

**ENVIRONMENTAL DISCLOSURE PRACTICES AND
SUSTAINABLE PERFORMANCE IN THE OIL AND GAS SECTOR
IN NIGERIA**

BY

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DECLARATION

I hereby declare that this project is based on a study undertaken by me in the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin City, under the thorough supervision of Dr. (Mr.) Emoarehi Eriki. This work has not been previously submitted for the award of degree elsewhere. All ideas and views are products of my personal research and where the views of others have been expressed, they have been duly acknowledged.

Judith Oveneri

CERTIFICATION

We, the undersigned, certify that this research work was conducted by **Judith OVENSERI** and it is adequate in scope and quality in partial fulfillment of the requirement for the award of Bachelor of Science (B.Sc) Degree in Accounting of University of Benin, Benin City.

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DEDICATION

This project is dedicated to God Almighty for the strength and courage given to me throughout the period of my study.

ACKNOWLEDGEMENTS

I thank the God Almighty who made it possible for me to successfully complete this programme and the project work. My sincere appreciation goes to my project supervisor, Dr. (Mrs.) Emoarehi Eriki, my Head of Department, Dr. Osasu Obaretin and a very special thanks goes to Dr. Samuel Umanah, a mentor and a father who contributed immensely to the success of this project and the programme at large, God bless you Sir.

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ABSTRACT

The study examined the impacts of environmental disclosures practices and sustainable performance in the oil and gas sector in Nigeria. Secondary data was retrieved from the corporate annual reports of the sampled companies. Descriptive statistics, ordinary least square analysis, endogeneity test, fixed and random effect estimation, Hausman tests were all carried out. Regression tests such as normality, multicollinearity, heteroscedasticity and serial correlation were also carried out. The study revealed that profitability exerted a positive and statistically significant impact on environmental disclosure, leverage exerted a negative impact but statistically significant, company size has no significant impact. There is a significant moderating effect of foreign domestic ownership ratio on the relationship between firm size, leverage, financial performance and environmental disclosure. We therefore recommend that firms doing well financially should pay more attention to environmental reporting, firms irrespective of their leverage level should improve their environmental performance; both small and big firms should improve their environmental performance and that, the presence of more foreign-domestic ownership will lead to more robust disclosures of environmental issues.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The environment is a vital concern in today's ecological, social and economic set up and environmental accounting/disclosure has emerged extensively in response to these issues, such as gas flaring, greenhouse warming effects, water pollution and other negative environmental impacts. Corporate activities are increasingly becoming a key threat to the environment and this has gotten to a point where a lot of attention is now been directed to the roles of corporations and the initiatives put in place to tackle the growing environmental challenges. In recent past, the concern for the environment has evolved gradually and it's now a mainstream issue. Some scholars have opined that the environmental threat is being faced globally is coming as an opportunity cost to economic growth (Burgwal & Vieira, 2021). There have been various initiatives and frameworks put in place to address environmental challenges at a global level, the accounting profession on one end of the spectrum has evolved as a disclosing approach that can make companies responsible for the environment in which they operate in (Adler & Milne, 2020).

Consequently, an aspect of accounting referred to as environmental accounting and disclosure has now emerge in order to capture the link between corporate entities and the environment.

Leontief (2019), sees environmental disclosures as consisting of information in relation with companies operations, aspirations and public image in its community. Though a precise definition, it fails to specify whether the information should be economic or non-economic. Most importantly however, environmental reporting intends to communicate the socio-economic effects of organizations' activities on society and the environment (gray & Bebbington, 2019).

In the views of Howes (2019), environmental accounting has concerns with the identification, measurement and even the monetization of information that is of environmental concerns and disclosure such so as to achieve the broad goals of the organization incorporating both environmental accounting is interested in linking both environmental and financial performance.

In social and environmental reporting companies are expected to disclosure not only financial information but nonfinancial information regarding the effects of their operations on the immediate community as well looking from a broader perspective that includes both corporate social and environmental information.

The aim of social disclosure is to communicate to stakeholders what is being done to the environment. This can determine a firm's relationship with stakeholders. With the threat of investors moving from fossil to green investments, environmental disclosure helps to attract foreign investments (Nikoleava & Bicho, 2018). All these have the advantage of assisting firms in defining their responsibilities to the community and assist management in doing proper environmental impact assessment. Notwithstanding, environmental disclosure faces major challenges like the lack of internationally acceptable or recognized reporting standard and guidelines. This coupled with the shortage of environmental experts and professionals makes it very expensive to report on environmental issues (Nikoleava & Bicho, 2018).

Following a global trend, corporations are now paying attention to environmental disclosures (Hackston & Milne, 2018). However, one key issue is that environmental disclose is a rather voluntary activity and it implies that companies are not compulsorily required to make environmental disclosures. This has created a scenario where environmental disclosure practices have evolved in a very much unstandardized context though several global institutions such as

the Global Reporting Institute (GRI) amongst others which are not necessarily accounting standard setters have tried to provide leads as to what companies should report. As earlier noted, these suggestions are not binding companies may decide to follow or not these standards depending on their motives.

According to Umanah (2024), environmental accounting developed in 1970s and was adopted widely in 1980s developed by multinational companies as a tool to ensure compliance with local and national environmental laws and regulations and with corporate policies at multiple facilities. Pioneer among them were petroleum, chemical and petrochemicals, mining, mineral processing and large management industries in response to increasingly stringent environmental legislations in North America and to a lesser extent, in UK and Europe. It is gaining grounds gradually in developing countries.

Therefore, firms exert control over the quality and quantity of the environmental disclosures they engage in. Investigating the factors that drive environmental reporting of firms has been a huge area of interest for accounting researchers given that such actions are voluntary particularly in developing countries though this is not the case for developed market due to the strong institutional frameworks that ensure that even though accounting standards in this area are not lucid and adequate, institutional pressures are sufficient to ensure compliance (Adam, 2020). Consequently, looking at firms attributes have been one of the perspectives to investigating the factors affecting environmental disclosures. The reason is that firm's actions are driven fundamentally for their benefit and because again significant variations exist for firms attributes such as firm size, profitability and leverage amongst others, there are bound to be variations in the manner in which they will respond to the need for environmental disclosures (Ahmed & Nicholls, 2018). Political cost theory, for example have showed the larger firms will want to

engage in environmental disclosures owing to their visibility, also agency cost have shown that firms that are highly levered have the need to reduce agency cost between lenders and management can necessitate more disclosures. The study therefore examines the impact of corporate attributes on environmental disclosures and with particular focus on the impact of leverage, financial performance and firm size. The study also examines the moderating role of ownership structure (foreign-national) in the relationship between this identified attributes and environmental disclosures.

1.2 Statement of the Problem

The relationship between firm size and environmental disclosures has been mixed. It is almost the case that is generally accepted, bigger firms will want to disclose more environmental information than what smaller firms will want to disclose. Previous works in this area, have examined how the size of the firm can affect the level of environmental disclosure (Adams 2020, Artiach et al 2018, Nazari et al 2018 & Skouloudis et al 2017) and the findings have been inconclusive. Also for leverage, particularly, high leverage firms are disposed to disclosing much to show that they are willing and able to meet obligations but the findings form literature was not conclusive (Naser et al 2016).

Similarly, the impact of profitability could be a very crucial factor that can influence environmental disclosure of firms (Mohammed & Tamoi 2018). Studies have revealed that when firms become profitable, they are better equip to bear the costs that comes with environmental reporting and to also handle the outcomes that could follow when a firm reports environmental information that is not beneficial to the firm (Mohammed & Tamoi 2018). Nevertheless, the available studies investigating this issues have come out with mixed findings. Some studies

(Artiach 2018, Nasar 2016 and Setyorini & Ishak 2017) revealed that a positive relationship, exist, while others (Skouloudis et al 2017) did not find such a relationship.

Unlike prior studies, this study moves further by adopting a moderating approach in estimating the impact of leverage, firm size and financial performance on environmental disclosure. The justification for this approach is largely because in most developing and emerging market attracting foreign investment, firms can be influenced by foreign practices. Expectations of foreign investors may be different from domestic investors. (Parsa & Kouhy 2021) outlined that current trends of environmental practice in Asia have been much affected by the coming of western style foreign management practices which is dominating Chinese firms. Therefore, the nature of ownership especially the foreign domestic ownership ratio can affect the relationship between the firm's attributes and environmental disclosure. Foreign investors compared to domestic investors may have varying values and orientation due to their exposure and the regulatory requirements in their home country and this can moderate the relationship between firm size, leverage, profitability and environmental disclosure. The skewness of oil and gas companies in Nigeria towards foreign participation makes the incorporation of ownership nature as a moderating factor necessary.

