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Sustainability Environmental Disclosure and Financial Performance of Oil and Gas Companies in Nigeria

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ABSTRACT

This study determined whether sustainability environmental disclosure affect financial performance of oil and gas companies in Nigeria. Specific objectives include to; determine the effect of pollution control disclosure and on financial performance of oil and gas companies in Nigeria; evaluate the effect of recycling disclosure on financial performance of oil and gas companies in Nigeria and examine the effect of restoration disclosure on financial performance of oil and gas companies in Nigeria. Ex post facto research design was adopted for the study. The population of this study covered the nine quoted oil and gas on the Nigerian Stock Exchange. Data were collected from annual accounts of these nine quoted oil and gas and the formulated hypotheses were tested using regression analysis with aid of E-view 9.0. The study found that Environmental protection disclosure has positive but not significant effect on financial performance of oil and gas companies in Nigeria; Pollution control disclosure has no positive and significant effect on financial performance of oil and gas companies in Nigeria; Recycling disclosure has positive but not significantly affect financial performance of oil and gas companies in Nigeria; Restoration disclosure has no positive and significant effect on financial performance of oil and gas companies in Nigeria. Based on the findings, the study recommended among others that firm should reduce their spending on environmental protection or make it cost effective in other to increase firms' return on assets.

KEYWORDS: *Environmental Disclosure, financial Performance, Pollution and recycling disclosure*

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1. Background to the study

Concerns that some companies activities have serious environmental impact that can influence natural disasters had led to increasing acceptance of sustainability disclosure as a means of communicating firm's commitment towards preserving the environment so that future generation can achieve their own needs. Businesses have some level of interaction with the environment and society. Through sustainability disclosure, environmental or corporate social responsibility as it often called, firms provide information to show that they behave in an environmentally sustainable and socially responsible manner.

Corporate sustainability has grown to be an important concept over the last decades following public concern over the problems caused by environmental degradation, air and water pollution which has dramatically increased deforestation and climate change (Uwalomwa et al., 2018). Ability to satisfy the demand of stakeholders, including environment has remained an important business objective for corporate managers (Utomo, Rahayu, Kaujan& Irwandi 2020; Deegan & Unerman, 2008). No wonder there has been increase in number of firms across the globe providing information on the extent to which this corporate objective has been achieved.

Corporate reporting which takes social and/or environmental factors into consideration has been given several names over the years, including, for example, environmental accounting, triple bottom line accounting, corporate social responsibility accounting, and sustainable accounting, megaaccounting and Green accounting. Early researches and publications that dealt with the relationship between accounting and sustainability appeared more than two decades ago following criticisms and inadequacies of traditional accounting (Gray, 1992; Schaltegger & Burritt, 2000; Almássy, 2006).

Sustainability disclosure is about business and other organizations going beyond the legal obligations to manage the impact they have on the environment and society. In particular, this could include how organizations interact with their employees, suppliers, customers, and communities in which they operate, as well as the extent they attempt to protect the environment (Lea, 2002). Sustainability disclosure according to Emeka-Nwokeji and Osisioma (2019) has to do with measuring and disclosing on various non-financial information and firms performance in relation to the goal of sustainable development. Stakeholders now expect companies to manage the social and environmental impacts of their operations (Altschuller & Smith, 2011). In response to these expectation, many organizations have engaged in one form of social responsibility programme or the other. Many of such programmes are not integrated into organization's operations but are merely taken as philanthropic gestures, public reporting through newspaper and television media to give the notion that they are socially responsible. Occasionally, some apply environmental and labour standards that suit them to satisfy basic requirements of the laws of the land (Altschuller & Smith, 2011).

In line with the foregoing, companies world over are increasingly being challenged to extend their accounting information reporting to encompass sustainability reporting practices as part of their corporate strategy and competitive advantage (Nnamani, Onyekwelu, & Ugwu, 2017; Emeka-Nwokeji, & Osisioma, 2019). 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. 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 (PricewaterhouseCoopers, 2016). These three lines of values (Tripple bottom line), according to Asaolu, Agboola, Ayoola and Salawu (2011), are targeted at the economy, society and environment respectively. These existing studies have documented evidence in related areas, some of them differ in the variables selected for empirical constructs, their underlying models as well as in their findings. Thus no unique relationship has been established on the concept of sustainability disclosure and success of firms. Considering the disparity of extant studies result, this study contribute empirically to the discussion of whether sustainability disclosures affect firm performance with particular focus on the oil and gas sector of Nigerian economy. Oil & Gas (O&G) sector is considered given the importance and size of this sector as well as its relationships with the energy sector and its impact on the environment.

1.1. Statement of the problem

Firm's activities have direct impact on the ecosystem. Most activities of businesses can influence global warming and climate change which is the most challenging problem confronting the whole world (Utomo, Rahayu, Kaujan& Irwandi 2020). As a result firms are being challenged to behave in an environmentally sustainable and socially responsible manner while striving to maximize shareholder value. There is increasing concern that this behaviour has to be provided in form of environmental or sustainability information as stakeholders are constantly seeking for its provision either in the annual report or as a separate report. Thus firms are required to provide disclosure in financial statement concerning environmental information on industrial emissions, degradations, industrial wastages, all activities which impact negatively on the environment and employees.

Increase in number of firms providing information to show that they are environmentally responsive has led to significant increase in number of research on sustainability disclosures. While some focus on the factors what motivates firms to disclose on sustainability issues, others examined the link between sustainability disclosure and corporate performance. Findings of extant studies on this link have been conflicting. For example, Emeka-Nwokeji and Osisioma (2019); Amran and Siti-Nabiha (2017) Guthrie, Cuganesan and Ward (2016); Ifurueze, Lydon and Bingilar (2013) and Menassa (2010) document positive association between different measures of sustainability, social and environmental disclosures and firms performance. Contrary to this, other studies like Nnamani, Onyekwelu, and Ugwu (2017); Usman and Amran (2015) measured environmental and sustainability disclosure with environmental disclosure, community involvement disclosure, human resource disclosure, product disclosures. Result shows that disclosing environmental-related information leads to a decrease in both accounting and market based corporate financial performance.

It is not clear from extant studies whether sustainability environmental disclosure affect performance of firms which lead to further research using sectors and variables that extant studies have not considered. This provides justification for the current study seeks to ascertain whether corporate Sustainability environmental disclosure affect financial performance of firms using data from companies operating in the downstream sector of Nigerian oil and Gas companies.

1.2. Objective of the Study

The main objective of this study is to determine whether sustainability environmental disclosure affect financial performance of oil and gas companies in Nigeria. Specific objectives include to;

Determine the effect of environmental pollution control disclosure on financial performance of oil and gas companies in Nigeria.

Evaluate the effect of recycling disclosure on financial performance of oil and gas companies in Nigeria.

Examine the effect of restoration disclosure on financial performance of oil and gas companies in Nigeria.

