

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI



TOPIC

**DETERMINANTS OF SUSTAINABILITY REPORTING QUALITY OF FIRMS
LISTED ON THE GHANA STOCK EXCHANGE**

BY

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DECLARATION

I sincerely declare that with the exception of any references to authors and their books, the entire research was undertaken by me. The research work and its in-depth analysis is wholly different from all previous work that had been submitted to the department for the award of degrees.

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ABSTRACT

The general purpose of the study seeks to examine the determinants of the sustainability reporting quality of firms who have been listed on the Ghana stock exchange (GSE). In this study, the quantitative design was employed, because the only way numerical data will be

obtained to analyse the variables or determinants; company financial performance, company size, age, and governance structure was through the quantitative design. Panel data was used in the study to analyse reports over the subsequent time period and to determine sustainability reporting quality. This research concentrated on the annual reports of companies listed on the Ghana Stock Exchange from 2012 to 2021. The Ghana Stock Exchange currently lists fortytwo (42) equities (from thirty-seven (37) companies) this represented the entire population for the study. The study used the entire population as the sample size since the study employed the census approach. The study discovered that companies in environmentally sensitive industries typically have sustainability reporting scores that are higher than those of companies in unaffected industries. The findings showed that among companies listed on the Ghana Stock Exchange, industry type, firm age, board size, and board age are important influences on sustainability reporting. The findings further indicated that there is a negative but insignificant link between leverage and sustainability reporting found in our analysis is not consistent with some previous research. The analysis results are consistent with previous studies on some factors (board size) but not on others (leverage, board gender diversity, board experience, board composition, and board age). The study recommended that Policymakers and regulators should strengthen corporate governance frameworks to promote better board practices and enhance the role of boards in overseeing sustainability reporting. The study further recommended that policymakers and regulators should consider developing industry-specific guidelines and regulations for sustainability reporting.

DEDICATION

I dedicate this work to the Almighty God, who has been gracious to me and provided for me throughout the period of this study, as well as to my entire family, who supported and assisted me in every way they could. May the Lord bless you.

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The logo of KNUST (Kwame Nkrumah University of Science and Technology) is centered in the background. It features a torch with a red flame at the top, a pair of crossed silver hammers below it, and a yellow eagle with its wings spread wide in the center. The eagle is perched on a green shield. At the bottom, a yellow banner contains the university's motto in black capital letters: 'AYEKUPA NTO SANE NTO BADWENI'.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

The current focus of reporting on an organization's human, social and environmental relationship alongside its natural capital echoes the focus of sustainability reporting (Suttipun & Stanton, 2012). The concept of sustainable development started in the 20th century, providing a framework for social welfare and environmental protection measures that had previously been ignored by the governmental, institutional, and economic sectors. Modern accounting attempts to meet the expectations of stakeholders, including the public, in addition to being focused on record keeping and providing information to investors.

Given growing concerns about global warming and pervasive wealth disparity in various countries, especially emerging countries, the contributions of contemporary corporations to achieving sustainable global economic growth and social development have been scrutinized.(Orazalin and Mahmood, 2020). The nexus between businesses and their immediate surroundings has shifted dramatically in recent years because of the need for businesses to protect the environment in which they operate as well as make profit.

In times past, issues of the environment and social well-being lagged behind in objectives of management until the quest for environmental accountability by many arose (Eugénio et.al, 2013). Many companies today understand the importance of protecting the environment in which they conduct business as well as making societal contributions through CSR in order to continue uninterrupted operations. The management of every company has the responsibility of maximizing its shareholder's wealth while adding value to society (Gherghina & Simionescu, 2015a; Hongming et al., 2020). By doing this, it creates a situation where everyone wins—including business and society. Businesses now recognize how important it is to show their dedication to sustainability in their yearly financial reports or separate sustainability

reports (Cho et al., 2012; Higgins et al., 2015; Patten & Zhao, 2014). For the purposes of this study, "sustainable reporting" deals with the documentation of companies' social and environmental effects. Sustainability reporting is vital for long-term corporate success and ensuring markets provide value across society. The performance of an organisation in this modern era is not only limited to their financial outcomes but also considers their commitment to protecting and improving the environment in which they find themselves operating. Modern accounting attempts to provide information to stakeholders and is not just concerned with record keeping and providing information to investors (Tilt, 2016).

Estimating and accounting for the costs of environmental impacts is a rapidly developing management, accounting, and finance area. To assist in making economic decisions, it offers quantitative, usually financial information regarding economic activities. Its purpose is to offer quantitative data, primarily of a financial character, about economic activity with the goal of aiding in the formulation of economic decisions. The benefits of a company's involvement in sustainability are numerous. Some include improving the firm's decision-making strength and reputation and image benefits. Determining sustainability reporting performance can also assist businesses in properly meeting regulatory requirements. Environmental performance of firms usually looking in their ecological disclosure has been widely studied in accounting.

However, these studies have been limited to more advanced nations leaving research on sustainability reporting in developing countries very scant (Fifka, 2015). In fact, given most African countries' sustainability reporting performance lags. Western countries, the necessity for a valuation of Ghana's listed companies' sustainability reporting standards cannot be disregarded. As a result, the critical research findings, and the factors of the sustainability reporting quality of enterprises listed on the Ghana stock exchange (GSE) will be reviewed.

1.2 Statement of the Problem

Profitable and non-profitable organizations have gradually come to understand the significance of social responsibility in ensuring a responsible business (Gnanaweera & Kunori, 2018). Businesses are using sustainability reporting increasingly as a potent tool for company strategy and policy (Hasan et al., 2022). Businesses must plan for the necessary resources in order to fulfil the sustainable development goals, promote investment in sustainable business models, and fund the sustainability results that the world seeks.

The engagement of businesses worldwide, particularly in relation to the sustainability of the environment, has underlined the necessity to include sustainability considerations in corporate reporting methods. Many investors understand that achieving sustainability is a long-term objective that will determine the company model and go beyond the existing limitations of ecofriendly business leaders' limited behavior. Sustainability reporting, according to Ernst & Young, is a best practice used by businesses all over the world and can help to enhance current procedures (Anderson, 2015). Companies' accountability is incomplete without a reporting mechanism, which is why the addition of sustainability disclosures in annual reports of corporate entities is important.

Research on the determinants of sustainability reporting quality has been conducted in several developed countries. Klynveld Peat Marwick Goerdeler (2015), an internationally renowned accounting company, expressed interest in corporate transparency, particularly in connection to sustainability reporting and disclosure. Per the research by Asaolu et al. (2011), multinational oil and gas corporations in Nigeria voluntarily engage in sustainability reporting, but the practice is lacking because there is no legislation that specifies what should be reported. The study on determinants of environmental disclosure of listed firms in Ghana was investigated by (Welbeck et al., 2017). The study has the objective of investigating the kinds of environmental information that Ghanaian businesses typically disclose. The study concluded

that, using the Global Reporting Initiative as a criterion, Ghanaian listed firms disclose some amount of environmentally linked information adopted by GRI, however the level of disclosure is low. Additionally, there have been some recent initiatives to investigate the topic of reporting on sustainability.

The three (3) sustainability report indicators (Environment, Social and Economic) recommended by Version 4 of the Global Reporting Initiative are all included in this research, which varies from other studies in that it focuses on reporting and accounting difficulties. After reviewing relevant literature, it came to light that research focusing on the three areas of the determinants of sustainability reporting in Ghana is relatively scant. To fill up the gap, this study seeks to examine the determinants of the sustainability reporting quality of firms listed on the Ghana stock exchange.

1.3 Research Objectives

The general purpose of the study seeks to examine the determinants of the sustainability reporting quality of firms who have been listed on the Ghana stock exchange (GSE).

Specifically, this study is aimed at achieving the following objectives:

- i. To explore the extent of sustainability reporting of firms listed on the Ghana stock exchange
- ii. To examine the factors that affect how companies listed on the Ghana stock exchange report on sustainability
- iii. To assess the sustainability and leverage of companies listed on the Ghana stock exchange

1.4 Research Questions

- i. How can the extent of the sustainability reporting quality of firms listed on the stock exchange be assessed?
- ii. What factors affect how companies listed on the Ghana stock exchange report on sustainability?
- iii. What is the level of leverage and sustainability of firms listed on the Ghana stock exchange?

1.5 Significance of Study

The study examines the factors that influence how well Ghanaian companies with stock market listings disclose sustainability. The study will instruct and inform management of these companies on how crucial it is for their companies to comply with sustainability disclosure guidelines strictly and adequately. The research presented here will be of uttermost value to accounting policymakers as they develop strategies for raising awareness of and promoting strict adherence to sustainability disclosure standards by businesses. Other researchers who wish to look into the standard of sustainability reporting will benefit from this study.

1.6 Scope of the Study

Finding the factors that influence reporting on sustainability will be the study's main goal. The study's participants will only be companies that have listed on the local stock exchange. This research work will consider the following variables (company size, company financial performance, board size, firm age, and board independence, leverage, and CEO tenure) as determinants of sustainability disclosure, whereas other studies might consider other variables.

1.7 Summary of Methodology

The study will analyse the annual reports for 2012 to 2021 companies listed on the Ghana Stock Exchange. The quantitative design will be employed to analyse the variables or determinants (age, company size, company performance, board size, board independence, leverage, CEO tenure, and gender diversity). A panel of data will be used in the study to analyse reports over a subsequent period and to determine whether the company-specific attributes will influence the voluntary disclosure of sustainability reports.