1.3 Objectives of the study

The study will focus on the factors affecting environmental disclosures on oil and gas companies. The specific objectives are to;

1. examine the effect of firm size on sustainable performances
2. Determine the effect of firm leverage on sustainable performances
3. Ascertain the effect of financial performance on sustainable performances

4. Identify the moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, financial and sustainable performances.

1.4 Research Questions

The study will provide answers to the following research questions:

1. What is the effect of firm size on sustainable performances?
2. What is the impact of firm leverage on sustainable performances?
3. How does financial performance influence sustainable performances?
4. What is the moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, financial performance and sustainable performances?

1.5 Research Hypotheses

1. Ho₁: Company size has no significant impact on sustainable performances of in quoted oil and gas companies in Nigeria.
2. Ho₂: Leverage has no significant impact on sustainable performances in quoted oil and gas companies in Nigeria.
3. Ho₃: Profitability has no significant impact on sustainable performances in quoted oil and gas companies in Nigeria.
4. Ho₄: There is no significant moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, financial performance and environmental disclosures.

1.6 Scope of the Study

The focus of the study is on the determination of environmental disclosures in Nigeria oil and gas sector. The study will utilize a sample of quoted oil and gas companies for the period 2014-2023 in Nigeria. The choice of 2014 as the base year was simply a matter of interest to the

researcher as 2023 appeared recent, twelve companies in the oil and gas sector are considered for this study.

1.7 Significance of Study

The environment brings about pressing concern in today's ecological, social and economic set up and environmental accounting and reporting has emerged during the last two decades in response to those negative impacts such as pollution, greenhouse gas emissions, spillage arising from the operations of oil and gas companies. Industrial activity has a large impact on the environment and this has led to stakeholder interest in corporate environmental activities and its impact. Accordingly, there is an overall dissatisfaction with the mechanism of conventional accounting and its practices, the application of which results in unfavourable broader social and environmental consequences. There is the need for more emphasis on the urgency for a more robust and expanded financial disclosure model to incorporate environmental information.

The study will be useful to government and other regulatory agencies in the formulation of policies to foster environmental disclosures in Nigeria as most companies are not committed to their environmental obligation. Environmental disclosure needs to state reliable information. In order to ensure reliability of environmental reporting, it must be free from errors and omissions. Organizations must provide environmental disclosures that is accurate, includes substantial contents that reflect environmental burden of the organization. Furthermore, this study will benefit investors in that adequate environmental disclosure of information will assist investors in calculating the risk, return and value of each potential and actual investment asset; thus for investors to assess how company risk and return makes a marginal contribution to risk and return of the portfolio (Clarkson, 2017). Also, financial institutions constitute the provider of

capital to other sectors of an economy, which by their nature are exposed to risk arising from companies whose operations they choose to finance, thus this study will help financial institutions in using sustainability disclosure as a tool for corporate transparency that comprises of a company's financial and non-financial performance (Michail, 2017).

The study will also be useful to other researchers who are interested in conducting further research in this area. The study will provide a good background for other researchers. For managers, the study will help them to examine how stakeholders view their environmental disclosing practices. In addition, this study will help the public to recognize the impact on the environment of business decisions by the operating companies (Pattern, 2018).

1.8 Limitation to the Study

The study found it difficult to have an analysed data for the work therefore data will be selected from the content analysis of the financial statements of various companies in the oil and gas sector.

Some will be for the complete nine (9) years while some will not. Paucity of data however, became an impediment to the study.

Besides, time and funds were also limited which affected the volume of this study. However, the content of this study has not been affected by way of distortion.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter examines the conceptual framework, theoretical framework and the review of prior studies.

2.1.1 Conceptual Review

2.1.2 Environmental Accounting

Environmental accounting is an innovative sustainability initiative that has been defined by Patten and Trumpeter (2018) as that aspect of accounting which makes use of environmental accounting systems to capture the environmental impacts of firm's activities. It is an accounting system that supports financial accounting and managerial accounting.

In the views of Howes (2019) environmental accounting is defined as the process of providing and analyzing information that is related to the environment and the goal in this case is to monetized environmentally related information to improve corporate environmental and financial performance. In the opinion of Howes (2002) environmental accounting provides a basis for observing financial performance side by side environmental performance. Environmental accounting is linked to the activities of businesses especially in the area of trying to put in place sustainable business goals that can help to protect the God given resources for the sake of generations to come. The International Federation of Accountants (IFAC) in 1998 defined environmental accounting as the way a company decides to manage the environment and their business activities by putting in place the right accounting systems that tend to also capture environmental concerns. In other words, the accounting system should not just focus only on the financial aspect but must also incorporate the environmental aspect. United Nations Expert

Working Group (2000) gave a perspective that also supports that IFAC, 1998 as they noted that environmental accounting has to do with both identifying and collating information that relates to the environment such as energy, water and materials and even waste with the intent of seeing how all of these fits into the wider corporate goal.

In context of this paper, environmental accounting is outlined holistically in three aspects as: firstly, global environmental accounting approach that deals with the areas which includes energetic, ecology and economics globally. Secondly, the aspect of national environmental accounting approach that deals with economics on a country's level (the flow of raw materials such as water energy, minerals wood, etc) from the environment to the economy, the exchanges of these material returns to waste and pollutants to the environment; thirdly, corporate environmental accounting which focuses on the cost structure and environmental performance of a company.

2.1.3 Environmental Disclosures

Gray, Babbington 2019) outlined that environmental disclosures by companies is essentially about the practice whereby companies communicate their environmental activities to stakeholders. In this case, their environmental activities are basically about how their actions are affecting and being affected by the environment. Companies in the process doing this can in some way affect how the public views them. Although Deegan and Rankin (1999) were quite critical of such communication as they opined that it boils down to conscious attempts by the companies to project their image and satisfy their need for public validations.

Hackson and Milne (2018) in his view argued that nowadays companies are using environmental disclosures as one way of reaching out to stakeholder and the goal here is to direct how people view the firm and build their image. Deegan (2018) did not actually see

environmental reporting as a core accounting function but simply as a way for firms to build public relations to maintain the public goodwill. Gray et al (2021) also supported the views of Deegan (2018) as they argued that businesses use their environmental reports to deliberately construct themselves and their relationships with others as they strive to create and maintain the conditions for their continued profitability and growth. They noted that environmental disclosures by companies provides a channel for firms to be perceived as working for the good of society and hence to gain societal goodwill for their continued operations.

Canadian Institute of Chartered Accountants (1993) noted that environmental disclosure is simply a broad term indicating how organisations communicate to stakeholders about their environmental activities. They also focused on what the goal of environmental disclosures is and that is basically to provide information and data were available regarding the effect on the environment of the company's activities and how this affect the profitability of the company. It is noted however, that these information should be meaningful to those receiving it. Moreover, environmental disclosure can be thought of as an accounting system that is concerned with providing information on things like the cost of environmental liabilities and other cost related to the environment that are materially significant.

Ranagnathan and Ditz (2016) outlined that those having interest in the company indeed require environmental information in such a manner that they can relate it with the financial aspect which will help in making informed decisions about the company. Though already there is the view the environmental accounting is coming to meet the need for a stakeholders to understand the company's activities especially those that have direct stakes in the financial outcomes of the firm. However, going farther than that environmental disclosure would promote sound management both in economic and financial terms as it relates to environmental issues. In

addition, the incorporation of environmental disclosure would improve environmental performance of companies owing to the culture of accountability that it instills.

2.1.4 Environmental Disclosure Principles

Environmental disclosure is done as an instrument for correspondence from the point of view of social responsibility. The accompanying five standards are fundamental keeping in mind the end goal to make environmental disclosure a powerful instrument for communication and satisfying social responsibility. Environmental disclosure which does not meet with these standards is deficient. Leontif (2019) sees the standards as follows:

- (i) **Relevance:** Environmental disclosure needs to give data which is valuable to interested individuals in making decisions by revealing the condition of the environmental weights caused by the business exercises and the environmental projects that moderate the weights.
- (ii) **Reliability:** Environmental disclosure needs to state reliable information with a specific end goal to guarantee unwavering quality of environmental disclosure, it must be free from errors. Companies must give environmental information that is precise, incorporates considerable substance that reflect the environmental burdens the company has incurred and not give information that convey a feeling that the reporting entity is aiming to misdirect the users of such information.
- (iii) **Lucidity:** Environmental disclosure needs to give vital data clear and straightforward articulations to keep away from errors among invested individuals.
- (iv) **Comparability:** Data incorporated into environmental disclosures should be comparable between various reporting times of the company. Indeed, even among various companies data that empowers certain comparisons ought to be given and

(v) **Certainty:** Data in environmental reports should be done in such a way that the information is verifiable.