1.3. Research Questions

The following research questions were raised to guide the study:

To what extent does pollution control disclosure affect financial performance of oil and gas companies in Nigeria?

How does recycling disclosure affect financial performance of oil and gas companies in Nigeria?

What are the levels of effect restoration disclosure has financial performance of oil and gas companies in Nigeria?

1.4. Research Hypotheses

For the purpose of the study, the following null hypotheses were formulated:

H_O: Pollution control disclosure has no positive and significant effect on financial performance of oil and gas companies in Nigeria.

H_O: Recycling disclosure has no positive and significant effect on financial performance of oil and gas companies in Nigeria.

H_O: Restoration disclosure has no positive and significant effect on financial performance of oil and gas companies in Nigeria.

2. REVIEW OF RELATED LITERATURE

2.1. Conceptual Framework

2.1.1. Sustainability Reporting /Disclosure in Nigeria

Sustainability reporting emerged in an attempt to respond to the demands for disclosures on non financial issues that are of interest to stakeholders. Sustainability reporting is about providing reports on company's strategies or plans for ensuring sustainable development. It is a disclosure framework used by companies to provide required information to entire stakeholders to shows their concern for the society and environment. According to Gao and Zhang (2006), sustainability reporting is a reporting mechanism that integrate social and environmental goals with financial ones and to justify firms welfare activities to a broader spectrum of stakeholder. Commenting on the benefit of sustainability reporting, Oprean-Stan, Oncioiu, Iuga and Stan (2020) noted that sustainable reporting helps firms to set their goals, assess its success, and implement progress to make them more sustainable. In an earlier study, Jaggi and Freedman (1992) observed that business organizations should be interested in their environmental performance because it directs their financial performance.

Traditionally, firms prepare corporate reports based on financial measures and for the interest of their shareholders. However, for many years now, there are advancements into the role of accountants in social and environmental accounting, proposing the argument that accountants can improve social justice (Tilt, 2009). Social justice issues are preoccupied with firm's contribution to social and environmental benefits to the society. In tracing the relationship between the accounting profession and environmental issues, Owolabi (2010) asserts that accountants perceive that environmental responsibility is important.

Sustainable financial reporting has gained increase attention in the last few years though the nature of information to be disclosed is still debated (Hongming, Ahmed, Hussain, Rehman, Ullah and Khan, 2020). In the view of James (2015), cited in Oprean-Stan et al (2020), sustainability reporting is becoming a major concern for businesses of all sizes in an attempt to preserve capital for future generations. Nigeria firms are not left out in the use of sustainability reporting to provide additional information about how their business defines its position in society, as well as strengthen their sustainable growth. However, sustainability reporting is at the moment is not part of the listing requirement in Nigeria and is largely based on voluntary initiatives of firm managers (Owolabi, 2010). Most of the firms caught up in the social and environmental reporting system are within the manufacturing sectors (Uwuigbe et al 2018). This is with the exception of countries like South Africa where it is compulsory for sustainability reporting to be included as part of the financial statements.

Studies shows that there is increase in firms disclosing on sustainability issues. For instance, a survey conducted by KPMG Nigeria in 2011 shows that out of 100 top companies in Nigeria, 68% practice sustainability reporting. Year 2013 saw an increase in the reporting rate in Nigeria to 82 percent from the earlier reported 68 percent. These statistics have since been updated in KPMG survey of sustainability reporting. This current study classified Nigerian top rated companies as among the countries with sustainability reporting rate higher than the global average with 85% in 2015 and 88% in 2016 (KPMG, 2017).They also observed that there is increase in growth rates of corporate responsibility reporting since 2011 in the most counties of the world including: India, Chile, Singapore, Australia, Taiwan, Romania, China (including Hong Kong) and Nigeria.

However, Nigeria is still being classified in the corporate sustainability reporting quadrant tagged “starting behind” apparently owing to not having a mandatory environmental or social reporting requirement for public companies. Even the Companies and Allied Matters Act did not make any mention of environmental or social reports requirements among the financial statements required to be published by public companies. This can be corroborated by an earlier report by the British American Tobacco Nigeria (2010), which observes that the practice of social reporting is largely not widespread in Nigeria and corporate social responsibility is often considered synonymous with philanthropy. No wonder a study by KPMG on sustainability report in 2013 revealed that less than 50% of Nigerian companies refer to the GRI Guidelines in their corporate reporting.

Meanwhile, considering that Nigeria is critical to African economies, the country needs to embrace reporting standard using the new GRI yardstick, G4, which is an improvement on G3 to measure the impact of its social investment as well as enhance ethical corporate behaviour in the operating environment. A recent survey reported by Ademigbuji, (2014) shows that Nigeria accounts for only two per cent (2%) of GRI-based reports in Africa - with South Africa leading with about 96 per cent (96%) and the other two per cent scattered around the rest of the continent. A Nigerian bank, Zenith, was rated the first Nigerian company and first African financial institution to adopt the Global Reporting Initiative Standards on sustainability reporting. Similarly, the Nigerian Stock Exchange (NSE) also released its 2016 Sustainability Report using GRI G4 Reporting Guidelines. The report was titled “Ushering in a new era of sustainability in the Nigerian market place” and represents the second edition of GRI-G4 patterned sustainability report by the NSE.

It has to be stated that the drive towards Nigeria’s Environmental Policies and consciousness is as a result of the incident of the dumping of toxic waste in Koko village in Delta State in 1987. “The country was before this incident, ill equipped to manage such environmental crisis, as there were no institutional capacity and legislations to address such matters” (Fasu, 2011:85). In the aftermath of the Koko incident, Nigeria developed a comprehensive national policy on the environment. The Federal Environmental Protection Agency 1988 (FEPA) was created and charged with the administration and enforcement of the environmental law. Earlier, the government enacted the Harmful Waste (Special Criminal Provisions) Act, 1988, to deal specifically with illegal dumping of harmful waste (Ogbodo, 2010; Fasu, 2011). Environmental Law Research Institute (2009) maintains that the role of legislation in inducing responsible attitudes and behaviours towards the environment cannot be overlooked. Legislation serves as an effective instrument for environmental protection, planning, pollution prevention and control. Thus Nigeria has passed several legislations in this direction the latest being the National Environmental Standards and Regulations Enforcement Agency (NESREA) Act 2007.

There is also the Environmental Impact Assessment (EIA) Act 2004. Other regulatory agencies with oversight over specific industries have also issued guidelines to regulate the impact of such industries on the environment such as the Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN) 2002, published by the Department of Petroleum Resources (DPR). Unfortunately, standardize environmental and social accounting practices and norms in preparation of statutory financial statements for public companies are not given attention in these laws. Similarly there is no pronouncement from the accounting standard body in Nigeria on the issue of Sustainability

Reporting, just as the professional accountancy bodies in the country are yet to give Sustainability Reporting the attention it deserves.