To encapsulate the key characteristics of the variables, descriptive statistics will be chosen. The Pairwise Correlation Coefficient will then be used in a correlation analysis to determine how closely related the variables in this study are to one another. When there is a correlation, an ordinary least squares regression model will be employed to describe how the factors affect

how much information is provided. To evaluate the disclosure procedures of the sampled firms, a dichotomous scoring technique (1 = disclosure item and 0 = non-disclosure item) will be used. The Statistical Package for Social Sciences (SPSS) will be the primary research tool for analysing the collected data. The study's data collection, analysis, and report will all adhere to the pertinent ethical standards.

1.8 Limitations of the Study

This study will be centered on the determinants of sustainability disclosure quality on firms listed on the Ghana stock exchange. The conduction of this study is going to last for a short period of time before conclusions be drawn on the findings. The study will only be based on firms listed on the Ghana Stock Exchange. Although a wider scope will bring up more conclusive findings, resources such as time and finance are going to be needed and the resources are in constraints.

1.9 Organisation of Study

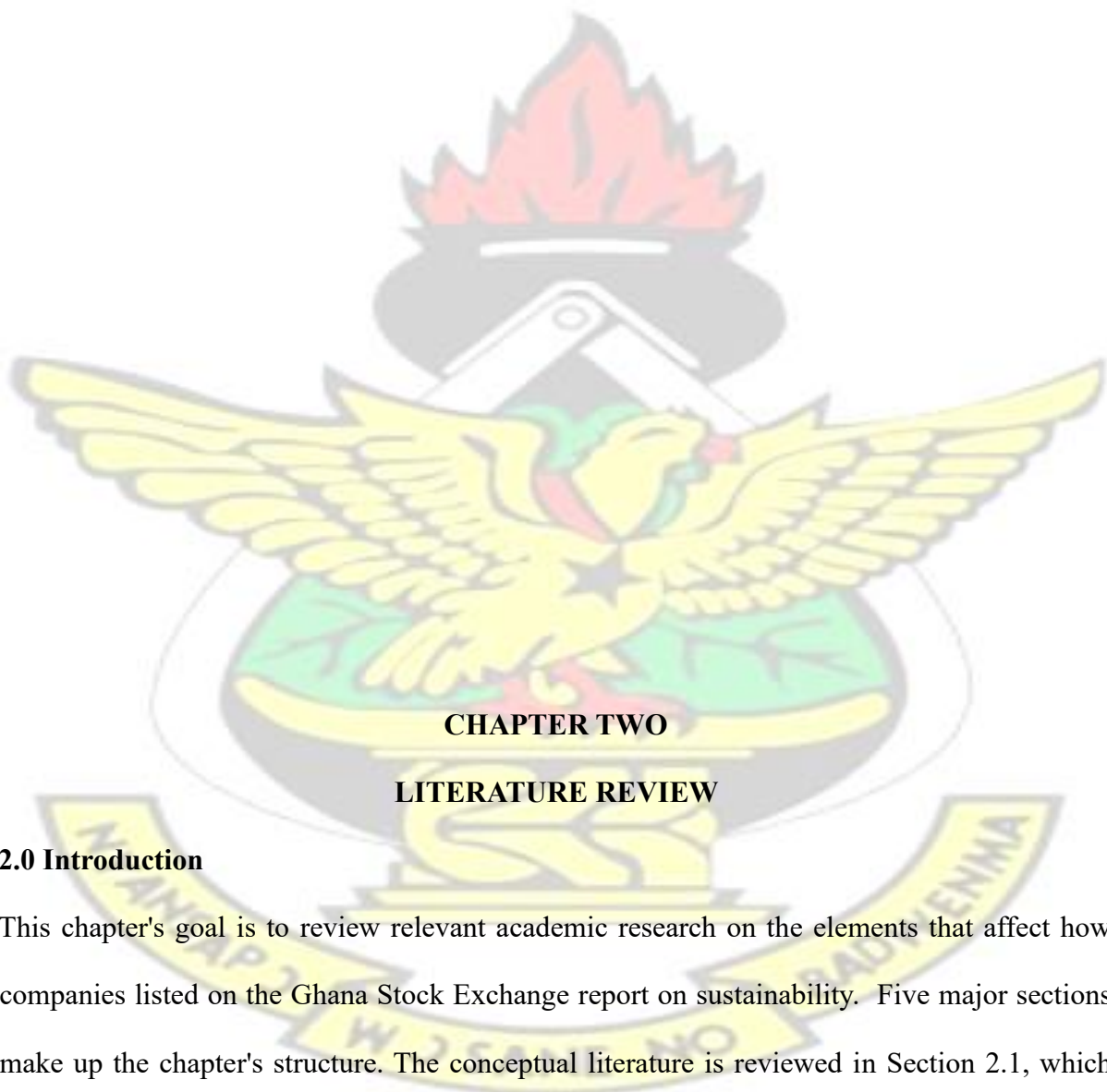
The research will be divided into five connected chapters, each of which is described below:

Chapter one will provide immediate access to the whole research, outlining a comprehensive introduction, background of the study, and statement of the problem. It further uncovers the study's importance by tracing its objectives and related research questions. Chapter two, titled literature review, will cover two all-important sections. It will contain theoretical literature and empirical reviews of similar studies conducted.

Chapter three emphasizes the study's methodology, which will comprise of the research design, sampling technique and sampling size, data collection, and analysis. It will throw more light on the series of steps used by the researcher in sampling participants and methods to be used in collecting data for the study. Chapter four will focus on the data analysis and discussion of the study's findings. The researcher will provide insights into how the data collected will be examined and analyzed to deduce the study's findings. Chapter five will summarize the study,

conclude the research findings, and provide recommendations that the researchers of the study have made.

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CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter's goal is to review relevant academic research on the elements that affect how companies listed on the Ghana Stock Exchange report on sustainability. Five major sections make up the chapter's structure. The conceptual literature is reviewed in Section 2.1, which also discusses ideas like sustainability reporting. In Section 2.2, the theoretical literature is discussed, including theories like the legitimacy theory and the agency theory. Studies that are

already in this literature are covered in Section 2.3. The conceptual framework used for the study is covered in Section 2.4. A summary of the chapter is provided at the end.

2.1 Conceptual Literature Review

This section of the chapter reviewed literature relating to the meaning and concept of sustainability reporting. It further provided information on the most frequently used sustainability reporting indicators that is globally used.

2.1.1 The concept of sustainability reporting quality

The Global Reporting Initiative (GRI) defines sustainability reporting as an examination of a company's everyday operations' effects on the economy, environment, and society (GRI Standards, 2018). A technique for providing business information that also helps an organization internalize and strengthen its commitment to sustainable growth is sustainability reporting. The public, employees, shareholders, and investors, among other stakeholder groups, may find them interesting because they cover themes that are either directly or indirectly related to the firm.

An organization can use sustainability reporting as a tool to comprehend both its exposure to hazards and prospective economic possibilities. Firms and institutions recognize that persisting with their traditional business practices is no longer viable, and adopting an eco-friendly business strategy is essential for ensuring their enduring survival. Companies come up with different reasons for disclosing sustainability reports either as a stand-alone report or as part of its annual reports. In order to manage its legitimacy to exist, to maintain its reputation, and to achieve long-term profitability by minimizing information asymmetry, research has discovered that firms report to meet expectations of various stakeholders and make a contribution to the well-being of the environment in which it operates (Krivačić, 2017).

2.1.2 Importance and Drivers of Sustainability reporting quality

Many businesses today have taken a proactive stance in response to the community's need for sustainability data by voluntarily disclosing non-financial information that illustrates their dedication to safeguarding the environment in which they conduct business. According to Ong (2016), a company's long-term sustainability depends on its commitment to corporate social responsibility.

Haleem et al., (2022) outlined a number of important justifications for why it is crucial for businesses to volunteer sustainability data. Consumers today have the power to choose products based on their preferences for brands because to growing wealth. People can now select the brand of their choice thanks to ongoing improvements in living standards. Once more, customers are more likely to select brands that are seen as being more socially responsible. For instance, in Ghana, the majority of people now purchase Awake filtered water because a portion of the proceeds from each sale is donated to the National Cardiac Centre at the Korlebu Teaching Hospital to assist children with heart defects.

Werther and Chandler (2011) argued that because information is now easily accessible globally due to globalization and the internet, businesses are becoming more careful about the kind of image they provide to potential customers. Sustainability reporting is also being pushed by the media's growing influence as well as other activist groups like environmentalists. These motivating factors support the focus on sustainability and have raised expectations for greater transparency in how businesses conduct their operations. Christofi et al., (2012) compiled a list of benefits available to companies who engage in the disclosure of their non-financial information;

- Reduced operating cost and improvement in financial performance
- Enhanced reputation through establishing a good brand image
- Increased revenue and client retention

- increased capacity for personnel recruitment and retention □ Better access to financing.

2.1.3 Most Frequent Standards and Guidelines for Reporting

Although various standards and benchmarks are available for businesses and organizations to adopt, most adhere to the guidelines set by the Global Reporting Initiative. Sharing company data via sustainability reports enables an entity to reinforce and deepen its dedication to environmentally responsible expansion. Various stakeholder groups, such as the general public, employees, shareholders, and investors, may find them interesting because they cover themes that are either directly or indirectly related to the firm.