Solomon and Darby (2015) see that the principle environmental issues in financial disclosure are as follows: environmental costs, regardless of whether to cost or expense, classification of environmental cost, disclosure on points of interest and/or breakdowns about natural costs, treatment of condition related to monetary effects on resources, treatment of liabilities and unexpected liabilities and how to perceive these, estimation of liabilities and unexpected liabilities, environmental reserves, provisions and charges to income, effect of accounting rules on corporate conduct and environment information to be disclose in greater details.

2.1.5 Environmental Accounting Research and Content Analysis

The early studies in this area of environmental disclosure included those of the Ernst and Ernst studies (1972-1978), Hogner (1982) and the much talked about Wiseman study (1982). As the interest and awareness of environmental issues grew coupled with rising stakeholder pressures, corporate reports began to reflect environmental disclosures (Campbell et al, 2004) and this led to scholars trying to attempt more robust studies in this area especially with regards to reflecting environmental data (Campbell et al. 2004, Patten & Crampton 2018). As the attention in this area widened, the idea of content analysis began to evolve as a way to examine environmental data. Very many accounting researchers have used content analysis as an approach in their studies to extract environmental data information. Broadly, studies in this area, identify two broad approaches to content analysis; mechanistic and interpretative. Mechanistic methods appear to identify and measure a close medium assumed to convey meaning and reporting intent. Typically, these studies are form oriented, which entails that the goal here is on

volumetric or frequency capture and semiotic assumptions tend to be applied. Form orientated content analysis entails regular counting of words or concrete references whilst meaning orientated analysis focuses on the underlying themes in the texts under investigation.

Hence, meaning orientation appears to have a stronger interpretative element than in the mechanistic assumptions of form orientation. Mechanistic studies identify disclosure volumes and/or frequencies, and help to draw associations between several variables that might impact on disclosure behaviour. Typical mechanistic data capture is by counting number of words Campbell (2004) and number of sentences and frequency of disclosure. In most cases, the semiotic assumption applies in that “the magnitude of disclosure indicated the relative importance accorded such disclosures, Inerman et al. (2019). Conversely, interpretative analysis basically focuses on the goal to capture meaning by breaking down narrative into its core parts and then explaining the details of each if the broken down parts. The goal here of interpretative studies is to have better insight regarding what is been said in those reports and how it is being said. Hence the focus largely here is with the quality, richness or qualitative nature of the narrative. Methods therefore tend towards interpretation of text rather than attempting to record the mechanics of its conveyance. Studies typically seek to understand how meaning is understood and the impacts of the narratives on those using such information (Unerman, et al. 2019).

2.1.6 Determinants of Environmental Disclosures

There is a huge number of studies on variables that can determine whether firms disclose on the environment or not (Howes, 2019, Leontief, 2019 & Michail, 2017). In this respect, many of the studies in this area, focused on external attributes of the firm (Mohammed & Tamoi, 2018)

by looking at the effect of factors such as the firm size, financial leverage, financial performance amongst others.

(i) **Firm Size**

It is almost the case that generally we tend to believe that bigger firms will want to disclose more environmental information than what smaller firms will want to do. This is because big firms are more noticeable by the public and hence it is often more beneficial for them to do what is expected (Wang, Song & Yao, 2016). It is the case that bigger companies may be more inclined to be environmentally responsive than smaller ones because in most cases they have a higher stake and a more broad spectrum of stakeholders (Patten, 2020). Again, there is the view that bigger companies tend to be very visible even to regulatory bodies and hence come under scrutiny easily. Previous works in this area, have examined how the firm size can influence environmental disclosure (Adams 2020, Artiach et al. 2020). In these studies, the legitimacy theory is often used and the perception is that bigger firms are more visible and hence need to maintain their legitimacy, they also have more resources and have reduced cost of reporting (Adler & milne, 2020). Therefore, there is a broad expectation that bigger firms will disclose more environmental issues allowing to the need to maintain their legitimacy with society and stakeholders (Adams 2020 & Patten, 2020).

Again, larger firms may also have a greater obligation to let stakeholders know about whatever investments they are making with regards to the environment, Adam (2020) & Wang et al. (2016) have all shown in their studies that the firm size has a strong effect on environmental disclosures. Firm size can be considered to impact positively on environmental disclosures because the damage on their reputation and stakeholder relations will be higher for such firms than for smaller firms and also they also tend to face more pressures in this regards. Finally,

looking at marginal cost implications of reporting, it will be lower for bigger firms than small companies.

(ii) **Leverage**

Leaders are part of the groups having stakes in a company owing to the risk they face if companies do not fulfill their obligations to repay their debts. Companies are much concerned about this class of stakeholders and as such would do whatever is deemed necessary to allay their worries and address their interest (Artiach, et al. 2018). Therefore, in the bid to manage these classes of stakeholders companies have been known to disclose more information in a bid to become more transparent. Particularly, high leverage firms are disposed to disclosing much to show that they are willing and able to meet obligations (Nasar, 2016). As it is already known, high level of debts can affect the ability of the firm to carry on the cost associated with environmental disclosures and thus also such firms may not be able to handle the damages that may result when information is disclosed that is not to their benefit. Again, there is the view, that firms using more debts are also exposed to management and shareholder crisis or agency costs. To be able to deal with these, the line of action for firms with high leverage is to disclosure more voluntarily. However, Hackston and Milne (2018) also notes that environmental reporting can be a way for highly levered firms to gain some level of trust and confidence from their creditors and indeed stakeholders at large and therefore, the firm leverage can serve as motivation for disclosure.

Examining the key points of the legitimacy theory, it can be inferred that companies may make disclosures with the aim in mind to inform stakeholders with particular attention on environmental impacts. The expectation may be that firms that are highly levered do not disclose any information regarding their impacts on the environment and their responsibility to disclosure

may face a threat. Although the findings from studies on how leverage affects environmental disclosures provides contradictory results.

(iii) **Firm Performance**

The profitability of a firm could be a very crucial factor that can influence environmental disclosure of the firm. The basis for this is that companies that are profitable may feel the need to report on the environment to improve relationship with stakeholders. Studies have revealed that when firms become profitable, it makes able to bear the costs of that comes with environmental disclosure and to also handle the outcomes that could follow when a firm reports environmental information that is not to the benefit of the firm (Clarkson et al, 2017 & Howes, 2019). Nevertheless, the available studies investigating this issue have come out with mixed findings. Some studies (Ahmed & Nicholls, 2018; Artiach et al, 2018; Leontief, 2019 & Nasar et al, 2016). A positive relationship exist while others (Burgwal & Vieira, 2021; Nikolaeva & Bicho, 2018) did not find such a relationship.

(iv) **Foreign-Domestic Ownership Structure**

The firm ownership structure particularly in relation to the foreign-domestic ownership ratio is looked at in this study as a moderating factor in environmental disclosure. Foreign investors are likely to have different values and knowledge due to their foreign exposure and the regulatory requirements in their home country when compared to domestic investors. Companies that have their businesses abroad especially in developed markets face more intense environmental regulation and hence in such environments there is a high attention to environmental matters leading to more robust disclosures of environmental issues. In companies where there is a high foreign ownership concentration, there is improved attention to voluntary environmental disclosures (Leontief, 2019). Deegan (2018) found the influence of foreign

ownership on firms disclosure of environmental disclosures is observed for companies in Yemen. Greater foreign ownership ratio compared to domestic ownership suggests that in such companies the foreign ownership presence will influence the practices of such firms. It is being identified that when a company has high foreign ownership, there will be more pressure on management to be environmentally responsive and hence engage in reporting. Foreign owners are also more knowledgeable and aware of the need for companies to be more socially responsive in the broader community, and thus may have to align with mimetic pressures through environmental disclosures similar to those in multinational firms. Deegan (2018) outlined that current trends of environmental practice in Asia have been largely influenced by the coming of Western-style foreign management practices which is dominating Chinese firms. Therefore, pattern of ownership especially the foreign-domestic ownership ratio can affect the relationship between the firm's attributes and environmental reporting.

Ownership structure in the views of Deegan (2018) is the contribution of residual claims and control that have consequences on firm behaviour. In general terms ownership structure looks at the interest of shareholders in a company. This is dictated by the number of interest a board member or shareholder has which, may determine his/her influence and control over the business. Jensen and Meckling (1976) were of the opinion that ownership as the distribution of equity to determine voting rights, capital invested and investors identity. Different types of ownership could be identified with certain factors used as benchmark. Relational and transactional ownerships view the concept from citizenship perspective by emphasizing on domestic and foreign investment.

Management, concentrated and institutional ownership are classified on managerial basis. Management ownership is based on ownership interest in the business. Concentrated ownership

vested control in the hands of large shareholders, while institutional ownership depicts ownership by institutions. This type of ownership showed the degree of efficiency, effectiveness and financial manipulation by owners. It should be noted that higher level of ownership concentration suggests stronger minority power (Hackson & Milne, 2018).

