, 0 if the firm belonged to Dow Jones Global Index (DJGI) and 1 if it belonged to Dow Jones Sustainability Index (DJSI), measure for financial performance was proxied by profit before tax (PBT) & Cost of Capital. The Sample used were two groups of 55 European firms each of similar size and capital structure, one group belonged to DJSI, and another quoted on DJGI but not on the DJSI. Data for the study was extracted from Amadeus database, financial statements & other corporate disclosures available on Internet. Study finds negative impact of sustainability practices on performance in short-term, after controlling for size, industry and risk. Control variables were not significant and no significant difference was found between the two groups. The period covered by the study is considered too old for its conclusion to reflect realities of the present.

Nnamani, Onyekwelu and Ugwu (2017) evaluates the effect of sustainability accounting on the financial performance of listed manufacturing firms in Nigeria. Firms used for the study were chosen from the Nigerian brewery sector. The study adopted the *expost –facto* research design. Secondary data was used to examine the relationship between sustainability accounting and the financial performance of public limited liability firms in Nigeria. The data spanning a period of five years were garnered from the Nigerian brewery industry, while three listed and major brewery firms in Nigeria, Guinness Nigeria Plc, Champion Breweries Plc and Nigeria Breweries Plc constituted the sample. The choice of the three firms was because of their domination of the brewery sector over years which ensured data availability for the covered period (2010-2014). Data were analysed using the ordinary linear regression while legitimacy theory and stakeholders' theory were used in the study. The result revealed that sustainability reporting has positive and significant effect on financial performance of firmsstudied.

Economic impact refers to value added by a business organization in terms of sales volume, payment to employees, payment to government, local community donations, payment to shareholders in form of dividend. Corporate environmental and social responsibility cannot stand in isolation from economic viability. Buys, Oberholzer and Andrikopoulos (2011) examined the economic performance of sustainability reporting companies versus non-reporting publicly listed companies in South Africa. This study explores the potential differences in the economic performances of companies that report on their sustainability information and those companies that do not report thereon. Annual performance data, from 2002 to 2009, for the two groups of companies was taken from the McGregor Bureau of Financial Analysis (BFA) database. The significance of the average differences between key financial indicators of the test-group and the control-group was determined by the t-test, while the difference of positive or negative Economic Value Added and Market Value Added values between these two groups was also evaluated. Results indicate that economic performance of companies that voluntarily submitted sustainability reports to GRI (as measured by ROA, EVA and MVA) are better but not statistically significant, than those who do not report as per GRI guidelines. However, there is no evidence that GRI reporting firms are significantly more profitable in terms of ROE. Even though some evidence from the study indicates that companies that disclose sustainability reports may experience better economic performance, the statistical analysis could not confirm a definite positive relationship between sustainability reporting and economic performance. The variables were well selected and good techniques used for the analysis, however the study was conducted almost a decade ago.

In a value relevance study in Indonesia, Wiwik (2015) examined the influence of leverage, firm value, and the quality of sustainability disclosures on firm value with revenues growth as moderating variable. The quality of sustainability was measured based on disclosure index and the firm's value was measured using Tobin's Q. It examined firms in manufacturing industries listed in Indonesian Stock Exchange. Each selected firm must have sustainability report in its financial reports of 2011-2013. A total of 143 firms were examined using multiple regression. The results showed that leverage and firm value have positive significant influence on firm value. In addition, the study found that revenues growth was a moderating variable of the relationship between the quality of corporate sustainability disclosure and firm value. The study focused on manufacturing firms while similar study when carried out in oil and gas sector might give a different result

Wagner and Schaltegger, (2004) carried out a research on the effect of corporate environmental strategy choice and environmental performance on competitiveness and economic performance. They discussed the relationship between environmental and economic performance and the influence of corporate environmental strategy choice on this relationship. The study found positive relationship of economic and environmental performance for firms with shareholder value-oriented strategies by using the sample of 1000 U.K. firms and 2000 Germany firms.Company value will be guaranteed sustainable growth and survival of the company (going concern) if the company is able to pay attention to aspects that affect social, economic, and the environment in a balanced manner, because with these capabilities between the interests of society, economy, and the environment can be created good relations and mutual benefit. This aspect is reflected in the disclosure of social responsibility carried out by a company as a form of corporate concern and also the form of corporate responsibility for activities and also the impact on the environment around the company. Many benefits can be obtained by the company by disclosing social responsibility, including the consumer will increasingly like the products produced and the company will be interested by investors. Companies that carry out social responsibility are considered capable of making a good contribution to the general public and are able to take responsibility for the activities and impacts caused to the surrounding environment. Implementing CSR practices will convince investors that the company will be able to guarantee the survival of the company in the future which will also increase the value of the company. Companies that have good environmental and social performance will be responded positively by investors through an increase in stock prices and company profits (earnings). This research is based on research (Lima Crisóstomo et al., 2011), (Gregory, Tharyan, & Whittaker, 2014) and (Hafez, 2016) that examines the effect of CSR on firm value and shows positive results, meaning that there are companies that are more concerned with responsibility social responsibility than others.

In a more recent study, Hasan, Kobeissi, Liu, & Wang (2016) shed light on how the underlying mechanisms through which corporate social responsibility leads to greater shareholder value creation, by investigating on the mediating role of total factor productivity in the relationship. The study documents a significant positive effect of corporate social performance on Tobin's Q. It shows significant and positive relationship between performance and total factor productivity. More importantly, the mediation analysis reveals that total factor productivity significantly mediates the CSPCFP relationship.

In a study of the relationship between corporate social responsibility and firm value using a sample of U.S. companies, Gh erghina, Vintilã, &Dobrescu (2015), provides analytical evidence that corporate social responsibility positively influences firm value. This evidence is consistent with the instrumental stakeholder theory view, since the companies involved in corporate soc ial responsibility undertakings use in a more effective way their resources in order to better satisfy stakeholders' needs. Khlif, Guidara, &Souissi (2015), use a coding index approach to measure the extent of annual reports' social and environmental disclosure and its relationship on a sample of 168 firm-year observations over the period 2004-2009 from South Africa and Morocco. They document a significant positive relationship between social and environmental disclosure and corporate financial performance.