The strategy and profile, management method, and performance indicators are the three categories under which the standard sustainability disclosures are categorized in the G3.1 guideline, which was released in 2011. According to the Global Reporting Initiative (2011), organizations must state in their reports how closely they follow the rules. The latest GRI Standards issued in October 2016 will be required for the publication of reports after 1st July, 2018. The study in measuring Sustainability reporting quality will adopt the use of GRI 4 indicators explained in chapter 3 of the study.

2.1.4 Determinants of Sustainability Reporting

2.1.4.1 Company size

When analysing the degree of sustainability disclosures and quality, company size has frequently been thought of as an influencing element (Hasan et al., 2022; Khan et al., 2012). Generally speaking, because of their media exposure, most larger businesses are subject to higher public scrutiny. According to the legitimacy theory, larger corporations typically provide more information about sustainability to show that they adhere to the ethical standards that society has come to expect of them.

Again, larger organizations have more diverse stakeholder groups, including shareholders and employees, who are interested in the sustainability of their companies' development and often

require and put pressure on businesses to provide sustainability information in greater detail. Additionally, it is anticipated that large enterprises will possess greater financial and human resources to facilitate comprehensive and high-quality disclosures. Past research has discovered a connection between a company's performance and the scope of its sustainability reporting (Andrikopoulos & Krikiani, 2013; Suttipun & Stanton, 2012). It confirms the fact that larger companies are in the position to afford the cost of reporting information to users in their annual reports.

2.1.4.2 Company performance

Previous research (Ameer & Othman, 2012; Meng et al., 2014) compared corporate success to the quantity and quality of sustainability disclosures. Evidence suggests that businesses who are better placed in terms of their finances are more likely to disclose more about sustainable practices than those with less financial stability. This serves as additional evidence of the link between business performance and the level of sustainability reporting quality.

The studies ascribe the reasons why companies performing better are likely to disclose and report on sustainability; First, companies that perform financially well have the resources that give them the ability to report on sustainability related issues of the companies. Secondly, these companies typically have better management who apart from managing its financial resources well, take tasks such as sustainability reporting seriously.

Finally, most financially performing companies are those corporations who are found within well regarded and heavily regulated industries like financial institutions and manufacturing companies and may incur significant penalties and other regulatory cost when they fail to disclose such reports. In earlier studies, firm performance has been compared to the quantity and quality of sustainability disclosures (Ameer & Othman, 2012; Meng et al., 2014). According to the evidence, businesses that perform well financially are more likely to disclose more about sustainable practices than businesses that are not financially sound. This serves as

further evidence that business profitability and the level of sustainability reporting quality are positively correlated.

2.1.4.3 Board Size

A board's size could have a big impact on how transparent a company is. According to Martínez-Ferrero et al. (2015) a large board size may be of benefit to a company due to the fact that it increases its access to a pool of expertise and resources. A large board size, in accordance with the concept of expert power, allows for a variety of experiences and perspectives, which may enhance a board's supervisory ability and may result in more voluntarily revealed information and higher quality information (Carter et al., 2003).

A robust, competent, and efficient board will increase an organization's resources, reputation, and performance by lowering risk and opportunism. Prior studies discovered that board size has a favourable significant connection with the extent of sustainability reports (Carter et al., 2003; Hu & Loh, 2018; Khan et al., 2012; Samaha et al., 2015).

2.1.4.4 Gender Diversity

One of the most notable difficulties modern organizations faces is gender diversity, one of the many board diversity elements (Rao & Tilt, 2016). There is conflicting information regarding the effects of female directors holding high-level roles. For example, some find a positive relationship between gender and financial performance (Rao & Tilt, 2016). It is for this reason that we considered gender diversity on the board as it is perceived that women influence decisions that organizations make. Additionally, they are more considerate of community needs, sensitive to sustainability challenges, and attentive to all stakeholders, including the environment, employees, and local communities.

2.1.4.5 Board independence

Independent directors are those that are only a board member and have no other personal or professional ties to a company. They're frequently called "external directors". By including independent directors on the board, an organization can differentiate between

management and oversight responsibilities, thereby mitigating the potential for self-serving actions by internal members (Panda & Leepsa, 2017).

Additionally, independent directors typically deal with more diverse stakeholder groups and mostly have a wider outlook, which is likely to expose them to reporting requirements more. Therefore, it is anticipated that having a higher percentage of independent directors will encourage stronger board governance as well as more quality and disclosures regarding sustainability.

Independent directors are those who serve on a board but have no other affiliation with a company, either personally or professionally. External directors are a common name for them. In order to prevent the opportunistic activities of internal members, independent directors on a board can help divide a company's management and control responsibilities (Panda & Leepsa, 2017).

2.1.4.6 Age

The study took into account age because it has been found that older companies are more inclined to use environmental performance to change public perceptions of their brand. Older businesses may be more aware of current industry trends and better prepared to implement new programme to sustain their operations. Older businesses will be open to sharing information in an effort to maintain their existence. (Welbeck et al., 2017).

2.1.4.7 Leverage

Leverage is the term used to describe a company's capacity to pay its debts when they become due. Companies with high leverage means the companies relies heavily on debt. The degree of reliance is crucial since it demonstrates how large the ratio of total debt to total equity is. Companies that depend mostly on debt and other forms of support like trust have the responsibility of continuing to gain the trust of creditors and thus are expected to always disclose reports on sustainability (Fatmawati & Trisnawati, 2022). Researchers

found a substantial link between a company's leverage and the calibre of its sustainability disclosure and reporting (Norman Thomas et al., 2020).

2.2 Theoretical Literature Review

Numerous theories have been put forth on the subject, yet it remains challenging to consolidate all empirical evidence within one theoretical structure. This leads researchers to conclude that sustainability reporting is a multifaceted occurrence that cannot be accounted for by just one theory. Among the more prominent theories are the Legitimacy Theory and the Agency Theory.

2.2.1 The Legitimacy theory.

This viewpoint contends that a company's values must be in line with those of the society in which it operates in order for it to have a right to exist (Shehata, 2014). The collaboration between the firm and society is therefore seen in this approach as a social contract. According to this description, businesses influence and are influenced by society as a whole. As a result, when companies act in a way that deviates from social norms, their standing as respectable firms is put in jeopardy.

As a result, the legitimacy hypothesis explains what information corporations reveal, why they disclose it, and how they disclose it (Magness, 2006). It has been discovered that the majority of corporate entities report on their environmentally relevant actions primarily to justify their activity (C. H. Cho et al., 2009; Deegan & Soltys, 2007). It is crucial that management makes disclosures that would enhance the public's opinion of the company because there is a connection between a company's legitimacy and that perception (Cormier & Gordon, 2001). Consequently, including environmental disclosures in business annual reports is a way to give corporate entities legitimacy (Lightstone & Driscoll, 2008).

2.2.2 Agency Theory

Jensen and Meckling (1976) describe an agency relationship as a legal contract where one or more individuals (the principals) designate another person (the agent) to perform a specific task

on their behalf, granting the agent significant decision-making authority in the process. In the context of business, the principals represent shareholders, while the agents are the managers. Agency fees are a result of the presumption that agents and principals have different interests from one another. The principals, or shareholders, cover the costs of monitoring to rein in the agents' abnormal behavior.

The agents, managers, must pay bonding fees to ensure that their decisions and actions won't undermine the principal's interests. When agents make choices that don't maximize the welfare of the principal, residual loss results. Considering this, the agency cost is calculated by adding the monitoring cost, bonding cost, and residual loss (Jensen & Meckling, 1976). Due to managers' greater access to knowledge than shareholders, the agency relationship causes the information asymmetry issue (Jensen & Meckling, 1976).

Managers can mitigate the agency problem by disclosing more information voluntarily, which lowers agency costs and persuades external users to thinking that they are operating in the best interest of the organization (Watson et al., 2002). Lastly, laws are another tool for addressing the agency issue because they force managers to completely disclose sensitive data (Healy & Palepu, 2001). However, even in the presence of restrictions, complete transparency is never guaranteed (Al-Razeen & Karbhari, 2004).

2.3 Empirical Literature

This section of the research aims to examine existing literature and explore the findings of various authors. Earlier studies have attempted to identify connections between company characteristics (like financial performance, size, and governance structure) and the volume and quality of sustainability disclosures.

2.3.1 Studies from Developed Countries

Fakir (2016) discussed the nature and scope of environmental reporting and accounting methods in Bangladeshi corporate sectors. The study investigates the kind, extent, and

placement of disclosure in these reports. The actual disclosure practices in these companies were discovered using an index of environmental disclosure listing 23 pieces of information. The report also discussed environmental accounting's theoretical underpinnings. According to the study, very few Bangladeshi businesses proactively disclose environmental concerns in their annual reports. Environmental disclosure is positively impacted by factors like highly polluting industries, corporate size, high debt-to-equity ratios, and environmental performance. Lack of environmental legislation requiring corporations to disclose environmental issues in company annual reports was found to be the cause of Bangladesh's poor disclosure of environmental issues.

Higgins et al., (2015) discussed the uprise of sustainability reporting throughout Australian over the past twenty years. The research gathered information by engaging with management from reporting companies and identifying all Australian corporations that have published sustainability reports since 1995. By considering a broad spectrum of reporting corporations, the study offered insights beyond those derived from standard content analyses and in-depth case study examinations of individual businesses.