In Nigeria though different types of foreign-domestic ownership exists, it is much better to distinguish between indigenous (domestic or local) and foreign ownership structures. The government in recent times have opened the economy and have tried as much as possible to attract foreign capital. In some exclusive sectors like natural gas, local investors lack the capital base to finance investment in such projects, foreign direct investment therefore offers the best option. In the views of Connelly and Limpaphayom (2002), dominant forms of ownership, distinguishes between inside ownership and outside ownership. Inside ownership is a situation in which interest holders to the business like managers and shareholders are in control of the organisation. The advantage of this system is that it motivates the making of decisions that are consistent with owner's interest. Members of inside ownership include executives, board members, employees, block holders, agent owners and private equity holders. The other type of ownership called outside ownership deals with equity holders outside the organisation. This type of ownership helps greatly in monitoring more carefully the actions of managers. In extending the control approach block holders, agent owners and private equity holders operate from outside. Ownership structure also has great impact on owners influence (Connelly & Limpaphayom, 2022).

Michail (2017) conducts a study investigating the influence of firm-specific characteristics and sustainability reporting (firm size, profitability, debt ratio, liquidity and audit firm size) on voluntary disclosure level of rural banks in Nigeria, this was done through detailed

analysis of the disclosures of the financial statements of the rural banks. Descriptive analysis was conducted to give the background statistics of the variables examined, after which, the regression analysis was done which forms the main data analysis. From the findings, profitability is significantly related to the disclosure level, whilst liquidity, debt equity ratio, firm size and audit firm size were not.

Owners outside the organisation may dispose of their share if management's decision did not favour them. In the previous years, the US and UK shareholders have applied sophisticated tactics than share disposal. Pressure of business restructuring, activism and buy-and-hold strategy are just some of the modern influence that owners can exert on management (Connelly & Limpaphayom, 2022).

2.1.6 IFRS, IAS and Environmental Disclosures

There are some existing standards and interpretations that have some links to environmental issues whether directly or indirectly. The following IFRS and IAS relate to environmental issues: the relevant standards are discussed below. Paragraph 11 of IFRS 6 states the following: in accordance with IAS 37 Provisions, contingent liabilities and contingent assets, an entity recognizes any obligations for removal and restoration that are incurred during a particular period as a consequence of having undertaken the exploration for and evaluation of mineral resources. IFRS 8 also requires firms to disclose their products, services and the geographical areas in which they are operating.

Paragraph 13 of IFRS 8 sets the quantitative thresholds of 10% of combined revenue. However, both paragraph 23 and paragraph 33 is silent about segment risks and rewards arising from engaging in environmentally sensitive activities in each of the geographical areas that the company is operating.

When IFRS 8 is examined in conjunction with IAS 27 (consolidation) and the above mentioned standards the implication for global companies operating in environmentally sensitive industries becomes serious (Choi & Meek, 2008). IAS 7 and IAS 39 (IFRS 9) respectively deal with presentation, disclosure, and recognition and measurement of financial instruments. Hedge accounting (cash flow hedge, fair value hedge and hedge of net investment in foreign operations: paragraph 86 and 87 of IAS 39) require that gains and losses, and effective and non-effective hedges be reported in the comprehensive statement of income. Given the rise of carbon related financial instruments, and increases in pending lawsuits against companies the combined impacts of IAS 27, IAS 37, IFRS 6, IFRIC 5, IAS 8 and standards that deal with derivative instruments is to strengthen the stakeholder theory and the political costs for global companies that are operating in environmentally sensitive industries.

2.2 REVIEW OF EMPIRICAL STUDIES

Okafor et al (2022) carried out a study to ascertain the determinants of environmental disclosure of quoted Oil and Gas firms in Nigeria for a period of thirteen (13) years spanning from 2008 to 2020. Specifically, this study ascertained the relationship between Leverage, Firm Size and Audit Committee Size and Effluent Disclosure. Panel data were used in this study, which were obtained from the annual reports and accounts of eleven (11) sampled quoted Oil and Gas firms for the periods 2008-2020. Ex-post facto research design was employed. Descriptive statistics of the dataset from the sampled firms were used to describe using the mean, standard deviation, minimum and maximum values of the data for the study variables. Inferential statistics using Pearson correlation coefficient, Multicollinearity test, Panel Least Square (PLS) regression analysis and Hausman test were applied to test the hypotheses of the study. The results of the tested hypotheses revealed that there is a significant and positive relationship

between Leverage and Effluent Disposal of quoted Oil and Gas firms in Nigeria at 5% level of significance ($\beta_1 = 0.546845$; P-value = $0.0000 < 0.05$); there is a significant but negative relationship between Firm Size and Effluent Disposal of quoted Oil and Gas firms in Nigeria at 5% level of significance ($\beta_2 = -0.030633$; P-value = $0.0026 < 0.05$); there is a significant and positive relationship between Audit Committee Size and Effluent Disposal of quoted Oil and Gas firms in Nigeria at 5% level of significance ($\beta_3 = 0.08007$; P-value = $0.0000 < 0.05$). The study recommended amongst others that oil and gas firms should be encouraged to leverage on debt source of fund in order to build wealth with other people's money so as to enable the firms get more involved in environmental development.

Egbunike and Tarilaye (2022) investigated the determinants of environmental disclosures of listed manufacturing firms in Nigeria. The data for the study was gotten from a sample of 22 listed firms in the industrial sector. The companies were randomly selected based on the availability of annual reports for the period 2019-2021. Ex post facto research design was adopted for the study and multiple regression was used in analyzing the data obtained. Descriptive and inferential statistics were used to generalize the results and conclude the findings. The study showed that an increase in the profitability of manufacturing firms will lead to a 1.8% increase in the environmental disclosure of the company. The study also revealed that board composition influences about 13% of the variation in the environmental disclosure of manufacturing firms in Nigeria and also on the other hand auditor type contributes only 5.6% of the changes in the environmental disclosure of the manufacturing firms in Nigeria. The study concluded that profitability, auditor type, board composition and firm size jointly influences the environmental disclosure of manufacturing firms in Nigeria. The study recommended that the

regulatory bodies should initiate policies that will make the disclosure of environmental information compulsory in Nigeria.

Udo (2022) examined the relationship of specific oil and gas firms attributes; firms age, board composition, financial performance, existence of foreign directors on the board and financial leverage with Environmental Disclosures (ED). Data were collected from the published annual reports of nine listed oil and gas firms quoted on the floor of the Nigerian Stock Exchange (NSE) as at 2018, for a period of seven years (2012-2018). Generalised Least Square (GLS) was used to test the hypotheses. The study established a positive and significant relationship between board composition, financial leverage, existence of foreign directors on the board and environmental disclosure (ED). Also, firm age and financial performance was found not to have significant relationship with environmental disclosure (ED).

Ndukwe and John (2022) determined the determinants of environmental disclosures on performance in Nigeria 15 oil and gas companies. Performance indicators are firm size, profit, leverage and audit firm type on environmental disclosures. The cross-sectional research design was utilised in undertaking the study spanned 2014-2020 while binary regression technique was used as the data analysis method. Outcome shows that there is a significant correlation among company size and environmental disclosures. Also, there is no significant correlation among profit and corporate social responsibility disclosures. Furthermore, there is no significant correlation among leverage and corporate environmental disclosures. Finally, there is no significant relationship between audit firm type and corporate environmental disclosures.

Oshiole, Elamah and Amahalu (2021) investigated the relationship between environmental accounting and profitability of selected quoted oil and gas companies in Nigeria from 2012-2017. The study specifically examined the relationship between environmental

expenditure and net profit of quoted oil and gas companies in Nigeria. Explanatory, historical and correlational design was adopted for the study while secondary data was utilised for the study. Data were gathered from annual reports and accounts of the companies available on their websites and from Nigerian Stock Exchange. The annual reports includes, annual financial statements; annual sustainability reports as well as Annual Reports of global tax payment to nations by the quoted oil firms, annual returns submitted at Nigerian Stock Exchange for the years under study. Regression was used for data analysis and testing of the hypothesis. The study showed that there was no significant relationship between environmental expenditure and net profit of the oil and gas companies in Nigeria under study. The study recommended that amongst others that the management of the oil and gas companies should channel efforts towards engaging in adequate environmental spending and its disclosure as way of increasing stakeholders trust and showing more transparency in their operations which could in turn lead to achieving better financial performance seen in terms of its profitability.

Handoyo and Angela (2021) examined the relationship between a firm's characteristics and environmental disclosure quality. Firm's characteristics used in the study were size, ownership concentration, age, and leverage. Content analysis of sustainability reporting was applied in this study. The study involved 33 listed firms in Indonesia Stock Exchange (IDX) that were consistently issued sustainability reporting during 2014-2016; Simultaneous test indicated that characteristics of the firm significantly explained the variance of environmental disclosure quality, also partial test showed that leverage was the only variable significantly influenced by environmental disclosure quality.