In a most recent study using data from the Nigerian brewery industry from 2010 to 2014, Nnamani et al (2017) examined the effect of sustainability accounting and reporting on financial performance. The study used social responsibility cost and total personal cost to turnover (TPCT) ratio to measure sustainability reporting and Return on Assets and Return on Equity to represent financial performance. The study revealed that Total equity to total asset (TETA) ratio has no significant effect on the return on asset (ROA). Also total personnel cost to turnover (TPCT) ratio has no relationship with the return on asset (ROA). Chen &Jaggi (2000) discover a positive association between a firm's mandatory financial disclosures and the proportion of independent nonexecutive directors. Eng&Mak (2003) result on the other hand indicated that non-mandatory disclosure in Singapore is significantly and negatively associated with percentage of independent directors.

Oba & Fodio (2012), examined how board characteristics interact with the quality of environmental reporting and concluded that all the investigated board dynamics (size, independence, gender, composition and foreign directors) except for gender mix were ascertained to have significant impact on environmental reporting; their study also identified an inverse relationship between board size and environmental reporting. Ngwube (2013) examines corporate governance principles success in an organization. Some of the principles examined are; transparency in the organization, sound whistle blowing system, balance in power, formal and periodic evaluation of the CEO, formal and periodic evaluation of directors, strong market institution, external regulation and monitoring, disclosure of compensation policies and practices, open and well implemented conflict of interest policy and condor between executives of a firm and staff. Based on these, Ngwube (2013) in his work concluded that the adoption of corporate governance principles in an organization is a huge step toward creating safeguards against corruption and mismanagement.

Mgbame & Onoyase (2015) examine the effect of corporate governance on environmental reporting. The study makes use of board size, board independence, and audit committee independence to proxy for corporate governance. Their study show that board size, board independence, audit committee independence and managerial ownership concentration have positive and significant relationship with environmental reporting. Uwuigbe et al. (2011) study the effect of board size and board composition on firms' corporate environmental disclosure among selected firms in Nigeria. The study tests whether board size and board composition has any association with the level of firms' corporate environmental disclosure in annual reports. Their study reveals that while board size has a significant negative relationship with the level of corporate environmental disclosure; board composition on the other hand has a significant positive relationship with the level of firms' corporate environmental disclosure in the annual report.

Recent developments in economic theory suggest that the board of directors is an important part of a company's corporate governance structure (Fama& Jensen, 1983). The board of directors has a major impact on a company's reporting practices and procedures (Fama & Jensen, 1983; Keasey& Wright, 1993). Consequently, many recent studies have identified a significant correlation between the composition of a company's board of directors and the quality sustainability reporting of their organizations (Michelon & Parbonetti, 2012; Rao *et al.,* 2012; Rupley *et al.,* 2012).Vujicic (2015), focused on examining the interactions between corporate social responsibility and financial performance in the form of stock returns for a sample of US firms over at two-year period. The work uses a set of disaggregated social responsibility indicators for environment, community and employment, and compares the results to that of an overall corporate social responsibility score. The study provides evidence that firms with higher social responsibility scores tend to achieve lower stock returns, in both the case of an aggregate rating, and individually examined indicators.

Lys, Naughton and Wang (2012) carried out a study on Signaling through Corporate Accountability Reporting. Their findings reported that the source of positive association between financial performance and CSR investments is more likely due to signaling value of CSR disclosures, than positive returns on those investments. Using (CSR) score produced by Asset and dummy variables, whether firm issues standalone CSR report, whether report uses GRI framework, and whether report has been audited as proxies for independent variable. Future changes in ROA, operating cash flow scaled by total assets (CFO) and size adjusted stock returns (SAR) as proxies for their dependent variable. The sample consists of firms in the Russell 1000 and grows over the period 2002-2010.The financial data is collected from Compustat and stock return information from CRSP. This study was carried outside the shores of Nigeria, thereby showing that it might not be generalized to quoted oil and gas firms in Nigeria.

Appah (2011) carried out a study on Corporate Social Accounting Disclosure in the Annual Report of Nigeria companies. The objective of this study is to examine the practice of social accounting disclosure in Nigeria companies. The research adopted descriptive research design, secondary data only was used. A sample size of 384 from infinite population the formula is Z2 pq /(e)2. The research hypothesis was tested using chi-square (X2). The findings reviewed that the inclusion of social cost and the disclosure of information by the organizations in the financial statements will enhance disclosure of information in the financial statement of the organization. The sector chosen for this study is quite different from the sector of the current study and the result from this study cannot be generalized to all the sectors in the economy. As such, the result will not be applicable to oil and gas sector.Olayinka and Temitope (2011) who empirically examined the relationship between corporate social responsibility and financial performance in Nigeria. The variables studied are Return on Assets and Return on Equity, community performance, employee relation and environmental management system. The result shows that CSR has a positive and significant relationship with the financial performance measures.

Onyekwelu and Ekwe (2014) examined whether corporate social responsibility predicate good financial performance using the banking sector in Nigeria? The study adopted the expost facto as it made use of historical research design and secondary data used. Analysis was done using the Ordinary Least Square Regression. The finding shows that the amount committed to social responsibility vary from one bank to the other. The data further revealed that the sample firms invested less than ten percent of their annual profit to social responsibility. The researchers recommended that companies in Nigeria particularly profitable one should give greater priority to Corporate Social Responsibility because this has the tendency to assist them to survive and maintain their firm value and also diffuse the tensions and hostilities usually experienced by companies in their localities. Meanwhile, a replicate study in present time might a totally different result.