On the extent of sustainability reporting by firms in Nigeria, studies like Owolabi et al (2016) assess the sustainability reporting practices of firms operating in and Nigeria and provided evidence that out of thirty-three (33) disclosures required by the GRI-G4 index on environmental impacts, most companies disclosed only 5 which represented a mere 15%. This suggests that the practice is still at the developing stage. The researchers also noted that organizations embrace reporting standards when they perceive incentives, otherwise, they dump them especially where it is not mandatory. Isa (2014) also assessed sustainable reporting among food and beverage firms in Nigeria and found that the firms exhibited some level of sustainability reporting though not significant because it only comprised of approximately two percent (mostly environmental activities and less on product and rights disclosures) of the total disclosures of the annual reports. Nwobu (2015) also studied the annual reports of some banks in Nigeria for the presence or absence of sustainability reporting and found that sustainability reporting has received substantial attention over the past four (4) years in the Nigerian banking sector and found a linkage between it and profit performance. Asaolu et al (2011) equally assessed sustainability reporting in the Nigerian oil and gas sector in order to ascertain the level of reporting with global best practices using the GRI G3 reporting guidelines. They found incompatible difference in the sustainable reporting indicators of all companies studied when compared with their counterparts. Various measures have been employed by extant literature to measure different dimensions of sustainability disclosures. The environmental dimension of sustainability concerns an organization's impact on living and non-living natural systems, including ecosystems, land, air, and water. Environmental indicators cover performance related to inputs (e.g., material, energy, water) and outputs (e.g., emissions, effluents, waste). They also encompass performances related to biodiversity, environmental compliances, and other relevant information such as environmental expenditure and the impacts of precuts and services (GRI, 2013).

Environmental sustainability can be measured in terms of preservation and conservation of natural resources such as conducting recycling activities, noise reduction or action plan to pursue noise improvement initiatives, water and process treatment, pollution prevention and control, phasing out the use of ozone depleting substances and compliance with authority in buildings regulations and requirements. It also includes liaising with suppliers to develop environmental best practices in supply chain and encouraging staff to support initiative towards local, national or global environment in a positive way by raising and maintaining staff awareness on environmental issues. Environmental performance can be achieved by implementing Environmental Management Systems (EMS) by organizations. The system enables an organization to reduce its environmental impact and increase its operating efficiency (U.S EPA, 1995).

Rennings, Ziegler and Zwick (2002) suggested that there are two measures for sustainability performance. The first measure evaluates the environmental and/or social risks of the industry to which a company belongs (compared with other industries). The second measure evaluates the environmental and social/or social activities of a corporation relative to the industry average. These social activities become sources of social awareness to minimize the negative environmental consequences that include emission or other harmful substance that would result in suits or regulatory penalties due to non-compliance. They found that companies that exhibited a higher environmental sector performance (i.e. a lower degree of environmental risks) has significantly positive effect on the average monthly stock returns. According to this result, the stock market rewards investments in stock corporations of clean sectors (with otherwise similar economic characteristics, e.g. concerning financial variables) with a premium when compared to companies with high social performance

In Ngwakwe (2009), environmental responsibility was classified between environmentally responsible and irresponsible *firms.* According to the study, Environmental responsibility' was determined using disclosure on environmental and social issues above 50%. 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. 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, Nikhashemi, Yousefi and Haque (2012) who noted that companies with higher level of sustainability disclosure have higher share price and net profit.

2.1.1.1. Sustainability measurement

This is the quantitative basis for the informed management of sustainability. The metrics used for the measurement of sustainability (involving the sustainability of environmental, social and economic domains, both individually and in various combinations) are still evolving: they include indicators, benchmarks, audits, indexes and accounting, as well as assessment, appraisal and other reporting systems (Owolabi, 2010). They are applied over a wide range of spatial and temporal scales.

Environmental variables should represent measurements of natural resources and reflect potential influences to its viability. It could incorporate air and water quality, energy consumption, natural resources, solid and toxic waste, and land use/land cover. Ideally, having long-range trends available for each of the environmental variables would help organizations identify the impacts a project or policy would have on the area (GRI, 2013). Specific examples include:- Sulfur dioxide concentration, Concentration of nitrogen oxides, Selected priority pollutants, Excessive nutrients, Electricity consumption, Fossil fuel consumption, Solid waste management, Hazardous waste management, Change in land use/land cover.

According to Howes (2002), environmental accounting is a field that identifies resources use, measure and communicates cost of a company's or national economic impact on the environment. Cost include cost to cleanup or remediate contaminated sites, environmental fines, penalties and taxes, purchase of pollution preventive technologies and waste management costs.

2.1.2. Financial Performance

There are several aspects of performance, each of which contributes to the understanding of the success of an organization. Performance is the function of the ability of an organization to gain and manage the resources in several different ways to develop competitive advantage. Larasati, Rivai and Suharto (2020) noted that financial performance is often determined through financial ratios with a focus on measuring different indicators. Performance measurement is therefore the process whereby an organization establishes the parameters within which programmes, investments, outputs and acquisitions are reaching the desired results (Wheelen, & Hunger 2001). Despite the evolution of various available benchmarks and performance measurement, the answer to what is performance may still be hard to pin down. Hansen and Mowen (2005), state that firm performance is important to management considering that it is result realised by an individual or a group of individuals in a firm which has relationship its authority and responsibility in achieving laid down objectives. The objective of measuring financial performance is to determine the operating and financial characteristics as well as the efficiency and performance of economic unit management, based on information in the annual reports (Amalendu, 2010). Akinsulire (2008) and Pandey (2003) pointed out that no performance review is beyond dispute. If income is to be measured in terms of the increase or decrease in the wealth of an enterprise, obviously some definitions of that stock of wealth is required. Continuing, their studies measures wealth in three categories; as financial capital; real financial capital and operating capacity capital. Wheelen and Hunger (2001) described performance as the end result of activity and the appropriate measure selected to assess corporate performance is considered to be based on the type of organization to be evaluated and the objectives to be achieved through that evaluation. In addition, measuring performance is also important because it builds on the results, which enable users of financial state make different decisions about and economic units. According to Benjalux (2006) performance measures are the life blood of economic units, since without those measures, informed decisions cannot be made.

They further explain that performance measurement involves ongoing data collection to determine if a program is implementing activities and achieving objectives, the ongoing monitoring and reporting of program accomplishments, particularly progress toward pre-established goals (This is typically conducted by program or agency management) and a system for assessing performance of development interventions against stated goals. From the above, it could be affirmed that performance measurement is a measure or evaluation of achievement with predetermined or expected target of an organization. It can also be looked at as the process whereby a company establishes the parameters within which achievements, programmes, investments, outputs and acquisitions are reaching the desired results.