Mohammed and Tanimu (2020) examined the determinants of environmental disclosure of oil and gas companies in Nigeria from 2009 to 2018 using panel multiple regression as a

technique for analysis. The study adopts ex-post facto research design and the population of the study comprises of 9 listed oil and gas companies in Nigeria as at 31st December, 2018. The determinants used in this study are firm age, firm size, managerial ownership and institutional ownership. The study found that firm age has negative significant relationship with environmental disclosure while firm size has positive significant relationship with environmental disclosure. However, managerial ownership has no significant relationship with environmental disclosure while institutional ownership has negative significant relationship with environmental disclosure. From the findings, the study concludes that increase in firm age will decrease environmental disclosure because firm age has negative determinant on environmental disclosure. Also, the study concludes that increase in firm size will increase environmental disclosure and managerial ownership has no significant determinant on environmental disclosure. Furthermore, increase in institutional ownership will decrease environmental disclosure. Based on the finding and conclusion, the study recommends that there is a need for corporate entities to improve their environmental responsibility practices and disclose comprehensively their environmental risks, liabilities and impact on the environment.

2.3 THEORETICAL REVIEW

2.3.1 Legitimacy Theory

In the context of the relations from organisation to society, the responsibilities of organisations and the social expectations of them are constantly being discovered, examined, defined and revised. Legitimacy theory provides a view that the link between an organisation and related social expectations is simply a fact of social life (Suchman 1995). This theory posits that the presence and operations of firms is ensured by market forces and community expectations, and hence an awareness of the broader concerns for society shown in community expectations

becomes an essential requirement for an organisation's survival (Suchman, 1995). The theory builds on the assumption that an organisation must maintain its social role by addressing the needs of society and giving society what it wants. This assumption has been received support from some early studies such as those of Shocker and Sethi (1974), Guthrie and Parker (1989) and Suchman (1995). Legitimacy is a position that is an outcome of the joint opinion of society as regards the organisation's operation. It is a social evaluation of corporate behavior that is considered acceptable, appropriate or/and desirable. Therefore, it is expected that firms will assume acceptable behaviour or at least to be seen in that manner with the intention that they are perceived to be good corporate citizens. Suchmana (1995) emphasises that legitimacy is a generalized view that the actions of an entity are desirable, proper or appropriate within some socially constructed systems of norms, values, beliefs and definitions. The basic principle of legitimacy theory is that the perception of the firm by the community is derived from how that organisation has acted in line or otherwise with socially determined expectations. Within the social and environmental accounting literature, legitimacy theory offers insights in describing and explaining the changing levels of environmental responsiveness by an organisation. According to Deegan (2002) corporate annual report disclosure is a means towards maintaining legitimacy and the greater the odds of unfavourable shifts in community expectations, the more will be the need to attempt to influence the process through corporate environmental and social responsibility and reporting.

Furthermore, legitimacy theory directly relies upon the concept of the social contract (Deegan 2002, Guthrie & Parker, 1989, Shocker & Sethi, 1974). According to Guthrie and Parker (1989) legitimacy theory itself is grounded in a belief that an organisation functions in society through a social contract such that it is given through approval to carry out various

socially desirable activities in return for endorsement of its rewards and ultimate survival. Basically, the social contract is taken to be an implied contract between an organization and the society, whereby the society gives consent for the organisation to operate in compliance with societal expectations about the conduct of the organisation. According to Dowling and Pfeffer (1975), there are three ways to legitimate a company's activities. The company adopts goals, values and operations which for one are unswerving. Again, it can utilize credible communications means to legitimize corporation's practices. Lastly, they stated that companies can use communication means known with symbols such as ISO 14000, ISO 9000 standards or values which have sturdy support for legitimacy. There upon, this theory affirms that; corporate responsibility reporting can also be utilised as a means by corporations to share information about their operations and activities to address the society expectations with the aim of maintaining its license to operate in the society.

2.3.2 Stakeholder Theory

Freeman and Reed (1983) described stakeholders as 'those groups who have an interest in the dealings of the corporation'. In a further study, Freeman (1984) revisited stakeholder theory and gave a new definition of stakeholders as any individual or group who has an interest in the firm because he/she can affect or is affected by the firm's activities. From this definition, it is understood that the meaning of stakeholders is very broad indeed, going beyond those that have purely formal or contractual ties to the organisation. Other authors subsequently writing on the subject have defined stakeholders similarly. Evan and Freeman (1988) have clarified the definition by stating that stakeholders are those groups having a stake in or a claim on the firm. They have specifically outlined stockholders, suppliers, employees, customers, the local community and management as the stakeholder groups of an organisation. Carroll (1993) opined

that a stakeholder is any individual or group who can affect or is affected by the actions, policies, decisions, practices or objectives of the organisation. Stakeholders can be acknowledged by the authenticity of their claims which is validated by a relationship of exchange between themselves and the organisation, and hence stakeholders include stockholders, managers, creditors, employees, suppliers, customers, local communities and the general public. Hill and Jones (1992) noted that the term stakeholder involve groups of constituents who have a legitimate claim on the firm. This legitimacy is established by the presence of an exchange relationship, that is, an identifiable contract can be shown to exist between two parties. Each of these groups can be seen as providing the firm with vital resources (contributions) and in exchange each expects its interests to be satisfied (by inducements). Some early studies (Clarkson 1995, Freeman, 1984) have also found it useful to differentiate stakeholders as either primary or secondary.

Clarkson (1995) argues that a primary stakeholder is one whose non-continued participation, puts an end to the corporation as a going concern and secondary stakeholders as those affecting and/or being affected by the organisation, but are not engaged in transactions with the organisation and are not necessary for its survival. According to Freeman (1984), primary stakeholders are those upon which the organisation depends for its continued existence (customers, shareholders, government and employees) and secondary stakeholders are those who have an interest in the organisation or the organisation's activities, though the organisation may not depend on these groups for its survival. The stakeholder theory suggests that stakeholders have intrinsic value in and of themselves and the company therefore has a responsibility to uphold their rights and serve their interests basically because they exist (Goodijk, 2003, Donaldson & Preston, 1995). Deegan and Jeffry (2006) emphasized on the normative perspective of the theory. The perspective beckons on managers to treat all stakeholders of the organisation

equally and does not consider the power of each stakeholder. According to Hasnas (1998) a firm is not a mechanism to boost the financial returns of stockholders but a medium of coordinating the interests of various stakeholders. Therefore, social and environmental information is disclosed to be liable to all stakeholders without considering the aspect of power of each stakeholder. Hasnas (1998) outlined that the managerial perspective of the theory focuses on the interests of limited number of stakeholders who have significant power to influence the organisation. Even Gray, Owen and Adams (1996) averred that companies can disclose social and environmental responsibility information to meet the expectations of powerful stakeholders and to show their accountability to them. Thus under this perspective, disclosure of social and environmental performance information is meant to address the expectations of powerful stakeholders rather than all the stakeholders of the firm.

Based on the above two theories outlined in the course of this study, stakeholders theory might be useful in explaining what organisations disclose but legitimacy theory is one of the most discussed theory to explain voluntary, social and environmental disclosures in cooperate communication in relation to companies seeking to gain, maintain or repair their legitimacy by using social and environmental disclosures (Hoogghiemstrat, 2000 & O'Donnovan, 2002). Legitimacy theory is more useful in this study due to the findings of Deegan & Rakin (1996) in their study report that a company will provide information to users of the accounts to justify or legitimize the company's continued operations within that society. The framework of legitimacy theory can aid in evaluating existing practices to obtain a better understanding of these practices and procedures. Also, legitimacy theory is achieved by demonstrating that companies activities are in concordant with social values, and more so these organisations are continually seeking to

ensure that they operate within the bounds and norms of their respective societies (Deegan, 2000).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter considers research design, population, sample and sampling technique, source of data, model specification, moderating model and method of data analysis.

3.2 Research Design

This study employs a longitudinal research design. A longitudinal design involves repeated observations of the same variables over long periods of time unlike the cross-sectional design which examines variables at a point in time. The key here is that longitudinal studies extend beyond a single moment in time. As a result, they can establish sequences of events.

3.3 Population

The population of a study is that group about whom we are able to draw conclusion. The population of the study comprises of all oil and gas companies quoted presently on the floor of the Nigerian Exchange Group (NGX). As at December 2022, there are about 12 companies quoted on the Nigerian Exchange Group (NGX).

3.4 Sample and Sampling Technique

The sample for the study is the entire oil and gas companies (they are twelve in numbers) quoted on the Nigerian Exchange Group (NGX) which have available and accessible annual reports that covers the study period. Hence, the sample approximates the population and thus no need for a sampling technique.