Yahya and Ghodratollah (2014) investigated the impact of corporate social responsibility disclosure (CSRD) on the financial performance of companies listed on the Tehran stock exchange, employing multiple-linear regression analysis. The CSRD was the independent variable as measured by economic, social and environmental while Return on Assets, Return on Equity and Price Earnings Ratio were used in measuring financial performance. The analysis produces inconsistent results. The inconsistent result gotten from the study may be due to cultural or environmental difference. As such, the result cannot be adopted by other countries and other sectors.Jibril, Dahiru, Muktar and Bello (2016) examined corporate social responsibility and financial performance ofquoted oil and gas firms in Nigeria by investigating the relationship between corporate social responsibility and financial performance of listed oil and gas firms in Nigeria for the period of 6 years from 2008 to 2013. The data was obtained from the sample size of twelve firms through their annual reports and accounts. Corporate social responsibility as the independent variable was proxy by natural logarithm of the total amount spent on corporate social responsibility by firms, while return on equity and return on assets was used to proxy financial performance as dependent variables. The study adopts multiple regression technique in analyzing the data with the aid of SPSS techniques. The findings reveal that corporate social responsibility has a positive and significant impact on return on equity and return on assets as financial performance proxies of listed oil and gas firms in Nigeria. However, when similar study is carried over a longer period of time, it might a different result.

Nelling & Webb (2009) showed a positive relation when using the least squares regression method and a neutral relation when the fixed effects regression was applied. The dependent variables used are return on assets and common stock returns, and the control variables are the weighted social responsibility score from the KLD Socrates database, the log of total sales, the log of total assets and financial leverage which is the long-term debt divided by total assets. For the methodology the relationship was tested twice, one time using the least squares regression model, and the other using the fixed effects regression model; and a sample of 2800 firms was used.Hafez (2016) studied the effect of corporate social responsibility and firm value, an empirical study of an emerging economy. The study was centered on evaluating the effect of CSR on firm value and financial performance in Egypt through the application on 33 companies that were listed in the EGX30 in the year 2001, with a timeline of 8 years from 2007 till 2014. Data used in this study was secondary data obtained from the financial statements and annual reports of the Egyptian companies and official online websites. It was discovered that CSR has an insignificant negative effect on firm value and a significant positive effect on firm' financial performance in Egypt measured by Return on Assets (ROA) and Return on equity (ROE).

There has been a significant increase in the number of companies in both developed and developing countries making environmental disclosures in their annual reports and other media in the last two decades (Deegan and Gordon, 1996; Kolk, 2003). According to Malarvizhi and Yadav (2008), a reference to environmental report means different things to different user groups. Some tend to think of stand-alone environmental reports while others focus on the environmental content in the annual report itself. A majority of works consider the type of information provided in the annual reports (Cho and Patten, 2007; Clarkson, Richardson, and Vasvari2008; Deegan and Rankin, 1996).Eze, Nweze, & Enekwe (2016) examine the effects of environmental accounting on a developing nation with emphasis on Nigerian and discovered that Environmental information in the annual report is positively related to a firm's size.

Plumlee, Brown, Hayes, & Marshall (2015) examine the relationship between environmental disclosure quality and firm value using both cost of equity capital and expected cash flow components. The study control for environmental performance and partition environmental disclosures by type and content in the analysis to differentiate among various proposed explanations for the sometimes-contradictory findings from prior research. They document a positive relation between voluntary disclosure quality and firm value through both the cash flow and cost of capital components. Hussain (2015) examine the impact of Sustainability performance on financial performance of Global Fortune firms and find that economic sustainability have no significant relationship with both market performance and accounting performance of reporting firms. Environmental sustainability and social sustainability performance measures have significant and positive relationship with both market performance and accounting performance of reporting firms. There is no relation between all the sustainability disclosures and changes in capital structure.

Ioannou & Serafeim (2014) show that environmental disclosure, social disclosure and governance disclosure index have positive and significant effect on firm value. Nyirenda, Ngwakwe, &Ambe (2013) shows that there is no significant relationship existing between firms' environmental management practices and its return on equity. Specifically, carbon emission reduction, energy efficiency and efficiency in water usage does not affect firm's return on equity. In a study of quoted companies in Bombay Stock Exchange in India, Makori&Jagongo (2013) find a significant negative relationship between Environmental Costs which cover all cost incurred concerning environmental protection, emissions treatment as well as wasted material and Return on Capital Employed (ROCE) and Earnings per Share (EPS) and a significant positive relationship between Environmental Costs and Net Profit Margin and Dividend per Share. Cortez &Cudia (2011) found that Environmenatal sustainability performance has positive and significant impact on revenue generation but insignificant positive impact on profitability and shareholders wealth.

Roy and Ghosh (2011) in their study of the bilateral association between discretionary environmental disclosure quality and economic performance considered the results of about 20 related studies, seven of which investigated the link between voluntary environmental disclosure and economic performance. Even though they found mixed results in respect of the relationship between sustainable environmental practices, the disclosure thereof and economic performance, they do point out that the majority of these studies found a positive association between sustainability disclosure and economic performance. They also pointed out that most of the studies were done in North America and various European countries, and that only a few studies are available from African and Asian countries. Thereby making the result not applicable to Nigerian companies. However, when similar study is carried out in Nigerian companies' different result may be achieved.

Oba (2012) investigates the extent of environmental disclosures in oil and gas and construction industries in Nigeria. The results indicate that both industries do not significantly disclose different levels of environmental information in their annual reports. More importantly, the study presents evidence on the poor environmental disclosure levels in environmentally sensitive industries in Nigeria. These industries were expected to have demonstrated high environmental concerns and consequently sound environmental reporting. From the result disclosed it is possible to achieve a similar or totally different result when considering majorly the oil and gas sector.Olanyinka and Oluwamayowa (2014) carried out a research on Corporate Environmental Disclosure and market value of Quoted Companies in Nigeria. The broad objective of this study was focused at ascertaining whether the aggregate and individual impact of Corporate Environmental Disclosure were regressed on market value. Descriptive research design was adopted and secondary data only was used. A sample size of fifty firms quoted in Nigeria Stock Exchange (NSE) were purposively selected for analysis based on the availability of environmental disclosures in their annual reports. The hypothesis was tested using correlation coefficient. The findings review that the inclusion of environmental disclosure will enhance market value. The study focused mainly on quoted companies whereas this current study is focused on listed oil and gas firms.