2.1.2.1. Measures of organizational performance: Profitability Ratios:

These ratios are used to assess ability of a business to earn profit in comparison with all its expenses during a specific time period. Generally, accounting profit is the difference between revenue and cost (Ross, Westerfield & Jaffe, 2005). If these ratios are higher than competitors, industry averages or previous years' ratio then it can be considered that firm is performing profitably. The profitability ratios used in this research is Return on Assets (ROA)

2.1.2.2. Return on Assets.

Return on assets (ROA) is an accounting-based performance measure which represent the firm's short-term profitability or management efficiency, and provide direct information on how certain resource allocations lead to the firm's current profits. ROA measures profitability and the effectiveness of companies in utilising their assets to generate profit (Larasati et al. 2020). Usman and Amran (2015), explained that ROA represents a company's profitability accruing from the total asset that the business controls. This profitability measurement is such that the higher the ROA, the more effective is the firm in the use of assets to the advantage of shareholders. In line with this Irman and Purwati, (2020) emphasised that higher the value of ROA indicate the higher profits obtained. High or low ROA is influenced by how much assets are used to be invested. ROA defined as net income divided by total assets reflect how well a firm is using investment resources to generate profits. It is used to compare the efficiency and operational performance of company as it looks at the returns generated from the assets of a company. ROA attract the interest of an investor to invest in a firm.

2.2. Theoretical Framework

Stakeholder theory

The stakeholder theory is a theory of organizational management and business ethics that addresses morals and values in managing an organization. It was originally detailed by Ian Mitroff in his book "Stakeholders of the Organizational Mind", published in 1983 in San Francisco (Wikipedia, 2017). Stakeholders refer to those individuals, groups, or organizations that are likely to influence, or be influenced by the operations and decisions of firm. According to Argandona (1998), the stakeholder theory upholds that firms have accountability towards a broad range of stakeholders, apart from shareholders, i.e. creditors, customers, suppliers, employees, government, community, environment, future generations, etc. King, & Lenox (2001) recognized the significance of integrated sustainability reporting in strengthening the relationship between firm and society in which it operates. Ignoring the stakeholder interests may taint firm's public image, which would unfavorably affect its financial performance. In summary, stakeholder theory views corporations as part of a social system while focusing on the various stakeholder groups within society (Ratanajongkol, Davey & Low, 2006). According to Gray et al. (1996), stakeholders are identified by companies to ascertain which groups need to be managed in order to further the interest of the corporation. Stakeholder theory suggests that companies will manage these relationships based on different factors such as the nature of the task environment, the salience of stakeholder groups and the values of decision makers who determine the shareholder ranking process (Donaldson & Preston, 1995).

This study however anchored on this theory, the stakeholders theory states that those whose relations to the enterprise cannot be completely contracted for, but upon whose cooperation and creativity it depends for its survival and prosperity (Slinger & Deakin, 1999). Stakeholder theory explains specific corporate actions and activities using a stakeholder-agency approach, and is concerned with how relationships with stakeholders are managed by companies in terms of the acknowledgement of the society where they operates.

2.3. Empirical Review

Quite number of studies has been carried out on environmental sustainability accounting and companies in different countries. In a most recent study to ascertain the level of the impact of sustainable reporting on performance of firms in Pakistan by Hongming et al (2020), sustainability was calculated using 42 indicators derived from content analysis. This indicators was then submerged into three sub-indices of environmental, health and safety and social. The analysis using two regression model reveal positive effect of the three indicators on performance of firms in Pakistan. In a related study on the effect of corporate social responsibility information disclosure, Hu, Du and Zhang (2020) discovered that CSR information plays a dominant role such as alleviating information asymmetry between investors and managers, minority and controlling shareholders. CSR equally alleviate financing constrain problems. These information effect of CSR has positive relationship with firm's innovation. Oprean-Stan, Oncioiu, Iuga and Stan (2020), examined whether there is a relationship between sustainability reporting, and corporate performance. Both financial and market performances of firms were both used in the analysis. The study constructed and included sustainability metric in the two models, Analysis revealed that there is linear relationship between the financial and market based performance variables and sustainability metrics. This means that there is improved firm performance (both for market and accounting performance) stain ability disclosure.

Using information from the banking industry in Nigeria, Adegboyegun, Alade, Ben-Caleb, Ademola, Eluyela, and Oladipo (2020) analysed whether integrated reporting impact on performance of firms. The result of the study showed that integrated reporting has no significant impact of performance of firms in the short run but the relationship is significant in the long run.

In a study on whether sustainability reports, foreign on boards, and foreign ownership affect firm value, Aksan and Gantyowati (2020), provided evidence using data from firms in Indonesia that sustainability disclosure of firms has positive impact on their market value.

Utomo et al (2020), employed environmental disclosure as a mediating variable in the study on effect of environmental performance and firm value. The result of the study is that environmental disclosures has no effect on firm value and does not mediate the impact of firm’s environmental performance on firm value.

Swarnapali (2020), used data of companies listed in the Colombo Stock Exchange (CSE) in Sri Lanka to evaluate whether corporate sustainability disclosure has any effect on the market value and earnings quality of firms. The result of the study shows that sustainability reporting has a positive relationship with market value of firm. The study also revealed that sustainability disclosure and earnings quality proxied by discretionary accruals are negatively and significantly related meaning that increase in sustainability disclosure lead to a decrease in discretionary accruals which result in high-quality earnings.

In a study on whether there is a relationship between sustainable disclosure and performance Pajuelo Moreno and Duarte-Atoche (2019), extended Ullmann’s model. The study introduce economic performance, size and membership in sensitive sectors as determinant of sustainability disclosure and sustainable performance link. Specifically the study shows that firms that are concerned with sustainability and act sustainably have higher sustainability disclosure in their annual report. Also the greater the economic performance, the greater the effect it has on sustainability disclosures.

Emeka-Nwokeji and Osisioma (2019) assessed whether overall sustainability disclosure and disaggregated indicators of sustainability disclosure affect market value of firms in Nigeria. Analysis revealed that overall sustainability disclosure significantly affect firms value in the positive direction. Taken individually, environmental and corporate governance disclosure affect firm value positively and significantly too but social disclosure affect firm value negatively but the effect is insignificant.

Diantimala (2018), used data of listed companies in Jakarta Islamic Index to examine the mediating effect of sustainability disclosure on financial performance and firm value. Analysis shows that higher liquidity supports conveying more sustainability disclosure. Also Higher sustainability disclosure significantly increases firm value. The study also reveals that increase in leverage and profitability encourages management to provide more sustainability disclosure.

Uwuigbe et al (2018) provided insight into the relationship between sustainability reporting and performance of firm using money deposit banks in Nigeria as a reference point. The study showed that a bi-directional relation exists between sustainability and performance of sampled banks. The study also discovered market price per share influence sustainability reporting negatively and significantly.

Using information provided in annual reports of firms in Singapore, Loh, Thomas and Wang (2017) investigated the link between sustainability reporting and market value of firms and discovered that there is a positive relationship between sustainability reporting and market value of firms. The positive relationship is not dependent upon the sector of firm or its status.