3.5 Sources of Data

Secondary data was used for this study. The data was retrieved from corporate annual reports of the sampled companies for 2014-2022 financial year. The research utilizes only

corporate annual reports because they are readily available, accessible and also provides a greater potential for comparability of results. Moreover, they are produced annually and kept in public sphere. In extracting the information on the qualitative disclosure, content analysis was employed by the researcher. Content analysis method is one of the used means of obtaining data from corporate annual reports (Milne & Adler, 1999). It enables data collected to be easily classified and compared (Uwuigbe, 2011).

In computing the data for qualitative disclosures from annual reports, the disclosure index is generated using the Cooks dichotomous method as cited in Haniffa and Cooke (2005). Under the Cooks method, if an item is disclosed, it is scored as 1, if not it is scored as 0 and items not applicable to every company is scored NA (not applicable). Each item is treated equally. The disclosure index for each company is calculated as the ratio of the total items disclosed to the maximum possible score applicable for that company. The formula is presented thus:

$$C_j = \frac{T = \sum_{i=1}^n d_i}{M = \sum_{i=1}^m d_i} \dots\dots\dots (1)$$

Where C_j is the total compliance score for each company and $0 \leq C_j \leq 1$. T is the total number of items disclosed (d_i) by company j where M is the maximum number of applicable disclosure items for company j that could have been disclosed.

3.6 Model Specification

The model for this study will examine the determinants of environmental disclosures in oil and gas companies. The models adapt the models of Egbunike and Tarilaye (2017) but go further to incorporate a moderating relationship. The models are presented below:

Without moderating model

$$ENVDIS_{it} = \partial_0 + \partial_1 PRF_{it} + \partial_2 LEV_{it} + \partial_3 FSIZE_{it} + \partial_4 BS_{it} + \mu_{it} \dots \dots \dots (i)$$

Moderating Model

$$ENVDIS_{it} = \partial_0 + \partial_1 PRF_{it} * F/D-OWN + \partial_2 LEV_{it} * F/D-OWN + \partial_3 FSIZE_{it} * F/D-OWN + \partial_4 BS_{it} + \mu_{it} \dots \dots \dots (ii)$$

Where:

- ENVDIS = Environmental disclosure index
- PRF = Profitability
- FSIZE = Firm size
- LEV = Leverage
- BS = Board size control variable
- F/D-OWN = Foreign Domestic Ownership ratio
- μ = Stochastic term
- i = number of sampled cross-sectional firms
- t = time period of the sampled companies 6

The apriori signs are $\partial_1 > 0$, $\partial_2 > 0$, $\partial_3 > 0$ and $\partial_4 > 0$

Variable Measurement

Variable	Description	Measurement	Apriori sign
Dependent Variable			
ENVDIS-index	Environmental disclosure index	Index computed using Cooks method on checklist	
Independent Variables			
FSIZE	Firm size	Log of total assets	+
LEV	Leverage	Debt-equity ratio	+

PROF	Profitability	Profit after tax	+
F/D-OWN	Foreign to domestic ownership ratio	Ownership % of foreigners/ownership % of nationals	+/-
BDSIZE	Board size	Number of individuals on the board	+

Source: Researcher's compilation (2024)

3.7 Method of Data Analysis

The data analysis methods deals with the various statistical analysis involved in the description of the collected data and consequently, making decisions and possible inferences about the phenomena represented by the data. In this study, the descriptive statistical methods include numerical techniques such as the means, standard deviation, range, frequency distribution. Thus, the main purpose of descriptive statistics is to reduce the whole collection of data to simpler and more understandable terms without distorting or losing much of the available information. Forth estimation of the models, employ the panel regression analysis which is more appropriate as it captures unobserved firm specific heterogeneity which the Ordinary Least Squares (OLS) Regression fails to reflect. In addition, the method produces more efficient degrees of freedom. In addition, endogeneity arising from omitted variable bias is also controlled for. The fixed and random effects estimation was conducted and the Hausman test was also conducted to show which estimation should be used. In addition, the relevant regression diagnostic tests such as normality, multicollinearity, heteroscedasticity and serial correlation was also conducted.

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter contains the presentation, analysis and interpretation of the data collected for this research work. Accordingly, it entails the application of both statistical and mathematical techniques to provide the basis for testing of the research hypothesis. Hence, it is an essential art of any research work, given that it forms the basis for conclusions and recommendation at the end of the research. The models specified in the preceding chapter are examined empirically. The preliminary analysis of data is first conducted (descriptive and correlation analysis) and thereafter the diagnostic tests are conducted. Finally, the multiple regression analysis is conducted. The results are presented and interpreted below.

4.2 Presentation and Analysis Of Results

Table 4.1: Descriptive Statistics of the Study Variables

	ENVD	ROA	LEV	FSIZE	F/D-OWNS
Mean	0.43357	4.198609	1.823034	7.211272	2.74956
Median	0.357143	3.462141	1.215395	7.077112	2.26031
Maximum	1	232.6198	43.0102	9.637756	3.175454
Minimum	0	-88.9854	0.256443	4.937655	0.31792
Std. Dev.	0.199556	13.40564	2.130501	0.909296	0.230858
Skewness	0.797486	4.536814	9.628676	0.0419118	2.289048
Kurtosis	2.982601	94.59274	156.8396	2.867026	13.18274
Jarque-Bera	104.5259	34.8040	98.75393	29.59318	51.2092
Probability	0.00	0.00	0.00	0.00	0.00

Source: Researcher’s Compilation (2024)

Where:

ENVD	=	Environmental Reporting
ROA	=	Return on Assets
LEV	=	Leverage
FSIZE	=	Firm Size
F/D-OWNS	=	Foreign-Domestic Ownership Structure

The descriptive statistics of the data is presented in Table 4.1 above. As observed, ENVD has a mean of 0.43357 with maximum and minimum values of 1 and 0 respectively. The result implies that there is about 43% of environmental disclosure in the organisation is under consideration. The mean ENVD suggest that on the average the level of attention given to ENVD issues is still quite low. The standard deviation showing the dispersion of the data about the mean is quite low at 0.199 which further suggest clustering of the firm specific scores around the mean. Hence there is need for companies to improve on their reporting on ENVD related issues. ROA has a mean value of 4.19 with maximum and minimum values of 232.6198 and -88.985 respectively. The standard deviation of 13.4056 reveals the dispersion of the firm specific values from the distribution mean. The average LEV is 1.8230 with maximum and minimum values of 43.0102 and 0.256 respectively and standard deviation of 2.1305. The mean value for FSIZE stood at 7.2113 with maximum and minimum values of 9.6377 and 4.937 respectively with a standard deviation of 0.909, which implies the presence of addition to total assets of the organisation. The mean for F/D-OWN Sis 2.74 which implies that that on the average, the foreign ownership is more than twice the domestic ownership presence and hence on the average oil and gas companies in Nigeria tend to have a higher foreign ownership presence than domestic ownership with a maximum value of 3.175 and minimum value of 0.317 respectively. The

standard deviation showing the dispersion of the data about the mean is quite low at 0.231. The Jacque-bera statistics for all the variables reveals that the series are normally distributed given that the J.B values are all less than 0.05. This implies the absence of significant outliers in the data.

Table 4.2: Pearson Correlation Matrix

	LEV	ROA	F/D-OWNS	FSIZE	ENVD
LEV	1				
ROA	0.384071	1			
F/D-OWNS	0.032479	-0.04693	1		
FSIZE	-0.36868	-0.0244	-0.03526	1	
ENVD	-0.08706	0.109934	-0.02103	0.522008	1

Source: Researcher’s Compilation (2024)

From Table 4.2 above, the correlation coefficients of the variables are examined. However of particular interest to the study is the correlation between the ENVD and the independent variables. As observed, a positive correlation exists between ENVD and the following variables; ROA ($r=0.1099$), and Firm Size ($r=0.522$ but negatively correlated with F/D-OWNS ($r=0.0210$) and Leverage ($r=0.087$). The positive coefficient suggests that an increase in these variables could be associated with increases in ENVD and vice-versa. On the other hand, a negative correlation suggests that increase in these variables could be associated with decreases in ENVD and vice versa. Though providing some level of insight into the degree and direction of relationship between the variables, the correlation analysis is limited in its inferential ability mainly because it does not imply functional dependence and hence causality in

a strict sense. The Regression analysis is better suited forth is purpose, in terms of testing the formulated hypotheses as well their relationship.