The research found that sustainability reporting has deepened among a few high-impact companies and expanded across a select number of firms in multiple low-impact sectors. The study's objective was to discern any relationships between the factors influencing reporting and the experiences of different reporting companies. Many of the observed connections were not as apparent or uniform as initially expected. However, for reporting organizations, sustainability reporting is crucial from a strategic perspective. We propose the notion of strategic distinction as a major factor influencing reporting behavior given the dearth of reporters in Australia.

In the U.S. retail sector, Patten & Zhao (2014) looked into the first usage of standalone CSR reporting. The study discovered that it is only applicable to publicly traded corporations and

that environmental disclosures are more prominent than other social disclosures. The study identified every Australian company that has published a sustainability report since 1995, and data was collected through interviewing reporting companies' managers. The study provided insights into those attained from close analyses of single case study businesses and typical report content analysis by taking into account a wide range of reporting corporations.

2.3.2 Studies from Developing Countries

A systematic literature analysis on the factors influencing sustainability reporting in poor nations was carried out by Farisyi et al. in 2022. The aim of this study was to comprehend the distinctions between theoretical and practical viewpoints on the progression of sustainability reporting, as well as how issues are addressed.

A methodical literature assessment technique was employed in this research. According to the findings, the majority of studies on sustainability reporting currently focus on nine variables: firm size, profitability, financial leverage, ownership structure, corporate governance structure, firm age, industrial sector, corporate stance, and board qualification and experience. However, the outcomes of these studies were found to be inconclusive.

While some results indicated that a particular factor significantly influences a company's sustainability, other research suggested a weak correlation between the two variables. Research on sustainability reporting has been carried out in both developed and emerging economies. Although there is limited research on sustainability reporting in developing countries, this study is anticipated to provide a foundation for further exploration of the subject, especially in relation to prioritizing and allocating resources for SDG planning.

Tauringana (2021) used managerial-based variables and attitudes based on businesses in Uganda to evaluate the adoption of sustainability reporting in emerging nations. Employing a cross-sectional approach, the study collected data from 194 Uganda Manufacturers Association member companies through a questionnaire survey.

Multiple regression analysis was used to assess the data. The results indicated that key negative factors impacting the adoption of sustainability reporting include insufficient knowledge, inadequate training, and unfavorable attitudes and perceptions towards it. The results once again showed that the likelihood of SR adoption is strongly and favourably related to the availability of resources, free training and help, and positive attitudes and perspectives toward SR. The results also demonstrated that issues such as lack of time, regulatory restrictions, and stakeholder pressure are not significant in deciding whether SR will be adopted.

Orazalin and Mahmood (2020) looked into what influences GRI-based sustainability reporting in an emerging economy. In accordance with the GRI framework, the paper sought to investigate the extent and factors that affect the sustainability performance disclosures made by publicly traded companies in Kazakhstan.

Leverage, cash flow capacity, profitability, size, age, and auditor type were among the variables chosen to study their effects on the scope and quality of sustainability data. Other variables were reporting language and distinct sustainability reporting. The study's conclusions, which were based on a three-year analysis of public company data, showed that the scope, nature, and quality of sustainability reporting practices used by Kazakhstani firms are significantly influenced by stand-alone reporting, reporting language, firm profitability, firm size, and auditor type.

2.3.3 Studies from Ghana

Welbeck et al. (2017) examined the factors affecting environmental disclosures by listed companies in Ghana. The study aimed to investigate the types of environmental information commonly disclosed by Ghanaian companies, the distribution of these disclosures, and the factors influencing them. Using the Global Reporting Initiative (GRI) index as a reference, the total environmental disclosure scores of the sampled companies were calculated through a

Regression analysis was employed to identify the variables influencing the companies' environmental disclosure practices. According to the study's findings, companies listed in Ghana do disclose some of the GRI-recommended environmental information, albeit at a low level. Additionally, in line with previous findings, environmentally conscious businesses disclose more information than less conscious businesses. Additionally, the study highlights crucial determinants of companies' environmental disclosure practices, such as firm age, auditor type, firm size, and industry type.

For this study, the following conceptual framework was developed, which diagrammatically explains how company size, company financial performance, age, Leverage and governance structures influence sustainability reporting quality.

Independent Variables



Source: Author Self- Construct

2.5 Summary of Chapter

This chapter included a review of both theoretical and empirical research. The chapter included sections which included the discussion of sustainability reporting standards, and guidelines. The chapter also examined the various determinants or characteristics of sustainability reporting quality which included company size, company financial performance, age, Leverage and governance structures. The Legitimacy theory and agency theories were used as the underlying theories for the study.

CHAPTER THREE METHODOLOGY

3.0 Introduction

Wahyuni (2012) defines research methodology as the framework of procedures used to carry out the study. It includes the theoretical and ideological underpinnings as well as the essential guidelines that help researchers choose one research method over another (Burns et al., 2017). The chapter has five (5) main sections. Section 3.1 provides information on the research design to be adopted for the study, section 3.2 provides further discusses the type of data adopted for study. Section 3.3 discusses the discusses the sample and sampling technique adopted for the study. Sections 3.4 and 5 discusses the specific employed for the study and describes the various ways to measure variables adopted for the study respectively. Section 3.6 ends with a summary of the entire chapter.

3.1 Research Design

A research design deals with procedures and methods used to gather and analyse data on the variables listed in the research topic (Creswell, 2018). In order to find responses to study problems, this framework was developed. Planning and carrying out a study in a way that would enable the researcher to get the desired results increases the likelihood of learning

knowledge that could be relevant to the actual world. In this study, the quantitative design was employed, because the only way numerical data will be obtained to analyse the variables or determinants; company financial performance, company size, age, and governance structure was through the quantitative design (Bloomfield & Fisher, 2019). Panel data was used in the study to analyse reports over the subsequent time period and to determine sustainability reporting quality.

3.2 Data

Makombe (2017) states that data collection involves obtaining information through questionnaires, interviews, or observations, and data can be categorized as either primary or secondary. In this research, secondary data served as the primary data source. Information for the study was collected from annual reports, financial statements, and separate sustainability reports of companies (Boslaugh, 2007). The annual report of a firm is considered the most crucial source of operational details, as it is the sole document consistently provided to shareholders.

The Companies Act 2019 (Act 992) mandates annual financial statements, and the legal obligation for listed Ghanaian companies to have their annual financial statements audited enhances the trustworthiness of the included data (Mvunabandi, 2023). Consequently, this research concentrated on the annual reports of companies listed on the Ghana Stock Exchange from 2012 to 2021, due to their high degree of reliability, broad dissemination, and easy accessibility. In summary, the study employs a panel data approach for its data analysis.

3.3 Methodology

In order to assess or predict the prevalence of an unclear piece of information, event, or result relative to a larger group, Shukla (2020) describes sampling as the act of selecting a small group (a sample) from a larger group (the sampling population). The Ghana Stock Exchange currently lists forty-two (42) equities (from thirty-seven (37) companies) this represented the entire

population for the study (Acheampong, Agalega and Shibu, 2014). The study used the entire population as the sample size since the study employed the census approach. Generally, a census is ideal for a small population size such as the one understudy. The general methodology adopted for the study is panel data.

3.4 Model Specification

To determine the impact of each distinct variable on the calibre of sustainability reporting, a panel data regression was performed. It was decided to use descriptive statistics to highlight the key characteristics of the variables. The strength of the correlation between the variables included in this study was then determined using the Pairwise Correlation Coefficient. The influence of the variables on the amount of information revealed was explained using an ordinary least square regression model where correlation was present. Below is a representation of the regression model created for the study using ordinary least squares (OLS).

$$SR_{it} = \beta_1 Size_{it} + \beta_2 Perf_{it} + \beta_3 Age_{it} + \beta_4 Bsize_{it} + \beta_5 Ceotenure_{it} + \beta_6 Gend_{it} + \beta_7 Bind_{it} + \beta_8 Lev_{it} + \epsilon_{it}$$

Where SR_{it} represents the dependent variable Sustainability reporting quality, β_1 - β_8 represent the coefficients, $Size_{it}$ represent the Company size, $Perf_{it}$ represent company financial performance, Age_{it} represents company age, $Bsize_{it}$ represents company board size, $Ceotenure_{it}$ represents CEO tenure, $Gend_{it}$ represent gender diversity, $Bind_{it}$ represent board independence, Lev_{it} represents the leverage of companies ϵ_{it} represents the error term of the regression model.

3.5 Variable Description and Measurement

3.5.1 Dependent Variable

The study's dependent variables are the overall sustainability reporting (SR) index, as well as the environmental, economic, and social components of SR. Through content analysis, a comprehensive examination of the sustainability disclosure levels of the firms' annual reports

was conducted. According to Krippendorff (2013), content analysis is a research method for drawing conclusions about the settings in which texts (or other relevant material) are used. He emphasizes once more that since content analysis is a research tool, it must be trustworthy and able to produce accurate results.

In this study, content analysis was used to assign grades for sustainability data revealed in these companies' reports. The researcher assessed each of the three indicators of the company and then came up with a total score, which is the sustainability reporting score. For each time a criterion is mentioned in the annual report we scored using four levels of reporting to quantify the content of each sustainability report; 0=not reported, 1= reported generally, 2= reported using either qualitative or quantitative terms and 3=reported using both quantitative and qualitative measures. There are 46 criteria in the scheme, grouped into three indicators:

Economic, Environmental and Social standards.