Okafor (2018) ascertaining the effect of environmental costs on firm performance. To achieve this objective, the study made use of financial reports of Oil and Gas Companies quoted in the Nigerian Stock Exchange Market from years 2006-2015. Regression analysis was employed with the aid of Statistical Package for Social Sciences (SPSS). The results of the statistical analysis indicate that better environmental performance positively impact business value of an organization. Moreover, environmental accounting provides the organization an opportunity to reduce environmental and social costs and improve their performance.

Ezejiofor, John-Akamelu and Chigbo Ben (2016) assesses the effect of sustainability accounting measure on the performance of corporate organizations in Nigeria. Ex post facto research design and time series data were adopted. Data for study was collected from annual reports and accounts of the company in Nigeria. Formulated hypotheses were tested using Regression Analysis with aid of

SPSS Version 20.0. The study found that environmental cost does not impact positively on revenue of corporate organizations in Nigeria.

Kwaghfan (2015) examined the impact of sustainability reporting on the financial performance of selected quoted firms in Nigeria between 2012 and 2016. Data for the study was generated from the financial reports of selected (10) firms and was analyzed with the use of panel least square technique. The findings of the study showed that: Expenditure on economic activities, which represents the costs incurred on production, distribution, exchange, consumption and trade of goods and services, positively and significantly impacted on financial performance (measured by price-earnings ratio) of selected firms in Nigeria; Expenditure on social activities, which represents the costs incurred on social development of host communities of selected firms, positively but weakly impacted on financial performance (measured by price-earnings ratio) of selected firms in Nigeria; Expenditure on environmental activities, which represents the cost incurred on environmental protection of host communities of selected firms, positively and significantly impacted on financial performance (measured by price-earnings ratio) of selected firms in Nigeria. The study concluded that sustainability reporting practices strongly contributed to the financial performance of selected quoted firms in Nigeria between 2012 and 2016.

Ijeoma (2015) determined the role of environmental cost accounting towards environmental sustainability in Nigeria. The source of data for this study is primary source of data collection with the aid of questionnaire. The research instrument was randomly administered to 200 respondents from organizations in Nigeria: Agricultural/Agro-Allied, Breweries, Chemical and Paints, Health Care/Pharmaceutical and Oil Marketing companies. The findings of the study revealed that majority of the respondents agreed that business organizations in Nigeria have not being aware of environmental policies. It was also found that that there exists no significant difference on business organizations in Nigeria not being aware of environmental policies.

Onyali, Okafor and Onodi (2015) examined the effectiveness of triple bottom line disclosure practice of corporate firms in Nigeria by focusing on the perspective of corporate stakeholders. In achieving the above objective, three research questions were raised and two hypotheses were also formulated. The descriptive method of research design was employed to generate the required data. The population of the study was made up of three distinctive groups: Investors, Customers/Consumers and Accountants. The primary data were summarized using tables and the formulated hypotheses were analyzed using one-sample z test procedure done with the aid of SPSS version 22. Their findings indicated that investors and consumers expressed dissatisfaction with the extent of firms TBL disclosure practice in Nigeria. In their own view, most Organizations' reports were often vague and far from the expression of actual performance. Also, Accountants' were negative on the level of rigour and transparency exerted in the preparation of triple bottom line report by corporate firms in Nigeria.

Nor *et al* (2015), examine the existence of environmental disclosures and their effect on performance of top 100 firms in Malaysia and discovered mixed results between the existence of environmental disclosure and performance of firms.

Onyali, Okafor andEgolum (2014) assessed the extent, nature and quality of environmental information disclosure practices of manufacturing firms in Nigeria. Content analysis was adopted in analyzing the annual report of the selected firms with regards to their environmental disclosure practices. Furthermore, a survey was carried out in order to ascertain whether the environmental disclosure practices of firms in Nigeria have improved. This was done with the aid of questionnaire administered to 40 Chartered accountants. The study adopted one sample t-test in testing the formulated hypothesis. The findings of the study indicated that the environmental disclosure practices of firms in Nigeria is still ad hoc and contains little or no quantifiable data.

In a related study by sayedeh, and saudah (2014), proposed model of the relationship between environmental management accounting and firm performance. Moreover, the experimental findings are quite controversial, and there is no universal agreement about the actual impact of EMA on firm performance. This is because while the positive relationship between EMA and firm performance has been obtained in most studies, some studies have still found a negative or neutral relationship. The third obvious finding is that most studies on environmental management practices have been carried out in developed countries based on European and us data. However, far little attention has been paid to such studies in developing countries.

Ekwueme, Egbunike and Onyali (2013) examined the connection between such reporting practices and corporate performance from a stakeholder perspective. The study used a sample of 141 respondents, comprising 21 corporate managers; 55 corporate employees and 65 consumers and investors.

Four hypotheses were formulated and tested in the study. In addition to descriptive statistics, Kolmogorov-Smirnov (K-S), One Sample t-test and Multiple Regression Technique (MRT) were used in analyzing the primary data. The results of the data analysis showed a positive connection between sustainability reporting and corporate performance. Both consumers and investors were inclined to product purchase of green corporations.

Okoye, Oraka and Ezejiofor (2013) assessed whether on social sustainability reporting has effected any changes on internal and external perceptions of corporate organization and to determine the extent at which pressure from external factors has contributed in the needed social sustainability reporting in Nigeria. Survey research method was adopted and questionnaire was administered on a random selected sample of eighty (80) employees, customers and investors in manufacturing organizations in Onitsha, Anambra state. Judgmental sampling technique was used in selecting the three quoted companies used for the study. Using five point likert scale analysis and z-test statistical tool to test the two hypotheses, the study found out that Social sustainability reporting has effect on the changes of internal and external perceptions of corporate organization and that Pressures from external factors have contributed to social sustainability reporting of corporate organization.

Bassey, Oba and Onyah (2013), in their study set out to critically analyze the extent of implementation of environmental management and its impact on output of oil and gas companies in Nigeria from 2001 to 2010. The paper was aim at ascertaining the extent to which implantation of environment cost management has impacted on the oil and gas industries in Nigeria. The study used multiple regression analytical technique. Findings revealed that there is a significant relationship between the parameters that influence environmental cost management and output of oil and gas produced in Nigeria. Also, it was discovered that there are no established standards in Nigeria guiding environmental cost management in the oil and gas industries in Nigeria.