Table 4.3: Diagnostic Tests

	VIF	Normality	Breusch-Godfrey Serial Correlation LM Test	Breusch-Pagan-Godfrey test for heteroscedasticity	Ramsey Reset
FSIZE	6.699	34.8040 (0.000)	0.1344	0.3715	0.8891
LEV	5.8185	98.754 (0.000)			
FPER	5.2770	29.5932 (0.000)			
F/D-OWNS	2.321	51.2092 (0.000)			

Source: Researcher’s Compilation (2024)

The test of residuals for normality is conducted assess the normality of the model residuals, when residuals are not normally distributed, it denotes the presence of significant outlines in the data which affects the standard errors and then the significance levels of the coefficients. The Jacque bera and p-value statistics suggest that the data is normally distributed and the presence of outliers is unlikely. The variance inflation factor (VIF) explains how much of

the variance of a coefficient estimate of a regressor has been inflated, as a result of collinearity with the other regressors. Essentially, VIF's above 10 are seen as a cause of concern as observed, none of the variables have VIF's values more than 10 and hence none gave serious indication of multicollinearity. The test for heteroskedasticity was carried out on the residuals as a precaution. The results showed probabilities in excess of 0.05 which lead us to reject the presence of heteroskedasticity in the residuals. The performance of the Ramsey RESET test showed high probability values that were greater than 0.05, meaning that there was no significant evidence of misspecification. The Lagrange Multiplier (LM) test for higher order autocorrelation reveals that the hypotheses of zero autocorrelation in the residuals were not rejected. This was because the probabilities (Prob. F, Prob. Chi-Square) were greater than 0.05. The LM test did not, therefore, reveal serial correlation problems for the model. The variables redundancy test is also performed and all the variables passed the test indicating that the variables reflect a considerable level of distinctiveness and as such none could be eliminated.

Table 4.4: Regression Results

	Apriori sign	Model 1	Model 2	Model 3
C	+	-1.3606 (1.3892) (0.3531)	5.715 (1.5043) (0.0125)	-0.2169 (1.2975) (0.8738)
FSIZE	+	0.5865 (0.4367) (0.2122)		
FSIZE*F/D- OWNS	+	8.227* (4.7126)		

		(0.0148)		
LEV	+		-1.06653 (0.4141) (0.4497)	
LEV*F/D- OWNS	+		-0.1114 (0.2976) (0.723)	
FPERF	+			0.5514 (0.2367) (0.0473)
FPERF*F/D- OWNS	+			3.9482* (0.2333) (0.0456)
R ²		0.3735	0.855	0.734
AdjustedR ²		0.095	0.682	0.415
S.E of regression		2.3055	2.894	1.7235
F-statistic		4.3415	4.933	21.302
P(f-stat)		0.016	0.040	0.00
D.W		2.09	2.10	1.94

Source: Researcher's Compilation (2024)* Significant at 5%

The regression results in Table 4.4 shows the estimations conducted to examine the impact of corporate attributes on environmental disclosures with the moderating effect of ownership structure. Model 1 results shows the coefficient of determination (R²) is 0.3735 which

suggest that the firm size model explains about 37.4% of systematic variations in market value. The F-statistic 4.341 (p-value = 0.016) which is significant at 5% and suggest that the hypothesis of a significant linear relationship between the dependent and independent variables cannot be rejected. It is also indicative of the joint statistical significance of the model. The D.W statistics of 2.09 indicates the presence of serial correlation in the residuals is unlikely. Firm size was found to exert a positive (0.5865) but not statistically significant (p=0.4367) effect on ENVD at 5% level but when interacted with the F/D-OWNS, we observed an increase in the slope coefficient to 8.227 and is now statistically significant (p=0.0148) at 5%. This implies that the increase in the foreign-domestic ratio has a significant moderating effect on the relationship between firm size and EVD. Hence the result suggest that given the firm size level taken as a constant, the ownership structure pattern can determine the level of attention given to ENVD.

Model 2 shows the coefficient of determination (R^2) of the regression is 0.455 which suggest that the model explains about 45.5% of systematic variations in ENVD. The F-statistic 4.933 (p-value = 0.040) which is significant at 5% and suggest that the hypothesis of a significant linear relationship between the independent and independent variables cannot be rejected. It is also indicative of the joint statistical significance of the model. The D.W statistics of 2.10 indicates the presence of serial correlation in the residuals is unlikely. LEV was found to exert a negative (-1.0665) but not statistically significant (p=0.4497) effect on ENVD at 5% level. When the F/D-OWNS is introduced, we observed that LEV is still negative and also not statistically significant (p=0.723) at 5%. This implies that the F/D-OWNS does not significantly moderate the relationship between Leverage and ENVD.

Model 3 shows the coefficient of determination (R^2) of the regression is 0.534 which suggest that the model explains about 53.4% of systematic variations in ENVD. The F-statistic

21.302 (p-value = 0.00) which is significant at 5% and suggest that the hypothesis of a significant linear relationship between the dependent and independent variables cannot be rejected. It is also indicative of the joint statistical significance of the model. The D.W statistics of 1.94 indicates the presence of serial correlation in the residuals is unlikely. PFERF was found to exert a positive (0.5514) and statistically significantly (p=0.0473) effect on ENVD at 5% level. When the F/D-OWNS dummy is introduced, we observed an increase in the slope coefficient to 3.9482 and is also statistically significant (p=0.0473) at 5%. This implies that though PFERF was had a significant effect on ENVD without the introduction of OWNS, with the moderation of OWNS in the model, the effect is stronger that it was without and hence we can conclude that F/D-OWNS has an enhancing effect on the relationship between FPER and ENVD.

4.3 Hypotheses Testing and Discussion Of Result

HO₁: Profitability has no significant impact on environmental reporting in quoted oil and gas companies in Nigeria

Model 1 shows the regression result for financial performance and ENVD. FPERF was found to exert a positive (0.5514) and statistically significant (p=0.0473) effect on ENVD at 5% level. Hence we reject the hypothesis that financial performance has no significant influence on environmental disclosures and accept the alternative result. Studies have revealed that when firms become profitable, it tends to make them more able to bear the costs of that which comes with environmental reporting and to also handle the outcomes that could be inline with a firm reports on environmental information that is not to the benefit of the firm (Cormierand Magnan, 2003; Haniffa and Cooke, 2005; Kent and Monem, 2008). Our finding agrees with those of (Artiach et al., 2018; Nasari et al., 2018; Setyorini & Ishak, 2017).

HO₂: Leverage has no significant impact on environmental reporting in quoted oil and gas companies in Nigeria

LEV was found to exert a negative (-1.0665) but not statistically significant ($p=0.4497$) effect on ENVD at 5% level. Hence we reject the null hypothesis that leverage does not have a significant impact on environmental reporting in quoted oil and gas companies in Nigeria and accept the alternate that states that leverage has a significant impact on environmental disclosures.

HO₃: Company size has no significant impact on environmental reporting in quoted oil and gas companies in Nigeria

The results shows that company was found to exert a positive (0.5865) but not statistically significant ($p=0.4367$) effect on ENVD at 5%. Hence we accept the null hypothesis that company size has no significant impact on environmental reporting in quoted oil and gas companies in Nigeria and reject the alternative that states that company size has a significant impact on environmental disclosures. It is almost the case that generally we tend to believe that bigger firms will want to disclose more environmental information than what smaller firms will want to do. This is because big firms are more noticeable by the public and hence it is then more beneficial for them to do what is expected (Watts & Zimmerman, 1978; Kansaletal, 2014; Liuand Anbumozhi, 2009; Lourenco and Branco, 2013). In contrast to our findings, Sembiring (2003), Reverte (2009), Wangetal (2013) have all shown in their studies that the firm size has a strong effect on environmental disclosures.

HO₄: There is no significant moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, financial performance and environmental reporting

From the regression result, it is observed that firm size was found to exert a positive (0.5865) but not statistically significant ($p=0.4367$) effect on ENVD at 5% level but when interacted with the foreign-domestic ratio, we observed an increase in the slope coefficient to 8.227 and is now statistically significant ($p=0.0148$) at 5%. This implies that the increase in the foreign-domestic ratio has a significant moderating effect on the relationship between firm size and ENVD. Hence the results suggest that given the firm size level taken as a constant, the ownership structure pattern can determine the level of attention given to ENVD. When the foreign-domestic ratio is moderated with LEV, it is still negative and also not statistically significant ($p=0.723$) at 5%. This implies that the foreign-domestic ratio does not significantly moderate the relationship between Leverage and ENVD. When the foreign-domestic ratio dummy is introduced with FPERF, we observed an increase in the slope coefficient to 3.9482 and is also statistically significant ($p=0.0474$) at 5%. This implies that though FPERF had a significant effect on ENVD without the introduction of foreign-domestic ratio, with the moderation of foreign-domestic ratio in the model, the effect is stronger.