Juhmani (2014) studied Corporate Social and Environmental Disclosure on Website. This study was centered on examining and information disclosure of companies and website. The study made use of historical research design and secondary data was used. The finding shows that 57.57% of the samples listed companies provided social and environmental information in their 2012 annual reports and their websites. Commercial firms and insurance companies made most disclosure of social and environmental accounting, while companies in the hotels and tourism sectors and industrial sector made the least disclosure. The major drawback of this study is the number of years being studied, considering that it studied only one year (2012), different result might be achieved over an extensive study.Murray, Sinclair, Power and Gray (2006) studied the relationship between social and environmental performance disclosure and financial market performance of companies in UK and found no significant relationship between environmental reporting and market performance. This result cannot be generalized to companies in Nigeria.

Aliyu (2018) examined board characteristics and corporate environmental reporting (CER) in Nigeria. While majoring specifically on corporate governance and corporate environmental reporting, he investigated the relationship between corporate governance variables, namely, board size, board independence, board meeting (BM), risk management committee composition and CER in Nigeria. This study utilized the data obtained from the annual reports of 24 non-financial public listed companies in the Nigeria Stock Exchange comprising three sectors, namely, industrial goods, natural resources and oil & gas for the period of 2011–2015. The model of this study was theoretically based on agency theory. In analyzing data, the study utilized panel data analysis.

Based on the Hausman test, the random effect model was used to examine the effect of predictors on CER. The result indicated a positive significant relationship between board independence and CER. Similarly, a positive significant relationship between BM and CER was discovered in the study. However, there was no significant relationship between other hypothesis variables and CER. The study was mainly on non-financial public listed companies in the Nigerian Stock Exchange and similar study can be done on the financial sectors that might give a different result which is what this study is based on.

4. Research Methodology

The *expost –facto* research design is adopted in this study. The design of the study is considered appropriate, in that, it is suitable in ascertaining the relationship and degree of sustainability reporting's impact on the firm value of Oil and gas firms. The population in this investigation is ten (10) listed oil and gas firms in Nigeria. The number of listed oil and gas Firms that were quoted in the period within 2010 and 2020 and has remained unaltered over the years in Nigeria Stock Exchange (NSE) is used. The population of the study comprised of: Ardova Plc, Capital Oil, Conoil Plc, Eterna Plc, Japaul Gold Ventures Plc, MRS Oil Nigeria Plc, Oando Plc, Rak Unity Plc, Seplat Energy and Total Energy Plc The entire population is used as sample for the study.

This study relied on data from secondary source, secondary data will be sourced in examining the impact and relationship sustainability reporting has on firm value of oil and gas firms listed on the Nigerian Stock Exchange. The study will use corporate annual reports and stand-alone sustainability reports published by firms in the oil and gas industry for the period. Data will be extracted from the Audited Annual Reports and Accounts of the selected firms from 2010-2020.The technique of data analysis to be used in this study are descriptive statistics, correlation analysis and the hypotheses are to be tested using panel regression model. Econometrically, the panel model is given as:

$$y_{it} = \alpha + \beta x_{it} + u_{it} \tag{1}$$

where y_{it} is the dependent variable, α is the intercept term, β is a k' 1 vector of parameters to be estimated on the explanatory variables, x_{it}; $t = 1, \ldots, T$; $i = 1, \ldots,$ *N.I.* The panel regression model can easily be estimated using the Seemingly Unrelated Regression (SUR) model. However, the fact that the number of cross-section and the period of study is not large enough. Again, a second problem with SUR is that the number of parameters to be estimated in total is very large, and the variance-covariance matrix of the errors also has to be estimated. For these reasons, the more flexible full panel data approach is much more commonly used. Thus, this study resorted to the fixed effect and the random effect approach to modelling the link between the explanatory variables and sustainability reporting.

The fixed effect version of the above model 1can be represented as follow:

$$y_{it} = \alpha + \beta x_{it} + \mu_i + v_{it} \tag{2}$$

The μ_i in model 2 can be seen as encapsulating all of the variables that affect y_{it} cross-sectionally but do not vary over time – for example, the sector that a firm operates in (the oil and gas industry). Thus the heterogeneity that is encapsulated in m_i is captured by a method that allows for different intercepts for each cross sectional unit. This model can be estimated using dummy variables, which would be termed the least squares dummy variable (LSDV) approach (Brooks, 2013).

Thus model 2 can be remodel as shown in model 3 below:

$$y_{it} = \alpha + \beta x_{it} + \mu_1 D1_i + \mu_2 D2_i + \mu_3 D3_i + \ldots + \mu_N DN_i + v_{it} \qquad (3)$$

Where D_{1i} is a dummy variable that takes the value 1 for all observations on the first entity (e.g., the first firm) in the sample and zero otherwise, D_{2i} is a dummy variable that takes the value 1 for all observations on the second entity (e.g., the second firm) and zero otherwise, and so on. Using the above approach, the panel model 3 can be estimated using OLS.An alternate method of estimating the panel model is the random effect model (error component model).As with fixed effects, the random effects approach proposes different intercept terms for each entity and again these intercepts are constant over time, with the relationships between the explanatory and explained variables assumed to be the same both cross-sectionally and temporally. However, the difference is that under the random effects model, the intercepts for each cross-sectional unit are assumed to arise from a common intercept α (which is the same for all cross-sectional units and over time), plus a random variable ε_i that varies cross-sectionally but is constant over time. The error term (ε_i) measures the random deviation of each entity's intercept term from the "global" intercept term .. thus, the random effect model can be expressed as:

$$y_{it} = \alpha + \beta x_{it} + \omega_{it}, \quad \omega_{it} = \varepsilon_i + v_{it} \qquad (4)$$

Unlike the fixed effects model, there are no dummy variables to capture the heterogeneity (variation) in the cross-sectional dimension. Instead, this occurs via the e_i terms. The framework of random effect model requires the assumptions that the new cross-sectional error term, e_i, has zero mean, is independent of the individual observation error term v_{it}, has constant variance, and is independent of the explanatory variables. The procedure for the estimation of random effect uses the generalized Least Square method.