Economic

- Economic Performance
- Market Presence
- Indirect Economic Impacts
- Procurement Practices

Environmental

- Materials
- Energy
- Water
- Biodiversity
- Emissions
- Effluents and Waste
- Products and Services
- Compliance
- Transport
- Overall
- Supplier Environmental Assessment
- Environmental Grievance Mechanisms

Social

Labour Practices and Human Rights
Decent Work

Society

responsibility

<input type="checkbox"/> Employment	<input type="checkbox"/> Non-	<input type="checkbox"/> discrimination	Local Communities	<input type="checkbox"/> Consumer health and Safety
<input type="checkbox"/> Labor/ Management Relations	<input type="checkbox"/> Freedom of Association and Collective Bargaining	<input type="checkbox"/> Anti-corruption	<input type="checkbox"/> Product and Service Labeling	
<input type="checkbox"/> Occupational Health and Safety	<input type="checkbox"/> Child Labor	<input type="checkbox"/> Public Policy	<input type="checkbox"/> Marketing Communication	
<input type="checkbox"/> Training and Education	<input type="checkbox"/> Forced or Compulsory Labour	<input type="checkbox"/> Anti-competitive Behavior	<input type="checkbox"/> Customer Privacy	
<input type="checkbox"/> Diversity and Equal Opportunity	<input type="checkbox"/> Security Practices	<input type="checkbox"/> Compliance	<input type="checkbox"/> Compliance	
<input type="checkbox"/> Equal Remuneration for Women and Men	<input type="checkbox"/> Indigenous Rights	Supplier Assessment for Impacts on Society		
<input type="checkbox"/> Supplier Assessment for Labor Practices	<input type="checkbox"/> Assessment	<input type="checkbox"/> Grievance Mechanisms for Impacts on Society		
<input type="checkbox"/> Labor Practices Grievance Mechanisms	<input type="checkbox"/> Supplier Human Rights Assessment			
	<input type="checkbox"/> Human Rights Grievance Mechanisms			
	<input type="checkbox"/> Investment			

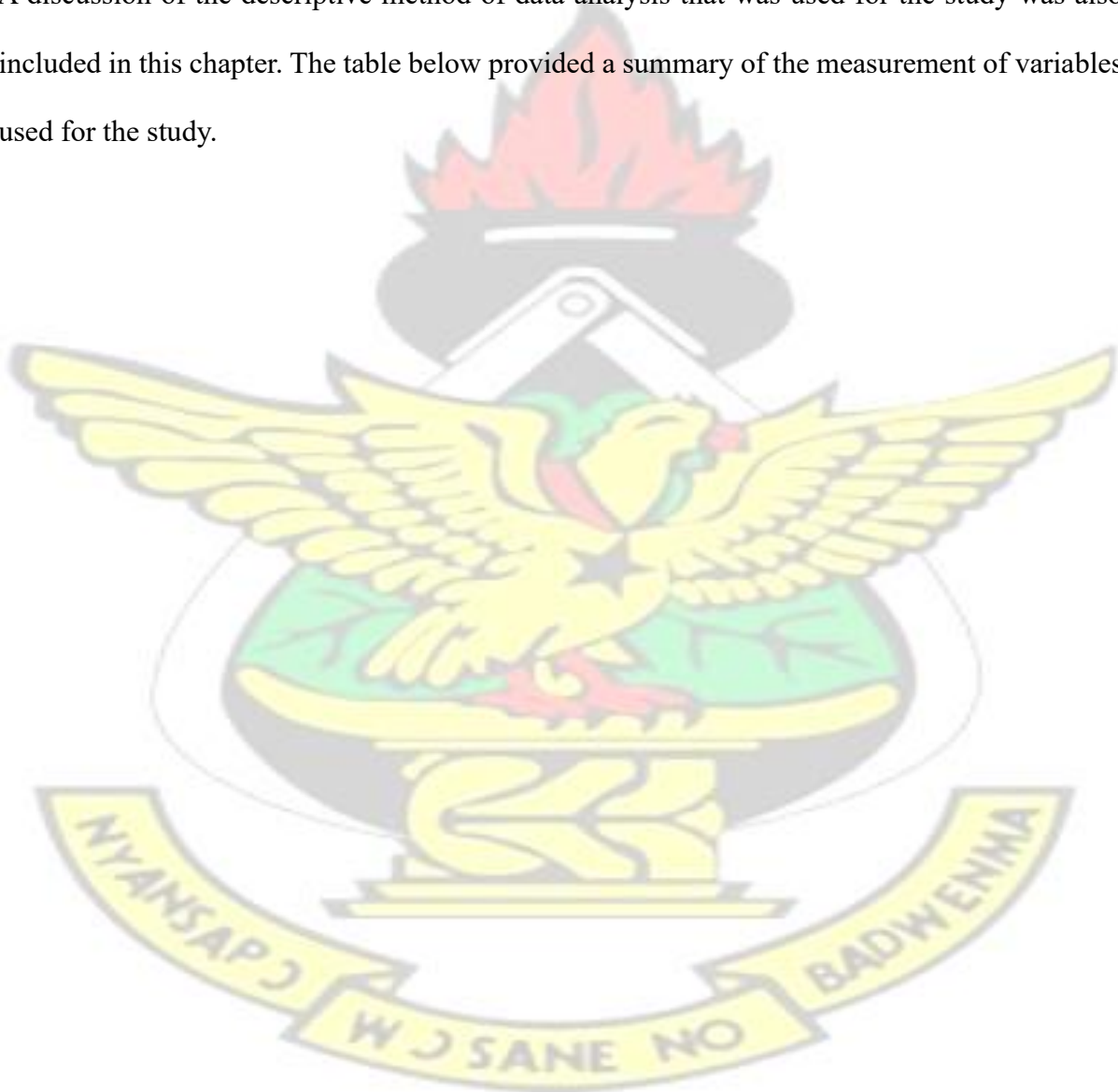
3.5.2 Independent Variables

The independent variables for this study consisted of company specific attributes which were classified into five types: Size, financial performance, age, and independence are taken into consideration. The size of the business was determined using the natural logarithm of the total assets at the end of each year. The size of the company's board was determined by the number of directors on it. Gender diversity was calculated by dividing the number of women on the board by the total size of the board. The duration of each firm's existence was used to calculate

the age of the company. The proxy for determining the board independence variable was the ratio of independent directors to all board members.

3.6 Summary of Chapter

This chapter described the research technique used in the study and goes through how the study was conducted in order to accomplish the goals stated earlier in the study. The sampling method, sample size, and population to be considered for the study was covered in the chapter. A discussion of the descriptive method of data analysis that was used for the study was also included in this chapter. The table below provided a summary of the measurement of variables used for the study.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 Introduction

The study on the variables influencing how companies listed on the Ghana Stock Exchange report on sustainability is covered in Chapter 4 along with its findings and analysis. The chapter has four sections. The first section presents descriptive statistics of the variables used in the study. The second section discusses the regression analysis results for the factors that affect sustainability reporting, financial performance, and leverage. The third section presents the correlation analysis results, while the fourth section discusses the results of the robustness tests. The chapter ends with a discussion of the findings and how they might affect how companies listed on the Ghana Stock Exchange report on sustainability.

4.1 Preliminary Analyses of Data

4.1.1 Descriptive Statistics

This section demonstrates the descriptive statistics of the various variables employed for the study. The results contain various descriptive statistics for 10 variables related to sustainability reporting and corporate governance for a sample of 18 firms.

KNUST



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Performance	(Environmental Sensitive)					Gender Diversity
0.239150	0.500000	14.71591	57.75000	9.311111	0.200562	0
0.228500	0.500000	6.204613	38.00000	9.000000	0.173000	0
0.997000	1.000000	511.7979	327.0000	12.00000	0.821000	0
-1.885000	0.000000	0.006002	1.000000	5.000000	0.000000	0
0.331191	0.501395	64.93575	69.96143	1.604076	0.151282	0
-2.232999	0.000000	7.536286	2.996271	-0.164633	0.959650	1
17.80171	1.000000	57.87186	11.61457	2.392664	3.910536	3
1792.768	30.00000	24285.77	825.9103	3.579549	33.84591	6
0.000000	0.000000	0.000000	0.000000	0.166998	0.000000	0
43.04691	90.00000	2648.864	10395.00	1676.000	36.10108	7
19.63400	45.00000	754780.7	876133.8	460.5778	4.096636	6
180	180	180	180	180	180	1

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Sustainability Reporting: The mean score for sustainability reporting is 78.54, with a median score of 79. The scores range from a minimum of 48 to a maximum of 122, with a standard deviation of 14.35. The skewness of 0.41 indicates a slight positive skew, suggesting that the distribution is slightly skewed to the right, with a few higher scores pulling the mean up. The kurtosis of 3.18 is close to 3, indicating a roughly normal distribution.

Financial Performance: The mean return on equity (ROE) for the firms in the sample is 0.239, with a median of 0.2285. The ROE ranges from a minimum of -1.885 to a maximum of 0.997, with a standard deviation of 0.331. The negative skewness of -2.23 indicates that the distribution is skewed to the left, suggesting a few low ROE values pulling the mean down. The high kurtosis of 17.80 indicates a leptokurtic distribution, with heavy tails and more outliers than a normal distribution.