Beredugo and Mefor, (2012) evaluated the relationship between environmental accounting and reporting and sustainable development in Nigeria. Pearson correlation coefficient and OLS were used for data analyses, and was discovered that there is a significant relationship between environmental accounting and reporting and sustainable development; that with environmental accounting encourage organizations to track their GHG emissions and other environmental data against reduction targets, and there are consequences for noncompliance with environmental accounting and reporting. Cortez and Cudia, (2011) determined the impact of environmental innovations on financial performance of Japanese electronics companies following the growing literature linking corporate social performance with profitability. Using sample electronics companies listed in the Tokyo Stock Exchange, this industry case study focuses on the global manufacturing leaders as they play a significant role in advancing environmental reporting due to their supplier networks and subsidiaries. They initially investigate if sustainability performance of electronics companies positively impacts financial performance following the resource-based view perspective. Their findings point to risk minimization efforts of electronics companies in spite of declining profitability. In another paper by Lee, Pati and Roh (2011) on the relationship between corporate sustainability performance and tangible business performance: evidence from Oil and Gas industry. Hierarchy regression analysis was utilized to study the relationship between a firm's business performance with respect to various dimensions of accounting and marketing based performance as well as the sustained growth rate. Although the focus of this study was on the significant relationships between the CSP measured in terms of PSI and TBP, it also explored how other business strategic factors, such as firm size, manufacturing cost efficiency, capital intensity, debt leverage and labor productivity are linked to the firm's economic performance. The study concludes that PSI and Research and Development (R&D) Intensity are major determinants of business performance in the Oil and Gas Industries across countries.

Kasum and Osemene (2010) assessed the Sustainable Development and Financial Performance of Nigerian Quoted Companies. The study was against the background that sustainable development practices usually involve financial outflows and hence, may be an unattractive investment to managers. They evaluated the impact of corporate compliance to accounting standards that are deemed to enforce sustainable development practices and can, therefore, imply sustainable development practices by companies, on the result of operations of companies. The study discovered that sustainable development practice of companies is rarely associated with financial performance over the years studied.

Clarkson, Li, Richardson and Vasvari (2008) developed an environmental disclosure index based on Global Reporting Initiative guideline on sustainability reporting to evaluate the relation between environmental performance and environmental disclosure. The study established a positive association between environmental performance and voluntary environmental disclosures.

Enahoro (2009) assessed the level of independence of tracking of costs impacting on the environment; level of efficiency and appropriateness of environmental costs and disclosure reporting. The research instruments utilized in the study were primary data survey and secondary data elucidation. For this purpose, cross-sectional and longitudinal content analyses were carried out. The test statistics applied in the study were the t-test statistics, Pearson Product-Moment correlation tests, ANOVA, and Multivariate Linear Regression Analysis. The study investigated best practice of environmental accounting among companies currently operating in Nigeria. Findings are that environmental operating expenditures are not charged independently of other expenditures. There is also, absence of costing system for tracking of externality costs. Environmental accounting disclosure does not however, take the same pattern among listed companies in Nigeria.

Mitchell, Percy and Mckinlay (2006) examined the environmental disclosures of twenty Australian firms subject to a successful EAP prosecution between 1994 and 1998 using content analysis, finding the disclosures made by their sample to be predominantly positive in nature. Similarly, using content analysis, Cowan and Gadenne (2005) found a tendency by their sample Australian firms to disclose higher level of positive environmental news. Al-Tuwaijri, Christensen, and Hughes, (2004) employed simultaneous equations approach to investigate the relations among environmental disclosure, environmental performance and economic performance. They used proxy for environmental performance using the percentage of total waste generated recycled as identified using the TRI database and measure environmental disclosure using a content analysis in four categories, potential responsible parties' designation, toxic waste, oil and chemical spills, and environmental fines and penalties, disclosures which are largely non-discretionary.

Gozali, How, & Verhoeven (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.

Finally, also using content analysis, Tilt (2001) found that even where a firm has a specific corporate environmental policy, they place a low priority on reporting environmental performance data to external parties. She concluded that Australian firms prefer to disclose their activities and specific programs, rather than their research and development, capital expenditure, policies or performance,

Hughes, Anderson and Golden (2001) examined environmental disclosures made by U.S. manufacturing firms in 1992 and 1993 using a modified Wiseman index to measure disclosures in the president's letter, MD&A, and notes sections of the annual report, and the CEP rankings to proxy for environmental performance. They found that firms rated as poor by the CEP generally make the most disclosures

2.4. Summary of the review

Lee, Pati and Roh (2011) conclude that PSI and Research and Development (R&D) Intensity are major determinants of business performance in the Oil and Gas Industries across countries. Dabbas and Al-rawashdeh (2012) finds that there is a significant relationship between CSR activities, such as the provision of donations/establish non-profit projects, support projects/charities and the profitability of industrial companies. Wibowo (2012), show that there is positive impact of the social performance to the profitability of the firms and also there is positive impact of the profitability of the company to the social performance of the firms. Babalola (2013), show that the sample firms invested less than ten percent of their annual profit to social responsibility, and this amount vary from company to company. Ajide and Aderemi (2014) showed that banks' size disclosure score have a positive relationship with bank profitability while owners 'equity has negative association with bank profitability. sayedeh, and saudah (2014), experimental findings are quite controversial, and there is no universal agreement about the actual impact of EMA on firm performance.

3. Research Design

Due to the nature of the study, *ex post facto*research design and content analysis was adopted in collecting data from financial reports and accounts from 2010-2018. This is appropriate because the study aims at investigating what has been documented in the annual report. The variables involved are not manipulated by the researcher.

3.1. Nature and Source of Data

The study utilized secondary data and this was sourced from the annual report and accounts of firms in the oil and gas sector from 2010 to 2018.

3.2. Population of the study

The population of the study covered quoted oil and gas companies in the downstream sector of Nigerian Stock Exchange which comprises of Benco Petroleum, Conoil Nigerian Plc, Enternal Oil Nigerian Plc, Forte Oil Nigerian Plc, Japaul Oil and Maritime Nigerian Plc, Mobil Oil Nigerian Plc, MRS Nigerian Plc, Oando Oil Nigerian Plc and Total Oil Nigerian Plc. The study covered nine years annual reports and accounts of these companies from 2010 to 2018.

3.3. Sample Size

The sample size is the same as the population of the study. Hence, the sample size of the study was all the oil and gas companies in the downstream sector of Nigeria Stock Exchange as at December 2018. The industrials goods sector had a total of nine (9) quoted firms. Thus sample used for the study was based on availability of data.

3.4. Method of Data Analysis

The secondary data collected was analysed using descriptive statistics, correlation analysis, and regression analysis. Multiple regression analysis was used to evaluate the effect of the independent variables on the dependent variables. The result reveals the degree of influence and the level of significance. The Ordinary Least Squares (OLS) estimation technique was employed in the analysis of data. All hypotheses were tested at 0.05% significance level. However, all analyses, both descriptive and inferential statistics was done via STATA 13.0 statistical software.

Decision Rule

The decision for the hypotheses is to accept the alternative hypothesis if the f-value is higher than the p-value at 10% significance level.