It is often said that the random effects model is more appropriate when the entities in the sample can be thought of as having been randomly selected from the population, but a fixed effect model is more plausible when the entities in the sample effectively constitute the entire population. More technically, the transformation involved in the GLS procedure under the random effects approach will not remove the explanatory variables that do not vary over time, and hence their impact can be enumerated.Also, since there are fewer parameters to be estimated with the random effects model (no dummy variables or within transform to perform), and therefore degrees of freedom are saved, the random effects model should produce more efficient estimation than the fixed effects approach (Brooks, 2013). However, the random effects approach has a major drawback which arises from the fact that it is valid only when the composite error term ω_{it} is uncorrelated with all of the explanatory variables. This assumption is more stringent than the corresponding one in the fixed effects case, because with random effects we thus require both ε_i and v_{it} to be independent of all of the x_{it}. This can also be viewed as a consideration of whether any unobserved omitted variables (that were allowed for by having different intercepts for each entity) are uncorrelated with the included explanatory variables. If they are uncorrelated, a random effects approach can be used; otherwise the fixed effects model is preferable. The test of whether they are correlated or not is done by the Hausman specification test. Therefore, Hausman test will be used to decide whether this study will use fixed or random effect.

Based on the postulated hypotheses that sustainability reporting, environmental sustainability reporting, social sustainability and economic sustainability reporting has no significant effects on performance, the following models are formulated:

$$TQ_{it} = \alpha + \beta_1\, EnSR_{it} + \beta 2SoSR_{it} + \beta_3 EcSR_{it} + CONTROLS_{it} + \varepsilon_{it} \qquad (5)$$

Where

EcSR = Economic sustainability reporting

SoSR = Social sustainability reporting

EnSR = Environmental sustainability reporting

TQ = TobinsQ

CONTROL = Control variables; Firm Size, Firm Leverage and sales growth

α = Constant term

it = Firm i at Time t

$\beta_1 \ldots \beta_2 \ldots \beta_4$ = coefficient of variables

ε = Error term

The independent variable was measured by three variables which are the environmental, social and economic sustainability reporting. The environmental sustainability reporting (EnSR) was determined by waste management, energy consumption and fines for noncompliance with environmental rules and regulation. The social sustainability reporting (SoSR) was determined by checking for the disclosure of gender diversity amongst employees, age diversity, employee diversity that is if there is any policy in the company that supports the recognition and employment of staff with disability, women directors, labour practice that is, employee welfare, nondiscriminatory policy, number of injuries and fatalities relative to work force, occupational health and safety, human right issues or human resources and suppliers policies, number of grievances filed, addressed and resolved. The economic sustainability reporting (EcSR) was determined by checking for transparency of the annual report, confidentiality of the annual report, child labour, corruption, conflict of interest within the organization, health and safety, support for small and medium scale enterprises(SMEs), health risk and consumer education.

The models are subjected to some diagnostics tests as shown below:

Multicollinearity Test: This test is done to test whether there is collinearity between the explanatory variables in the model. Where the explanatory variables begin to interact with themselves instead of the dependent variable, it affects the robustness of the regression output. The multicollinearity test is done by assessing the correlation matrix and Variance Inflation Factor (VIF).Normality of Error Test: The error term is expected to be normally distributed. Even though is assumption is not expected to cause any serious problem, the test has to be done by using the JarqueBera's test. The probability value f the JB test is expected to be higher than 5% for the error term to be normally distributed.Test for Autocorrelation/Serial Correlation: This test is carried out to test the null hypothesis that the differenced error term is first and second order serially correlated. Accepting the null hypothesis implies that no second-order serial correlation which implies that the original error term is serially uncorrelated and the moment condition are specified correctly (the value of AR(2)>0.00).Ex-post facto research design is employed because this study relies heavily on already existing secondary data, which are extracted from annual financial statements. Panel regression analysis was adopted because of the cross sectional dimensions of the data that was collected and it was also used for testing the formulated hypotheses because it is known as one of the best, unbiased and efficient estimator and it also minimizes the error term with the view of finding model or regression equation that explains the data. The regression used justified the test for the heteroskedasticity test which is indispensable.

5. Data Presentation

The data used for the analysis is attached in appendix I. The data relate to environmental sustainability, social sustainability, economic sustainability, Tobin's

Q. The descriptive statistics, correlation matrix, diagnostics test of variance inflation factor (VIF), Heteroskedasticity test, Hausman test and random effect test are presented in various tables in the subsequent sections of this chapter.

Table 6.1: Descriptive Statistics

Variables	*Mean*	*Std. Dev.*	*Std. Dev.*	*Kurtosis*	*Maximum*	*Minimum*
TQ	0.8518784	0 .5256202	0 .5256202	3.582793	2.671797	0 .008321
ENSR	0.0145883	0.0132996	0.0132996	3.419334	0.052198	0 .00004
SOSR	0.1975734	0.0707037	0.0707037	1.590641	0.300911	0.078969
ECSR	0.1699185	0.0662694	0.0662694	3.002984	0.37441	0.0375
SG	19.342	12.493	-.458	2.401	44.271	20.236
FSZ	23.235	18.588	-.092	1.357	58.814	21.662
LEV	.725	.939	1.876	4.235	0.959	16.144

Stata Output, 2021

Table 6.1 shows the descriptive statistics of the study. The summary of the result shows that the maximum value of TQ is 2.671797 with a minimum value of 0 .008321. This signifies that oil and gas firms in Nigeria have a very low but positive TQ. The implication is that the current value is higher than the replacement cost of the assets. The mean value is 0.8518784 and the standard deviation value is 0 .5256202, giving a 52% variability disclosure of the Tobin's Q. The skewness and kurtosis are 0.7716861 and 3.582793 respectively.