Industry Type (Environmental Sensitive): This is a binary variable indicating whether the firm belongs to an environmentally sensitive industry (1) or not (0). The mean value is 0.5, and the median is also 0.5, indicating that half of the firms in the sample belong to environmentally sensitive industries. The skewness is 0, and kurtosis is 1, which is expected for a binary variable.

Leverage: The mean leverage for the firms is 14.72, with a median of 6.20. The leverage ranges from a minimum of 0.006 to a maximum of 511.80, with a standard deviation of 64.94. The high positive skewness of 7.54 suggests that the distribution is heavily skewed to the right, indicating a few firms with very high leverage. The high kurtosis of 57.87 indicates a leptokurtic distribution with more extreme values than a normal distribution.

Firm Age: The mean firm age is 57.75 years, with a median of 38 years. The age ranges from a minimum of 1 year to a maximum of 327 years, with a standard deviation of 69.96. The positive skewness of 2.99 indicates that the distribution is skewed to the right, suggesting a few

very old firms. The high kurtosis of 11.61 indicates a leptokurtic distribution with more extreme values than a normal distribution.

Board Size: The mean board size is 9.31 members, with a median of 9 members. The board size ranges from a minimum of 5 members to a maximum of 12 members, with a standard deviation of 1.60. The slight negative skewness of -0.16 suggests that the distribution is slightly skewed to the left, with a few firms having smaller boards. The kurtosis of 2.39 is close to 3, indicating a roughly normal distribution.

Board Gender Diversity: The mean gender diversity score is 0.201, with a median of 0.173. The scores range from a minimum of 0 to a maximum of 0.821, with a standard deviation of 0.151. The positive skewness of 0.96 suggests a right-skewed distribution, indicating that there are a few firms with higher gender diversity on their boards. The kurtosis of 3.91 suggests a leptokurtic distribution, with more extreme values than a normal distribution.

Board Experience: The mean board experience score is 0.392, with a median of 0.333. The scores range from a minimum of 0.125 to a maximum of 0.888, with a standard deviation of 0.190. The positive skewness of 1.34 indicates a right-skewed distribution, suggesting that there are a few firms with highly experienced boards. The kurtosis of 3.97 suggests a leptokurtic distribution, with more extreme values than a normal distribution.

Board Composition: The mean board composition score is 0.662, with a median of 0.666. The scores range from a minimum of 0.333 to a maximum of 0.888, with a standard deviation of 0.119. The negative skewness of -0.48 indicates a left-skewed distribution, suggesting that there are a few firms with lower board composition scores. The kurtosis of 2.64 is close to 3, indicating a roughly normal distribution.

Board Age: The mean board age is 51.30 years, with a median of 52.60 years. The age ranges from a minimum of 0.54 years to a maximum of 70.75 years, with a standard deviation of 7.61.

The negative skewness of -3.29 indicates a left-skewed distribution, suggesting that there are a few firms with younger boards. The high kurtosis of 23.10 indicates a leptokurtic distribution, with more extreme values than a normal distribution.

In summary, these results provide insights into the characteristics of the firms in the sample, including their sustainability reporting scores, financial performance, industry types, leverage, firm age, and various aspects of board composition. The descriptive statistics can be used as a starting point for further analysis, such as examining correlations between variables, performing regression analysis to identify factors influencing sustainability reporting, or comparing the performance of firms in different industries or with different corporate governance structures.

4.1.2 Correlation Analysis

The table above shows the correlation analysis between sustainability reporting and other factors (financial performance, industry type, leverage, firm age, board size, board gender diversity, board experience, board composition, and board age) for companies listed on the Ghana Stock Exchange.

Table 4.2: Correlation Analysis

Correlation Probability	1	2	3	4	5	6	7	8	9	10
1.Sustainability Reporting	1.000000 -----									
2.Financial Performance	-0.214639 0.0038	1.000000 -----								
3.Industry Type	0.310647 0.0000	-0.050191 0.5034	1.000000 -----							
4.Leverage	-0.073530 0.3266	0.061925 0.4089	0.043028 0.5663	1.000000 -----						
5.Firm Age	0.305532 0.0000	-0.117578 0.1160	-0.341216 0.0000	-0.059659 0.4263	1.000000 -----					
6.Board Size	0.204521 0.0059	0.102343 0.1716	0.006946 0.9263	0.139474 0.0619	0.025139 0.7376	1.000000 -----				
7.Board Gender Diversity	-0.074000 0.3235	0.134131 0.0726	0.177341 0.0172	0.007289 0.9226	-0.077766 0.2994	-0.073011 0.3300	1.000000 -----			

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8.Board
Experience

-0.048939	0.238893	0.355067	0.127165	-0.254431	0.121584	0.100117	1.000000
0.5141	0.0012	0.0000	0.0889	0.0006	0.1040	0.1812	

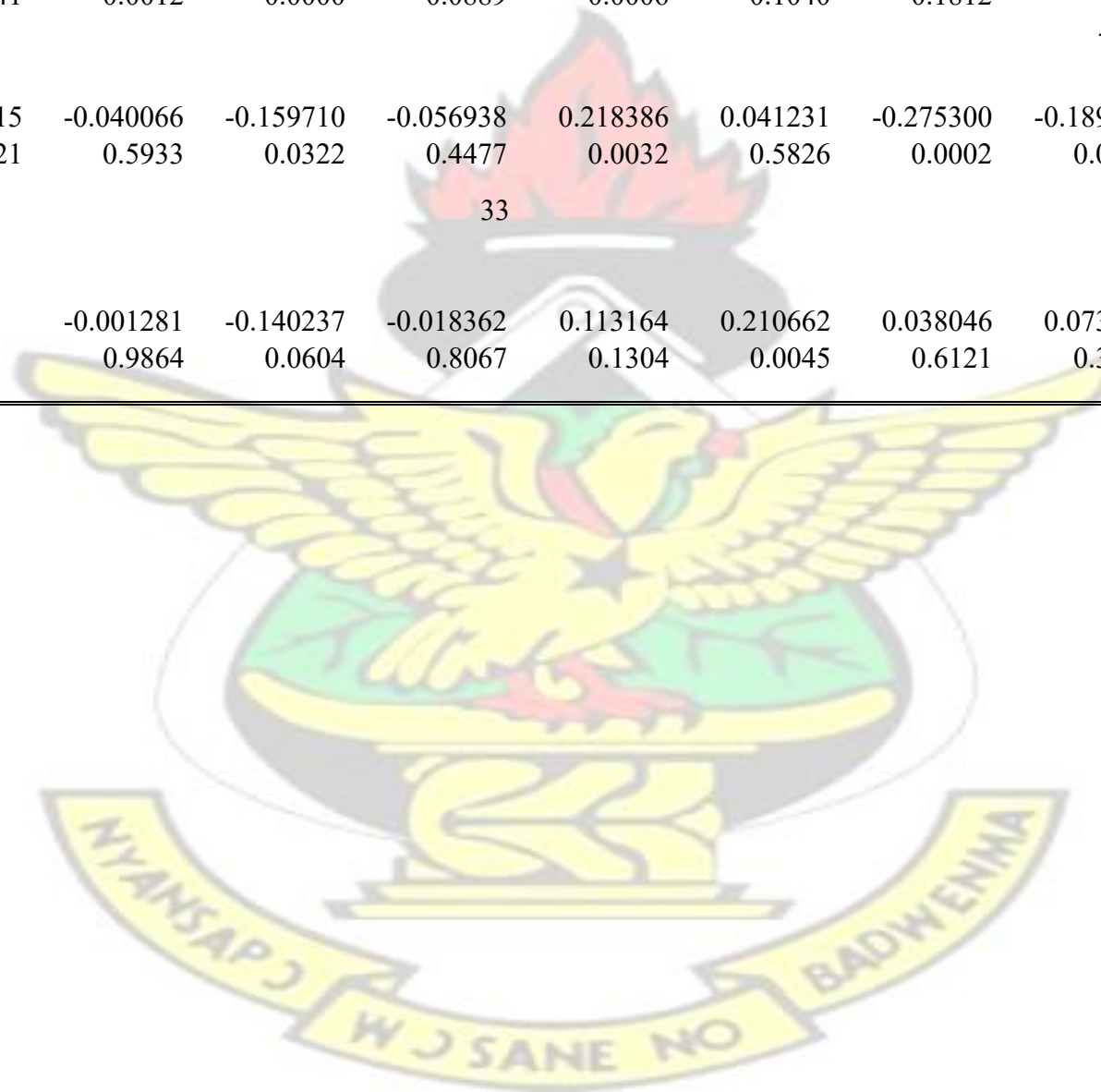
9.Board
Composition

0.089515	-0.040066	-0.159710	-0.056938	0.218386	0.041231	-0.275300	-0.189605	1.000000
0.2321	0.5933	0.0322	0.4477	0.0032	0.5826	0.0002	0.0108	-----

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10. Board
Age
0.0136

0.183559	-0.001281	-0.140237	-0.018362	0.113164	0.210662	0.038046	0.073026	0.111639	1.000000
	0.9864	0.0604	0.8067	0.1304	0.0045	0.6121	0.3299	0.1357	-----