3.5. Model specification

In order to test for the relevance of the hypotheses regarding the Sustainability environmental disclosure and financial performance of oil and gas companies listed on the Nigerian Stock Exchange, the following regression model from previous studies specified below were adapted for the study. Emeka-Nwokeji (2018) TOBIN's Q = *f*(POLLAB, ENVLITCO, WSTMGT, Control). The researcher modified the model and is stated in its functional form as: ROA = *f* (ENVPROD + ENVPOCD+ENVRECD+ENVRESD)………..... (1)

$ROA_{it} = \beta_0 + \beta_1 ENVPROD_{it} + \beta_2 ENVPOCD_{it} + \beta_3 ENVRECD_{it} + \beta_4 ENVRESD_{it} + \varepsilon_{it}$ … (2)

Where:
ROA = Return on assets
ENVPROD = Environmental Protection disclosure
ENVPOCD = Environmental Pollution control disclosure
ENVRECD = Environmental Recycling disclosure
ENVRESD = Environmental Restoration disclosure
β_0 = Intercept
β_1- β_4 = Coefficient of the independent variables
e = Error term

3.6. Variables

Dependent variables	Measurement
ROA	Firm performance (net income/total assets) Ross, Westerfield & Jaffe 2005
Independent variables	
Environmental restoration costs	Information disclosure on environmental policies
Pollution control cost	Information disclosure on environmental conservation of natural resources
Environmental recycling disclosure	Information disclosure on environmental issues

4. DATA PRESENTATION AND ANALYSIS

4.1. Data Presentation

The details of the data used for the study is presented in table 1, under the appendix. This study used panel data and adopted the ordinary least square regressions analysis to identify the possible effects of sustainability environmental disclosure on financial performance of listed oil and gas firms in Nigeria. The study however conducted some preliminary (diagnostic) analysis such as descriptive statistics, Normality test, and correlation analysis to confirm the assumptions of regression analysis.

4.2. Data Analysis

Table 4.1: Descriptive Statistics

stats	roa	envprod	envpoc	envrec	envresd
N	81	81	81	81	80
mean	.0529136	1.382716	1.209877	1.283951	1.55
max	.363	3	3	3	3
min	-.369	0	0	0	0
sd	.0978946	.859766	.8619172	.825145	.8553628
p50	.021	1	1	1	2

The above shows the count (total number of observations) for each of the variables. It also shows the mean (average) of each variable, the median ie the middle value after sorting from highest to lowest values, their maximum values, minimum values, standard deviation. The results in the above table provided some insight into the nature of the selected Nigerian quoted firms that were used in this study. The measure of central tendency are indicated in the mean and median values, while the measure of dispersion is indicated in the value of standard deviation which measure how far the observation are from the sample average.

It was observed that on the average over the nine years periods (2010-2018), the sampled quoted firms in Nigeria were characterized by positive return on assets (ROA = 0.05291). The table also revealed that the maximum return on assets for sampled firm during the period of the study is .363. Also, pollution control disclosure (ENVPOC), environmental Recycling disclosure (ENVREC) and environmental restoration (ENVRESD) show that the sampled firms in this study are not dominated by firms that disclosed mostly on sustainability issues. The result shows that while some are making effort and disclosing on the three sustainability issues used in the study, they are firms that did not disclose on the issues. The result also revealed that the standard deviation of the variables are close to their respective mean values.

4.3. Normality Test

This section present the normality test result of all the variables of interest. It is one of the most important assumptions of regression analysis that must be confirmed. A series would be normally distributed if the probability of the statistic is less than 5% which is 0.05. However, if the data set is not normal, then these tests could have a high chance of false positives.

Table 4.2 Normality Statistics

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	------- joint ------ adj chi2(2)	Prob>chi2
roa	81	0.2952	0.0000	14.32	0.0008
envprod	81	0.6084	0.1951	2.00	0.0673
envpoc	81	0.4948	0.0876	3.50	0.0734
envrec	81	0.9115	0.0831	3.12	0.0100
envresd	80	0.7082	0.2054	1.80	0.0069

The normality statistics above show the skewness and kurtosis of the data. Skewness measure the degree of asymmetry of the observations while Kurtosis is a measure of peakedness or flatness of the distribution of a series. The analyses show that all the variables of interest are normally distributed and satisfies the test of significance at 1% and 7% level of significance. This means that there is no outlier in the data that would impair the generalization from this study.

4.4. Correlation Analysis

Correlation analysis is a method of statistical evaluation used to study the strength of a relationship between two, numerically measured, continuous variables. It measures the strength and direction of the association between the dependent and independent variables of the study. Correlation in terms of strength can be weak, strong or moderate. Once the value is greater than or equal to (≥) 70%, the variables are said to be strongly correlated. If the value is less than or equals to (≤) 10%, the variables are said to be weakly correlated. But is the value is between 10% - 70%, the variables are moderately correlated. The direction could be negative or positive based on the signs of the correlation analysis. In examining the association among the variables, the study employed the Pearson correlation analysis and the summary of the results are presented in table 4.3 below.

Table 4.3: Correlation Analysis

	roa	envprod	envpoc	envrec	envresd
roa	1.0000				
envprod	0.0613	1.0000			
envpoc	0.0149	0.1083	1.0000		
envrec	-0.1151	0.0722	0.0548	1.0000	
envresd	-0.0201	0.0848	-0.0401	0.0954	1.0000

Table 4.3 above shows the strength and direction of association between each explanatory variable (ENVPROD, ENVPOC, ENVREC and ENVRESD) and the dependent variable (ROA). Finding from the Pearson correlation matrix in table 4.3 above, the correlation between the dependent and independent variables shows: Envprod 0.0613, Envpoc 0.0149, Envrec -0.1151, Envresd -0.0201. This indicates that the relationship between Envprod and ROA, Envpoc and ROA are positive and weakly associated. ROA and Envrec has negative and moderate relationship. While ROA and Envresd are negative and weakly correlated. In checking for multi-colinearity, we notice that no two explanatory variables were perfectly correlated. This means that there is no problem of multi-colinearity between the explanatory variables.

4.5. Regression Analysis and Interpretation of Results

In other to examine the effect of the independent variables ENVPROD, ENVPOC, ENVREC and ENVRESD on the dependent variable ROA Panel regression was used. The regression result was used to also test the formulated hypotheses, Due to the fact that panel data was collected, Fixed and Random Effect Regression was determined as shown in tables 4.4 and 4.5 below. While the result of Hausman test in table 4.6 will show which of the regression result to be interpreted.