In the same way, environmental sustainability disclosure rates range between 0.052198 and 0.00004 while the mean is at 0.0145883. The environmental sustainability reporting shows the lowest rate mean disclosure at about 1%, while the skewness and kurtosis are 1.122166 and 3.419334 respectively. The value of standard deviation is 0.01, showing just 1% variability. This is almost the same with the mean value thus implying a very low level of environmental disclosure by listed oil and gas firms in Nigeria.

Table 6.1 further shows that the mean for social sustainability reporting is approximately 20% indicating the level of social sustainability reporting across the sampled oil and gas firms. The variable maximum and minimum disclosure values are 0.300911 and 0.078969 respectively, while the skewness and the kurtosis stood at 0.0041028 and 1.590641, showing that it is positively skewed. The result also showed a standard deviation value of 0.0707037, indicating that there is a 7%

variability of social sustainability disclosure from the mean value, which implies that there is a high level of disclosure.

The table also shows that during the period of the study the economic sustainability reporting for the sampled oil and gas firms have an average of 0.1699185 with standard deviation of 0.0662694, indicating a 6% variability of economic sustainability disclosure which implies a high level of economic sustainability disclosure. The minimum value of economic sustainability is 0.0375 with a maximum value of 0.37441. The coefficient of the skewness is 0.3788663 which implies that the data is positively skewed. The coefficient of the kurtosis is 3.002984.

It was statistically established that SLG, FSZ and LEV have positive Kurtosis of 2.40, 1.36 and 4.24 respectively. Firm size has a mean value of 23.24 with a standard deviation of 18.59 and a minimum and maximum values of 21.66 and 58.81 respectively. This suggests a wide dispersion in the size of oil and gas firms in Nigeria. The reason behind this dispersion is, multinational oil firms are quite bigger than the listed oil and gas firms in the Nigerian Stock Exchange. Leverage had a mean and standard deviation values of 0.73 and 0.94. This implies that on average the firm capital structure had 73% debt financing. The average growth in sales is 19%, fluctuating between a minimum and maximum sales values of 20% and 44% respectively.

The Skewness of SLG, FSZ and LEV stood as -0.46, -0.09 and 1.88. This does not necessarily indicate a problem with the scale, but rather reflects the underlying nature of the construct being measured. Therefore, based on the above descriptive values it is clear that the distribution can be considered as normal and the data set satisfies the requirement for normal distribution. The sample was drawn from a population that is normally distributed. Furthermore, Table 6.1 also shows the variables with high mean scores. This implies that variables with low mean scores do not affect sustainability reporting and firm value as much as those variables with high mean scores.

6.2. Regression Results

Variables	*Coefficient*	*Z-values*	*P-values*
C	0.257512	9.04	0.000
ENSR	1.647702	23.65	0.000
SOSR	-0.1097049	-8.94	0.000
ECSR	0.0031486	0.26	0.798

contd. table

Variables	*Coefficient*	*Z-values*	*P-values*
SLG	-0.05012	-2.74	0.082
FSZ	-0.09857	-2.56	0.010
LEV	1.01956	3.07	0.000
R^2 within	0.6217		
R^2 between	0.9738		
R^2 overall	0.8396		
F-stat.	0.0000		
Observation	140		
Observation per group			
Minimum	10		
Average	10.0		
Maximum	10		
Hausman P-Value	0.3359		

Stata output, 2021

This equation reveals that two of the independent variables have positive effect on Tobin‘s Q, while the third one has a negative effect. The independent variables with the positive effect are environmental sustainability reporting and economic sustainability reporting while the independent variable with the negative effect is the social sustainability reporting. An increase in the variables with positive effects is expected to increase the Tobin‘s Q. The amount of the increase expected would differ for each variable on the basis of the regression coefficient. The regression equation characteristics of Tobin‘s Q also indicates an R^2 of 97%, this implies that independent variable explained 97 percent of the equation of the model.

The results presented thus far have focused on the level of performance variation explained by the regression equation and has also helped to indicate the amount of dependent variation explained. The result shows that with respect to environmental sustainability reporting, there is a positive and significant effect on the firm value with the p-value of 0.000 which implies that increase in environmental sustainability reporting will increase the firm value positively by 1.647702, the more the environmental sustainability activities, the more the firm value.

On the other hand, the social sustainability reporting has a negative but significant effect on the firm value of listed oil and gas firms in Nigeria to a tune of -0.1097049. This means that increase in social sustainability activities have a negative impact on the firm value of the oil and gas firms.

The result with respect to economic sustainability reporting shows a positive but insignificant relationship between the variable and the firm value of listed oil and gas firms in Nigeria with p-value more than 5%, that is 0.798 as shown in the table. This implies that economic sustainability reporting affects firm value but not to a considerable level or percentage.

Therefore, sales growth as expected, exerts a negative coefficient of -0.05012 and a significant Probability value of 0.082 at 5% level of significance. Holding all other variables constant, on average, a one percent increase in sales growth would result in a 5% decrease in sustainability reporting practice and firm value of oil and gas companies in Nigeria. This result signified that the higher the level of firm characteristics proxied by sale growth, the lower the sustainability reporting practice and firm value of oil and gas firms in Nigeria. This finding is in agreement with the studies of Sumaira and Amjad (2013) Dioha, Mohammed and Okpanachi (2018). These findings further testified the position of stakeholder theory which posits that organizations must meet the needs of multifarious stakeholders to gain acceptance. The implication of these findings to potential investors who concerned with the return on investment, to pressurize the board of directors to invest heavily in sustainability activities.