In their views Karim, Lacina & Rutledge (2006) argued that companies that have their businesses abroad especially in developed markets face more intense environmental regulation and hence in such environments there appears to be a high attention to environmental matters leading to more robust disclosures of environmental issues. In companies where there is a high foreign ownership concentration, there is improved attention to voluntary environmental disclosures (Muttakin & Subramaniam, 2015). Alawietal (2016) found the impact of foreign ownership on firms disclosure of environmental disclosures is observed for companies in Yemen. Ohand Chang (2016) notes that current trends of environmental practice in Asia have been largely influenced by the presence of Western-style foreign management practices which is

dominating Chinese firms. Therefore, the nature of ownership especially the foreign-domestic ownership ratio can affect the relationship between the firm's attributes and environmental reporting.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study is an empirical investigation of determinants of environmental disclosures: moderating effect of foreign-domestic ownership ratio. The study is executed in five chapters. Chapter one has the introduction which includes background to the study, statement of research problems, objectives of the study, hypotheses, scope and significance of the study. Chapter two focused on review of relevant and related literature. Chapter three looks at the methodology. Chapter four is on data presentation, analyses, interpretations and discussion of findings (where applicable), while chapter five presents the research findings, conclusions, contribution to knowledge, and recommendations for future studies.

5.2 Summary of Findings

This study examines the factors affecting environmental disclosures in Nigerian oil and gas sector. Data collected from quoted oil and gas companies on the floor of Nigeria Exchange Group (NGX) of twelve listed companies (12) from the period of 2014 to 2022 was analysed using descriptive statistical method and panel regression analysis using a fixed effect model.

The findings from the analysis indicates that profitability exert a positive ($t = 0.5514$) and statistically significant impact ($p = 0.0473$) on environmental disclosures at 5% level in quoted oil and gas companies in Nigeria. Leverage exerted a negative impact ($t = -1.0665$) but statistically significant ($p = 0.4497$) effect on environmental disclosures at 5% level in quoted oil and gas companies in Nigeria. Company size has no significant impact on environmental disclosures as it exerts a positive ($t = 0.5865$) but statistically significant ($p = 0.4367$) in quoted oil and gas companies in Nigeria and finally there is a significant moderating effect of foreign-

domestic ownership ratio on the relationship between firm size, leverage, financial performance and environmental disclosure. The regression results shows firm size exerted a positive ($t=0.5865$) but is statistically significant for firm size ($p=0.0148$) and leverage ($p=0.0473$) on the effect of foreign-domestic ratio at 5%.

5.3 Conclusion

Corporate activities are increasingly becoming a key threat to the environment and this has gotten to a point where a lot of attention is now been directed to the roles of corporations and what initiatives are been able to address the growing environmental challenge. Though various initiatives and frameworks are in place to address environmental challenge at a global level, the accounting profession at one end of the spectrum evolving a reporting approach that can make companies responsible for the environment. However, one key issue is that environmental reporting is a rather voluntary activity and this suggest that companies are not mandatorily required to make environmental disclosures. This has created a scenario where environmental reporting practices have developed in a very much unstandardized context though several global institutions such as the Global Reporting Institute (GRI) amongst others which are not necessarily accounting standard setters have tried to provide leads as to what companies should report. As earlier noted, these suggestions are not binding, companies may decide to follow or not depending on their motives. Therefore, firms have a lot of control over the quality and quantity of environmental reporting that is made. Investigating the factors that drive environmental reporting of firms has been a huge area of interest for accounting researchers given that such actions are voluntary especially in developing countries. The study therefore examines the role of corporate characteristics in environmental reporting and with particular focus on the role of leverage, financial performance and firm size. The study also examines the

moderating role of ownership structure (foreign/national) in the relationship between his identified attributes and environmental reporting. The findings of the study reveal that profitability has a significant impact on environmental reporting in quoted oil and gas companies in Nigeria. Leverage has no significant impact on environmental reporting in quoted oil and gas companies in Nigeria. Company size has no significant impact on environmental reporting in quoted oil and gas companies in Nigeria and finally there is a significant moderating effect of foreign-domestic ownership on the relationship between firm size, leverage, financial performance and environmental reporting.

5.3 Recommendations

Based on the findings of this study, the following recommendations are suggested:

Firstly, the result shows that financial performance was found to exert a positive and statistically significant effect on environmental disclosures at 5% level. This suggest that as firms become profitable, it tends to make them more able to bear the costs of that comes with environmental reporting and to also handle the outcomes that could follow when a firm reports environmental information that is not to the benefit of the firm. The study recommends that firms doing well financially should pay more attention to environmental reporting. However, the study also notes that even firms experiencing losses must also not be excluded from taking responsibility for their environmental cost, risks and liabilities. Hence though financial performance motives environmental performance, it should not be used as basis for selective environmental performance.

Secondly, leverage was found not to have a significant impact on environmental reporting in quoted oil and gas companies in Nigeria and this suggest that debt-equity ratios of companies is neutral in affecting environmental performance of companies. Hence the study

recommends that firms companies irrespective of their leverage levels should improve their environmental performance.

Thirdly, the results show that company size was found to exert a positive but not statistically significant effect on environmental performance. The role of firm size has been a very dominant variable in several studies investigating environmental performance. The study recommends that both small and big firms need to improve their environmental performance.

Finally, there is a significant moderating effect of foreign-domestic ownership ration on the relationship between firm size, leverage, financial performance and environmental reporting. The study thus recommends that the presence of more foreign-domestic ownership will lead to more robust disclosures of environmental issues.

5.4 Contribution to Knowledge

This study moves adopted a moderating approach in estimating the impact of leverage, firm size and financial performance on environmental disclosure in Nigeria.

This study further contributes to the existing body of knowledge on determinants of environmental disclosures as it introduces the moderating effect of foreign-domestic ownership ratio on environmental reporting as it relates to the positive impact in domestic countries using Nigeria as a case study. Very few studies have used this framework here in Nigeria to ascertain foreign-domestic ownership effect on environmental disclosures as dependent variable to influence environmental reporting positively. Hence this study has contributed by examining the foreign-domestic ownership impact on environmental disclosures nationally in Nigeria.

Finally, this study also contributes to existing knowledge as in its findings that there is a significant positive relationship between foreign-domestic ownership ratio and environmental

reporting, this means foreign practices influences positively the quality and quantity of information disclosed by foreign-domestic based companies in Nigeria.

5.5 Suggestions for Further Studies

It is therefore recommended that future studies should make effort to expand the scope in terms of trying to expand the sample size as against what was used in this study, carry out a panel study to enhance industry-wide comparison.

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APPENDIX I

Table 1

	ENVD	ROA	LEV	FSIZE	F/D-OWNS
Mean	0.43357	4.198609	1.823034	7.211272	2.74956
Median	0.357143	3.462141	1.215395	7.077112	2.26031
Maximum	1	232.6198	43.0102	9.637756	3.175454
Minimum	0	-88.9854	0.256443	4.937655	0.31792
Std. Dev.	0.199556	13.40564	2.130501	0.909296	0.230858
Skewness	0.797486	4.536814	9.628676	0.0419118	2.289048
Kurtosis	2.982601	94.59274	156.8396	2.867026	13.18274
Jarque-Bera	104.5259	34.8040	98.75393	29.59318	51.2092
Probability	0.00	0.00	0.00	0.00	0.00

Table 2

	LEV	ROA	F/D-OWNS	FSIZE	ENVD
LEV	1				
ROA	0.384071	1			
F/D-OWNS	0.032479	-0.04693	1		
FSIZE	-0.36868	-0.0244	-0.03526	1	
ENVD	-0.08706	0.109934	-0.02103	0.522008	1

Table 3

	VIF	Normality	Breusch-Godfrey Serial Correlation LM Test	Breusch-Pagan- Godfrey test for heteroscedasticity	Ramsey Reset
FSIZE	6.699	34.8040 (0.000)	0.1344	0.3715	0.8891
LEV	5.8185	98.754 (0.000)			
FPER	5.2770	29.5932 (0.000)			
F/D-OWNS	2.321	51.2092 (0.000)			

Table 4

	Apriori sign	Model 1	Model 2	Model 3
C	+	-1.3606 (1.3892) (0.3531)	5.715 (1.5043) (0.0125)	-0.2169 (1.2975) (0.8738)
FSIZE	+	0.5865 (0.4367) (0.2122)		
FSIZE*F/D- OWNS	+	8.227* (4.7126) (0.0148)		
LEV	+		-1.06653 (0.4141) (0.4497)	
LEV*F/D- OWNS	+		-0.1114 (0.2976) (0.723)	
FPERF	+			0.5514 (0.2367) (0.0473)
FPERF*F/D- OWNS	+			3.9482* (0.2333) (0.0456)
R ²		0.3735	0.855	0.734
AdjustedR ²		0.095	0.682	0.415
S.E of regression		2.3055	2.894	1.7235
F-statistic		4.3415	4.933	21.302
P(f-stat)		0.016	0.040	0.00
D.W		2.09	2.10	1.94