Table 4.4: Fixed Effect Regression Result

		Number of obs =	80
Group variable: c_id		Number of groups =	9
R-sq: within	= 0.1626	Obs per group: min =	8
between	= 0.2252	avg =	8.9
overall	= 0.1040	max =	9
		F(4, 67) =	1.12
corr(u_i, Xb)	= -0.2409	Prob > F =	0.0355

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
envprod	.0110531	.0114876	0.96	0.039	-.0118762	.0339824
envpoc	.0210261	.0122263	1.72	0.090	-.0033777	.04543
envrec	-.0047681	.0119987	-0.40	0.692	-.0287176	.0191814
envresd	-.0054988	.0112452	-0.49	0.626	-.0279444	.0169468
_cons	.0272316	.0332876	0.82	0.416	-.0392107	.0936739

Table 4.5 Random Effect Regression Result

		Number of obs =	80
Group variable: c_id		Number of groups =	9
R-sq: within	= 0.1617	Obs per group: min =	8
between	= 0.2133	avg =	8.9
overall	= 0.1060	max =	9
		Wald chi2(4) =	3.67
corr(u_i, X)	= 0 (assumed)	Prob > chi2 =	0.0451

roa	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
envprod	.0101685	.0112752	0.90	0.067	-.0119306	.0322676
envpoc	.0173288	.011857	1.46	0.144	-.0059105	.0405681
envrec	-.0066513	.0117607	-0.57	0.572	-.0297019	.0163993
envresd	-.005049	.0110999	-0.45	0.649	-.0268044	.0167064
_cons	.0342808	.0392345	0.87	0.382	-.0426174	.1111789

TABLE 4.6: HAUSMAN TEST

```
chi2(4)  = (b-B)'[(V_b-V_B)^(-1)](b-B)
         =        1.87
Prob>chi2 =       0.7592
```

From the Hausman test in Table 4.6 above, the p-value is 0.759 which indicate that Random Effect Regression is preferred to Fixed Effect Regression. Thus the Random Effect regression on table 4.5 is interpreted and used in testing the four hypotheses formulated for the study.

The Random effect regression revealed F-Test (Wald chi2 (4)) of 3.67 and a p-value of 0.0451 which indicate that the model formulated for this study is valid at 5% significance level.

The R-squared test or coefficient of determination determines the extent to which the independent variables explained changes in the dependent variable. The overall R-squared in table 4.5 is 0.1060. This means that all the sustainability environmental disclosures jointly explain about 11% of the variation in return on assets of the listed oil and gas firms. Thus about (11%) of the Return on Assets of the sampled oil and firms in Nigeria can be attributable to sustainability environmental disclosures.

4.6. Test of Hypotheses

Hypothesis One

H_O: Pollution control disclosure has no significant effect on financial performance of oil and gas companies in Nigeria.

Environmental Pollution Control Disclosure (*ENVPOC*), based on the coefficient value of .0173288 and p-value of 0.144was found to have a positive and insignificant effect on our sampled quoted firm performance. This is because its p-value was more than 10% level of significance. This result therefore suggests that we should accept our null hypothesis which states that pollution control disclosure has no significant effect on financial performance of oil and gas companies in Nigeria. However, this influence is not statistically significant and so, should be ignored.

Hypothesis Two

H_O: Recycling disclosure has no significant effect on financial performance of oil and gas companies in Nigeria.

Environmental Recycling Disclosure (*ENVREC*), based on the coefficient value of -.0066513 and p-value of 0.57 was found to have a negative effect on our sampled quoted firm performance and this EFFECT was not statistically significant since its p-value was more than 10%. This result therefore suggests that we should accept our null hypothesis which states that Recycling disclosure has no significant effect on financial performance of oil and gas companies in Nigeria.

Hypothesis Three

Ho: Restoration disclosure has no significant effect on financial performance of oil and gas companies in Nigeria.

Environmental Restoration Disclosure (*ENVRESD*), based on the coefficient value of -0.005049 and p-value of 0.64, was found to have an insignificant negative effect on our sampled quoted firms. This effect is not statistically significant as its p-value is higher than 10% significance level. This result, therefore suggests that we should accept our null hypothesis which states that Restoration disclosure has insignificant effect on financial performance of oil and gas companies in Nigeria. However, this result is not statistically significant and therefore should not be used for any policy consideration.

4.7. Discussion of Findings

This study examined the effect sustainability environmental disclosure affect financial performance of oil and gas companies in Nigeria. Environmental protection disclosure, environmental pollution control disclosure, environmental recycling disclosure and environmental restoration disclosure were used as the explanatory variables while return on asset was used as the dependent variable. The independent variables used explain about 11% of changes in the dependent variable as shown by the R-squared value in the regression analysis.

The study validate stakeholder's theory which states that companies should manage the relationship with all the stakeholders. Effective management of these relationship through additional information disclosure in form of sustainability environmental disclosure has effect on the bottom line in as much as the effect is not significant for the environmental protection and pollution disclosure.

Environmental Recycling Disclosure (ENVRD) based on findings, the independent variable was found to have negative effect on the dependent variable, return on assets. This effect was insignificant. This finding therefore supports the findings of Ijeoma (2015) and negates the view of Bassey, Oba and Onyah (2013).

Environmental Restoration Disclosure (ENVRD) based on findings, the independent variable was found to affect the dependent variable (return on assets) negatively. This effect was statistically not significant. This finding therefore supports the findings of Onyali, Okafor and Egolum (2014) and negates the view of Okafor (2018).

5. SUMMARY OF THE FINDINGS, CONCLUSION, RECOMMENDATIONS

In this chapter, the researcher presents summary of the findings, conclusion, recommendations and suggestions for further studies.

5.1. Summary of the Findings:

The following are the summaries of the findings:

1. Pollution control disclosure has positive but insignificantly effect on financial performance of oil and gas companies in Nigeria.
2. Recycling disclosure has positive and not significantly affect financial performance of oil and gas companies in Nigeria.
3. Restoration disclosure has positive but not significantly affect financial performance of oil and gas companies in Nigeria.

5.2. Conclusion

From the empirical results, pollution control disclosures drive corporate performance of the quoted oil and gas companies in Nigeria though the effect was not significant. It shows that stakeholders value the additional information on sustainability environmental issues. While environmental recycling and restoration disclosure has negative effect on corporate performance of the quoted oil and gas companies in Nigeria. However, these effects are not statistically significant. This indicates that continuous environmental evaluation handled in an acceptable improves firms reputation, customers patronage and therefore improved income.

It can be concluded that environmental related disclosures influence firm's profitability and, that large firms significantly reports and discloses environmental related information, also that environmental friendly organization enjoys high level of corporate cooperativeness. Measuring performance and setting targets is a critical component for organizations to become more productive, more profitable, and more sustainable.

5.3. Recommendations.

Based on the finding of this study, the researcher recommends as follows:

1. Firm should focus more attention on making policies and more disclosure on pollution control activities. This is valued by stakeholders though the extent of pollution control disclosure is not yet enough for its effect to be significant
2. Firm should decrease environmental recycling disclosure for better environmental protection and also increase return on assets.
3. Firms to review their policies on environmental restoration and remediation. Implementation of greener technique i.e environmental restoration to enhance environment and increased firms' return on assets is not considered by stakeholders.

5.4. Contribution to knowledge

This dissertation has contributed to knowledge in so many ways:

Firstly, this work tends to be the first attempt to exclusively determine the effect of sustainability environmental disclosure on firms' return on assets using oil and gas companies in the downstream sector of Nigerian Stock Exchange.

Secondly, the result of this study provided empirical evidence that sustainability environmental disclosure of firms affect the return on assets of quoted oil and gas companies in Nigeria.

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