Similarly, leverage posits a significant effect on sustainability reporting practice and firm value of oil and gas companies in Nigeria. As can be seen in Table 6.2, it depicted the t-value for leverage as -2.56 with a coefficient of -0.09857 and a P-value of 0.010 which is statistically significant at 5%. This result signifies that leverage is negatively and significantly affecting the sustainability reporting practice and firm value of oil and gas companies in Nigeria. This finding supports the studies of Yuvaraj and Abate (2013), Dioha, Mohammed and Okpanachi (2018), Hossain, Islan and Andrew (2006) and Uyagu, et al. (2017). The findings further concurred with the position of stakeholder theory which revealed that a firm with a higher degree of dependence on the debt would discourage a company from sustainability investment. The finding contradicted the studies of Uwigbe (2011) and Mohammed and Usman (2016).

Furthermore, firm size exerts a positive and statistically significant effect on sustainability reporting practice and firm value of oil and gas firms in Nigeria. Firm size has a positive coefficient of 1.01956 and a Pvalue of 0.0000 at a 1% level of significance. This implies that a 1% increase in the size of the oil and gas firms will result in a 101.9% increase in sustainability reporting practice and firm value of sample firms. Correspondingly, this finding is consistent with the studies of Mohammed and Tamoi (1999); Galvani, Graves and Stavropoulos (2011); Uyagu, *et* *al.,* (2017); Dioha, Mohammed and Okpanachi (2018) and Daniel and Tilahun (2012), who documented that the greater the size of a company, the higher sustainability activities and the greater the firm value. However, it contradicted the findings of Hossain, Islan and Andrew (2006) who find no significant effect between sustainability reporting practice and firm size.

The result shows the R^2 of the study to be 0.6217 and between the oil and gas firms of study to be 0.9738, while the overall R^2 of all the oil and gas firms of study is 0.8396, which stood at approximately 84%. This means that the independent variables environmental sustainability, social sustainability and economic sustainability explained 97% of the model while the remaining 3% is explained by other factors which are not included in the model. The F-statistic shows that the model is fit with F-stat figure of 0.0000 which is below 5% level of significance.

The study was designed to test three hypotheses. The hypotheses which were earlier stated in null form were tested and the result obtained from Regression are presented in Table 6.2

The hypothesis test with respect to the effect of environmental sustainability reporting on the firm value of oil and gas firms in Nigeria as shown in Table 6.2 shows that environmental sustainability reporting has a coefficient value of 1.647702 which means that environmental sustainability has a positive relationship with the firm value of listed Oil and Gas Firms in Nigeria. It further implies that the higher the environmental sustainability activities the higher the firm value. This increase is attributable to adequate waste management on the part of the oil and gas firms, effective energy consumption and compliance to environmental laws, which increased the productivity of the oil and gas firms and ultimately the firm value. This implies that a percentage increase in environmental sustainability reporting would produce an expected increase of 164% increase in Tobin's Q.

Based on this, the study rejects the null hypothesis one, which states that environmental sustainability reporting has no significant effect on the firm value of listed oil and gas firms in Nigeria.

The regression result shows that social sustainability reporting has a negative coefficient of -0.1097049, a t-value of -8.94 and a p-value of 0.000 but a significant effect on the firm value. Hence as the social sustainability activities of the studied firms increases, the higher its negative impact on the firm value. This implies that the higher the social sustainability activities of the studied listed oil and gas firms, the lower the firm value. These social sustainability activities are linked to human right issues, injuries and fatalities relative to work force, inadequate staff welfare and many more which affects the oil and gas firm's daily activities and slows down efficiency. This would therefore give a low and inadequate social sustainability reporting disclosure which will discourage possible investors from investing in the firm. Therefore, the study rejects the null hypothesis two.

Table 6.2 indicates that economic sustainability reporting has insignificant effect on the firm value of listed oil and gas firms in Nigeria. From the coefficient of 0.0031486 with p-value of 0.798 which is statistically insignificant, the result suggests that the higher the economic sustainability activities, the higher the firm value but not to a considerable percentage. The insignificant effect is attributable to negligence to pay proper attention to some economic activities which when done would have significant effect on the oil and gas firms, leading to a more significant effect on the oil and gas firm's performance positively. Based on the above evidence, the study fails to reject the null hypothesis three.

5. Discussion of Findings

In this section, major findings from the results of the study are presented and discussed. For better understanding of the presentation and ease of emphasis, the discussion has been separated into three segments with each segment focused on one predictor variable and the predicted variable.

From the result of the study, it was gathered that an increase in environmental sustainability activities of listed oil and gas firms would have a positive and significant effect on the firm value. Environmental reporting issues are considered a vital component of sustainability reporting thus the increasing need for organizations to voluntarily disclose in their financial statements activities carried out between them and the society but this does not seem to be the case as either the studied oil and gas firms are not involved in sufficient disclosure or are not adequately engaged in environmental sustainability activities to their society. If oil and gas firms has high environmental impact on its society it will in turn have positive effect on its performance and also its assets which will ultimately impact higher sustainability reporting. This finding is in line with the findings of Roy and Gosh (2011); Aliyu (2018); Olayinka and Oluwamayowa (2014); Khaveh, Nikhasemi, Haque and Yousefi (2012) but disagree with the findings of Oba (2012); Rahman, Jauhari and Roslan (2013); Murray, Sinclair, Power and Gray (2006).