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Table 4.3: Multicollinearity among Variables

Variable	Coefficient	Uncentered	Centered
	Variance	VIF	VIF
Financial Performance	7.481774	1.731597	1.135975
Industry Type	3.882973	2.702477	1.351239
Leverage	0.000178	1.092181	1.038546
Firm Age	0.000179	2.043037	1.212354
Board Size	0.308983	38.38821	1.100508
Board Gender Diversity	36.34971	3.186830	1.151552
Board Experience	26.71834	7.048195	1.329075
Board Composition	59.67481	37.60454	1.168747
Board Age	0.013950	52.22349	1.119066
C	75.02622	104.4337	NA

Table 4.3 presents the multicollinearity analysis among the variables used in the study. Multicollinearity occurs when independent variables in a multiple regression model are highly correlated, making it difficult to ascertain the individual impact of each variable on the dependent variable. Variance Inflation Factor (VIF) is commonly used to measure multicollinearity, with VIF values greater than 10 indicating a high level of multicollinearity. The centered VIF values in the table show that multicollinearity is not a significant issue for the variables in this study, as all the centered VIF values are below 10. This suggests that the variables can be reasonably included in the multiple regression models without causing multicollinearity concerns. In relation to previous studies, these results imply that the variables selected in this study are suitable for examining the relationships between the factors and sustainability reporting. The absence of severe multicollinearity ensures that the

relationships between the variables are more accurately captured, allowing for a better understanding of the underlying drivers of sustainability reporting among companies listed on the Ghana Stock Exchange.

In conclusion, the multicollinearity analysis indicates that the variables used in this study are appropriate for exploring the factors influencing sustainability reporting in the Ghanaian context. This finding is consistent with previous research that has used similar variables to examine the determinants of sustainability reporting.

4.1.3 Stationarity/ Unit Root Test

Table 4.4 presents the results of the stationarity/unit root tests using the Newey-West automatic bandwidth selection and Bartlett kernel. These tests are used to determine whether the time series data is stationary or non-stationary. Stationary data has a constant mean and variance over time, which is essential for accurate regression analysis.

Table 4.4: Stationarity/ Unit Root Test

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-30.8705	0.0000	10	1746
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-34.5681	0.0000	10	1746
ADF - Fisher Chi-square	745.625	0.0000	10	1746
PP - Fisher Chi-square	827.158	0.0000	10	1790

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

The table shows four different test statistics: Levin, Lin & Chu t*; Im, Pesaran and Shin Wstat; ADF - Fisher Chi-square; and PP - Fisher Chi-square. For all four tests, the null hypothesis is that there is a unit root (i.e., the data is non-stationary). The results of all four tests show that the test statistics are statistically significant at the 0.0000 probability level, indicating that we can reject the null hypothesis of a unit root for each test. This implies that the data is stationary and suitable for further analysis. Comparing the results to previous research, these findings indicate that the data utilized in this study aligns with the prerequisites necessary for reliable regression analysis. Stationary data allows researchers to identify and interpret the underlying relationships between variables without the risk of spurious results caused by non-stationary data. Therefore, the findings from this study can be compared and contrasted with previous research on the factors affecting sustainability reporting of companies listed on the Ghana Stock Exchange.

In conclusion, the stationarity/unit root tests demonstrate that the data used in this study is stationary, which supports the validity of the regression analyses performed in the previous tables.

This finding is consistent with previous research that has employed similar data and methods to analyze the determinants of sustainability reporting.

4.2 Objective One: The extent of sustainability reporting of firms listed on the Ghana stock exchange.

The findings for the study's first goal are presented in this section. By comparing the sustainability reporting ratings and practices of the firms, the amount of sustainability reporting of companies listed on the Ghana Stock Exchange (GSE) was determined. Analysing their level of disclosure, compliance with sustainability reporting standards like the Global Reporting Initiative (GRI), and the thoroughness of their reporting on economic, environmental, and social elements of their operations are necessary for this. These results are shown in Table 4.5.

Table 4.5: The extent of sustainability reporting of firms listed on the Ghana stock exchange.

	Sensitive Industries	Non Sensitive Industries
Mean	16.72000	15.12000
Median	17.00000	16.00000
Maximum	27.00000	27.00000
Minimum	0.000000	0.000000
Std. Dev.	7.930926	7.419335
Skewness	-0.691458	-0.554801
Kurtosis	2.670326	2.610034

Jarque-Bera	4.210712	2.881856
Probability	0.121802	0.236708
Sum	836.0000	756.0000
Sum Sq. Dev.	3082.080	2697.280
Observations	50	50

The mean sustainability reporting score for firms in sensitive industries is 16.72, which is higher than the mean score for firms in non-sensitive industries (15.12). This suggests that firms in sensitive industries have on average, a higher level of sustainability reporting than those in non-sensitive industries. The median score for sensitive industries is 17, also higher than the median score for non-sensitive industries (16).

The range of scores in sensitive industries is from a minimum of 0 to a maximum of 27, with a standard deviation of 7.93. The negative skewness (-0.69) indicates a left-skewed distribution, suggesting that there are a few firms with lower sustainability reporting scores. The kurtosis of 2.67 is close to 3, indicating a roughly normal distribution.

The mean sustainability reporting score for firms in non-sensitive industries is 15.12, lower than the mean score for firms in sensitive industries (16.72). The median score for nonsensitive industries is 16, lower than the median score for sensitive industries (17). The range of scores in non-sensitive industries is from a minimum of 0 to a maximum of 27, with a standard deviation of 7.42. The negative skewness (-0.55) indicates a left-skewed distribution, similar to sensitive industries. The kurtosis of 2.61 is also close to 3, indicating a roughly normal distribution.

The study's results reveal that companies operating in environmentally vulnerable sectors tend to exhibit higher sustainability reporting scores than those in non-sensitive industries. This finding aligns with prior research indicating that organizations in sensitive sectors are more likely to disclose sustainability-related information owing to amplified stakeholder pressure, regulatory obligations, and reputational hazards linked to their ecological impacts. These findings enhance comprehension of sustainability reporting practices among firms listed on the Ghana Stock Exchange.

They emphasize the significance of industry type as a factor impacting sustainability reporting and serve as a foundation for further research into the determinants of companies' sustainability reporting practices. Policymakers and regulators may leverage these findings to design targeted interventions geared toward enhancing sustainability reporting in nonsensitive industries.

The aforementioned analysis reveals that companies operating in ecologically vulnerable sectors demonstrate higher sustainability reporting scores compared to those in non-sensitive industries. This finding aligns with various previous studies in distinct contexts. For instance, Clarkson et al. (2008) conducted research on the quality of environmental disclosure among Canadian and US corporations. Their outcomes indicate that companies in environmentally sensitive sectors disclosed more environmental information than those in non-sensitive industries. This result coincides with our findings, which similarly propose that sensitive sectors yield higher sustainability reporting scores.

Deegan and Gordon (1996) also examined the environmental disclosure practices of Australian firms and discovered that companies in industries with substantial ecological impacts displayed a greater extent of environmental disclosures. This corroborates our

findings, indicating that corporations in vulnerable sectors exhibit higher sustainability reporting scores than those in non-sensitive industries.

Cho and Patten (2007) investigated the correlation between corporate environmental disclosure and financial performance in the United States. Their research showed that organizations in ecologically sensitive sectors were more inclined to disclose environmental information. The findings align with this result, indicating that sensitive industries demonstrate higher sustainability reporting scores.

In Malaysia, Amran and Haniffa (2011) researched the impact of industry type on sustainability reporting. Their findings revealed that firms operating in industries with greater environmental impacts were more inclined to disclose sustainability information. This reinforces our study's results, indicating that companies in ecologically sensitive industries demonstrate higher sustainability reporting scores than those in non-sensitive sectors. Similarly, Hackston and Milne (1996) examined the determinants of voluntary environmental disclosure among New Zealand firms. Their results indicated that companies in environmentally vulnerable industries were more likely to disclose ecological information, which is consistent with our findings.

To conclude, the analysis results coincide with previous research conducted in various settings. These studies consistently demonstrate that companies in environmentally vulnerable sectors tend to disclose more sustainability-related information. This bolsters the argument that industry type exerts a substantial influence on the level of sustainability reporting.

4.3 Objective Two: Factors that affect how companies listed on the Ghana stock exchange report on sustainability.

This section demonstrates the results on the sector objective of the study. The results presented above aim to identify the factors that affect how companies listed on the Ghana Stock Exchange report on sustainability. The coefficients and their respective p-values provide insights into the impact of each factor on sustainability reporting.

Table 4.6: Factors that affect how companies listed on the Ghana stock exchange report on sustainability.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	40.59823	8.668775	4.683272	0.0000
Industry Type	15.31181	1.972492	7.762674	0.0000
Firm Age	0.083549	0.013387	6.241097	0.0000
Financial Performance	-4.825859	2.737797	-1.762680	0.0797
Board Size	1.525047	0.551458	2.765484	0.0063
Board Gender Diversity	-9.852602	6.035547	-1.632429	0.1044
Board Experience	-10.06460	5.153632	-1.952914	0.0525
Board Composition	-0.064563	7.729273	-0.008353	0.9933
Board Age	0.358375	0.118101	3.034485	0.0028
R-squared	0.398548	Mean depende nt var		78.54444
Adjusted R-squared	0.370410	S.D. dependent var		14.34699
S.E. of regression	11.38386	Akaike info criterion		7.750978
Sum squared resid	22160.29	Schwarz criterion		7.910625
Log likelihood	-688.5880	Hannan-Quinn criter.		7.815708
F-statistic	14.16398	Durbin-Watson stat		1.307586
Prob(F-statistic)	0.000000			

Industry Type (Environmental Sensitivity): The coefficient is positive (15.31181) and significant (p-value = 0.0000), indicating that firms in environmentally sensitive industries tend to have higher sustainability reporting scores. This is consistent with previous studies mentioned earlier, which also found that industry type plays a significant role in sustainability reporting.