The finding further revealed that social sustainability reporting has a negative but significant effect on firm value of listed Oil and Gas firms in Nigeria. The result signifies that the higher the social sustainability reporting through its activities to its community, the higher the oil and gas firms' chances at a better performance. This further means that the performance would increase if the ability of the company to generate profit increases, the stock price will also increase. Increase in stock price reflects the company is good for investors. The value of the shareholders will also increase if the value of the company characterized by increased levels of high returns on investment to shareholders increases. This finding is in line with the stakeholder theory and previous studies done by Hafez (2016) but it disagrees with the findings of Lys, Naughton and Wang (2012); Olayinka Temitope (2011); Neiling and Webb (2009); Jibril, Dahiru,Muktar and Bello (2016).

The findings further indicated that economic sustainability reporting has a positive insignificant effect on firm value of the listed Oil and Gas firms in Nigeria. This implies that economic sustainability reporting plays a vital role in the increase of firm value of listed oil and gas firms in Nigeria but not to a significant percentage or level. This might be due to the organization not having any or noticeable impact on its economy in terms of local community donations, payment to government, consumer education and payment to shareholders in form of dividends, organizations that are particular and consistent with their economic activities to the society tend to have a better economic performance to be recorded in their financial statements for potential investors and stakeholders. The insignificant effect could also be attributable to the nondisclosure of economic sustainability variables like corruption and conflict of interest. This shows that the more the occurrence and disclosure of such variables the lesser the productivity and firm value of the organization. Hence, an increase in this kind of economic sustainability variables will have an unfavorable effect on the firm value.

Thus, more positive economic activities will lead to a higher and effective economic performance, resulting in more sustainability disclosure in the organization's annual report, but this was not a significant determinant of firm value of Oil and Gas Firms in Nigeria for the period examined. This study agrees with the findings of Buys, Oberholzer and Andrikopoulos (2011); and disagrees with the findings of Wanger and Schaltegger (2004) and Wiwik (2015).

5. Conclusion and Recommendations

The accountability that financial results of companies communicate is a vital aspect of their transparency that cannot be ignored. But financial results alone cannot define and communicate a company's economic, social and environmental impacts. These impacts are redefining the meaning of business value. Therefore, in order to improve the content of sustainability reports, external factors and organizational context have roles to play in the transformation process. Sustainability reporting is therefore in line with environmental reporting which focuses on environmental performance in areas such as climate change, waste, water usage, environmental protection costs, environmental liabilities and greenhouse gas emissions.This study investigates the effect of sustainability reporting on the value of listed oil and gas firms in Nigeria from 2010 to 2019. Sustainability reporting in this study covers the environmental sustainability, social sustainability and economic sustainability while firm value was measured by Tobin's Q. In this study, the sustainability reporting variables were grouped into three each with an objective which were examined. The theories that underpinned this study are legitimacy theory and Stakeholder theory. These theories were used as the underpinning theories because they explain the relationships between the company's activities with the stakeholders of the company and value system of the society.

The study adopted ex-post facto research design while the population comprised of the ten (10) listed oil and gas firms as at 31 December, 2020. Panel multiple regression was used for the analysis and the study conducted a test of descriptive statistics, correlation matrix, multicollinearity. From the panel multiple regression, it was discovered that environmental sustainability reporting has a positive significant effect on firm value, social sustainability reporting has a negative significant effect on firm value, while economic sustainability has a positive insignificant effect on firm value of listed oil and gas firms in Nigeria within the period under consideration.

From the findings of the study, conclusion and possible recommendations were made. Also, suggestion for further studies was made in order to guide other researchers in this line of study. The findings of this study are supported by the two theories used in the study which are the legitimacy theory and the stakeholder theory. The findings of the relationship between environmental sustainability and the firm value shows a positive and significant relationship and is supported by legitimacy theory which posits that it is essential for an entity to meet its social norms and expectations to ensure the survival of the firm in the long-run. The findings of the relationships of the environmental, social and economic sustainability with the firm value is supported by the stakeholder theory which does not agree with the firm creating value for just the shareholders but for the stakeholders as well. This will give more understanding to the stakeholders about the activities and performance of the firm at large.

Based on the findings from the regression result, the study concludes as follows. First, Since investors are more concerned about the firm value of the firm, the disclosure of environmental sustainability has a lot to do with the company‘s firm value, by adequate compliance with the environmental rules and regulations in Nigeria and other environmental activities, which will bring more investors to the company to ultimately increase the firm value. Secondly, the study confirms the effect of social sustainability reporting in enhancing the firm value of listed oil and gas firms in Nigeria. The study concludes based on statistical evidence that social sustainability reporting has a negative but significant effect on firm value. This is attributable to inadequate firm‘s internal activity and relationship with employees which when done appropriately would yield a positive and favorable work environment and ultimately a good productivity which leads to increased firm value of the organization, which the investors are more concerned with. Hence within the period considered for this study, social sustainability reporting has a negative effect on firm value of listed oil and gas firms. Finally, from the findings, since an increase in economic sustainability will not have any considerable effect on the firm value because there is an inverse relationship between the firm value and economic sustainability reporting. Hence, the study concludes that economic sustainability reporting has positive but insignificant effect on the firm value.

Based on the finding and conclusion of the study, the following recommendations were made: Listed oil and gas firms should improve on their environmental sustainability activities because it gives insight to the existing and potential stakeholders that the companies are doing well in raising the stock value of the company which is good for investment and new investors hence, it will increase the company firm value based on statistical evidence. This recommendation is based on the findings of study which indicates that environmental sustainability reporting has a positive and significant effect on the firm value.The findings of this study will assist managers and director of listed oil and gas firms evaluate the current state of their reporting practices and make necessary changes behavioral and structural that will lead to an improvement in their sustainability reporting. This recommendation is based on the finding which shows that social sustainability reporting has a negative but significant effect on the firm value.Stakeholders should not solely consider the economic sustainability reporting in analyzing the firm value of listed oil and gas firms for business investment because the result shows that there is no statistically evidence between economic sustainability and firm value of listed oil and gas firms, based on the statistical result that shows that economic sustainability reporting has a positive but insignificant effect on firm value.

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