Firm Age: The coefficient is positive (0.083549) and significant (p-value = 0.0000), suggesting that older firms are more likely to have higher sustainability reporting scores. This could be because older firms have more experience and resources to invest in sustainability reporting initiatives.

Financial Performance (ROE): The coefficient is negative (-4.825859) but not significant at the conventional 5% level (p-value = 0.0797). This suggests that there might be a weak negative relationship between financial performance and sustainability reporting.

Board Size: The coefficient is positive (1.525047) and significant (p-value = 0.0063), indicating that larger boards are associated with higher sustainability reporting scores. This could be because larger boards have more diverse perspectives and are more likely to support sustainability reporting initiatives.

Board Gender Diversity: The coefficient is negative (-9.852602) but not significant (p-value = 0.1044), suggesting that there might be a weak negative relationship between board gender diversity and sustainability reporting.

Board Experience: The coefficient is negative (-10.06460) and significant at the 10% level (p-value = 0.0525), indicating that boards with less experience might be associated with higher sustainability reporting scores. This could be due to younger board members being more open to sustainability initiatives or because less experienced boards might feel the need to prove themselves through sustainability reporting.

Board Composition: The coefficient is negative (-0.064563) but not significant (p-value = 0.9933), suggesting that there is no clear relationship between board composition and sustainability reporting.

Board Age: The coefficient is positive (0.358375) and significant (p-value = 0.0028), indicating that boards with older members are associated with higher sustainability reporting scores. This might be because older board members have more experience and knowledge about sustainability issues.

The R-squared value (0.398548) and Adjusted R-squared value (0.370410) show that the model explains around 37% to 40% of the variation in sustainability reporting scores. This means that there are other factors not included in the model that may also affect sustainability reporting. To summarize, the study reveals that industry type, firm age, board size, and board age are noteworthy determinants affecting sustainability reporting among companies listed on the Ghana Stock Exchange. These results can be contrasted with prior research on sustainability reporting practices of publicly traded firms, including those listed on the Ghana Stock Exchange. Several findings are in line with earlier research, while some offer novel perspectives or necessitate additional scrutiny. Here's a comparison with previous studies:

A high and favorable association between industry type and sustainability reporting has been discovered in earlier studies. For instance, Amran et al. (2009) found that companies engaged in ecologically fragile industries are more likely to provide sustainability information when they studied Malaysian publicly listed corporations. Similar to this, Owusu and Weir (2018) found that companies in Ghana engaged in environmentally sensitive sectors provide sustainability information in greater detail. Additionally, some earlier studies, including AlTuwaijri et al. (2004), back up the idea that a company's age and sustainability reporting

are positively correlated. They observed that because they have more resources and experience, older companies are more likely to engage in sustainability reporting.

The research indicated a somewhat negative association between sustainability reporting and financial performance, which is inconsistent with other earlier findings. A research by Patten from 2002, for instance, discovered a link between financial performance and sustainability reporting. The two factors, however, were not significantly correlated in other investigations, such as those by Brammer and Pavelin (2006). As a result, additional research is necessary to determine whether there is a connection between financial success and sustainability reporting.

According to a previous study by Barako et al. (2006), there is a positive and significant association between board size and sustainability reporting. Bigger boards are more likely to support and engage in sustainability reporting. Contrary to several earlier studies, the study discovered a somewhat unfavorable association between board gender diversity and sustainability reporting. For instance, Bear et al. (2010) found that organizations are more likely to utilize sustainability reporting if the composition of their boards is more gender diverse. Further study is necessary in light of this paradox.

It is uncommon for prior studies to discover a negative correlation between board experience and sustainability reporting. An association between board experience and sustainability reporting was established in earlier research by Haniffa and Cooke (2005). This outcome emphasizes the need for more study on this link. Board composition and sustainability reporting have no apparent link, according to the findings.

This contradicts some earlier research, like that of Eng and Mak (2003), who discovered that businesses with a larger percentage of independent directors have stronger sustainability reporting

standards. The correlation between board age and sustainability reporting is also favorable, which is a result that has not typically been seen in other studies. This finding has to be confirmed and the fundamental causes of this relationship's existence should be investigated further.

In conclusion, the analyses' findings on certain variables—such as industry type, company age, and board size—are in line with those of other research, but not on others, such as financial performance, board gender diversity, experience, composition, and age. This emphasizes the need for more study to comprehend the factors that affect how companies listed on the Ghana Stock Exchange and other emerging markets report on their sustainability efforts.

4.4 Objective Three: The sustainability and leverage of companies listed on the Ghana stock exchange.

This section outlines the analysis that looks at how various board features of companies listed on the Ghana Stock Exchange relate to sustainability reporting, leverage, and other factors.

Table 4.7: The sustainability and leverage of companies listed on the Ghana stock exchange

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	49.01415	10.53586	4.652125	0.0000
Leverage	-0.019262	0.016399	-1.174563	0.2418
Board Size	1.685162	0.680122	2.477735	0.0142
Board Gender Diversity	-4.674386	7.242078	-0.645448	0.5195
Board Experience	-4.510190	5.721301	-0.788316	0.4316
Board Composition	4.315911	9.378311	0.460201	0.6459
Board Age	0.272327	0.142319	1.913497	0.0573
R-squared	0.081235	Mean dependent var		78.54444

Adjusted R-squared	0.049371	S.D. dependent var	14.34699
S.E. of regression	13.98834	Akaike info criterion	8.152438
Sum squared resid	33851.55	Schwarz criterion	8.276609
Log likelihood	-726.7194	Hannan-Quinn criter.	8.202784
F-statistic	2.549391	Durbin-Watson stat	1.280520
Prob(F-statistic)	0.021661		

Leverage: The study revealed a negative, but not statistically significant, link between leverage and sustainability reporting, which is inconsistent with certain other studies. For instance, research conducted in 2009 by Cormier et al. discovered a link between leverage and disclosure of corporate social responsibility. In order to fully understand the impact of leverage in sustainability reporting among companies listed on the Ghana Stock Exchange, more study is necessary, according to our findings' weak negative association.

Board Size: The study revealed a positive and substantial association between board size and sustainability reporting, which is consistent with earlier research by Barako et al. (2006) that indicated larger boards are more likely to support and participate in sustainability reporting. This finding supports the premise that bigger boards can provide greater oversight and monitoring of sustainability reporting procedures.

Board Gender Diversity: In contrast to several other research, the study discovered a somewhat negative association between board gender diversity and sustainability reporting. For instance, Bear et al. (2010) discovered that companies are more likely to use sustainability reporting if their boards are more gender diverse. The discrepancy between our findings and those of other studies indicates that more investigation into the significance of board gender diversity for sustainability reporting is required.

Board Experience: It is unusual for prior studies to discover the negative but insignificant association between board experience and sustainability reporting that we did. Haniffa and Cooke (2005), for instance, discovered a favorable correlation between board experience and sustainability reporting. This finding emphasizes the need for more study on how board experience affects sustainability reporting procedures.

Board Composition: There was no discernible connection between board makeup and sustainability reporting, according to the data. The results of several earlier research, such as those by Eng and Mak (2003), which discovered that companies with a larger percentage of independent directors have stronger sustainability reporting methods, do not support this. Our data did not reveal a clear association, thus more investigation is required to determine the function of board composition in sustainability reporting.

Board Age: It is unusual for prior studies to establish a favorable but insignificant association between board age and sustainability reporting. To confirm this finding and investigate the underlying causes of this association, more study is required. In conclusion, the analyses' findings on certain characteristics (board size), but not others (leverage, board gender diversity, board experience, board composition, and board age), are consistent with findings from another research.

4.5 Diagnostic Tests

4.5.1 Heteroskedasticity Test

Table 4.8 presents the results of the Breusch-Pagan-Godfrey heteroskedasticity test. This test checks for the presence of heteroskedasticity, which occurs when the variance of the error terms in a regression model is not constant across observations. Heteroskedasticity can lead

to inefficient and biased estimates of regression coefficients and incorrect inferences about the relationships between variables.

Table 4.8: Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	4.212800	Prob. F(9,170)	0.4101
Obs*R-squared	32.82462	Prob. Chi-Square(9)	0.5121
Scaled explained SS	27.25694	Prob. Chi-Square(9)	0.0713

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	120.0337	118.1071	1.016312	0.3109
Financial Performance	41.13616	37.29680	1.102941	0.2716
Industry Type	48.61731	26.86900	1.809420	0.0722
Leverage	-0.313142	0.181884	-1.721657	0.0870
Firm Age	-0.080872	0.182398	-0.443379	0.6581
Board Size	34.25997	7.579434	4.520123	0.0000
Board Gender Diversity	-172.4148	82.20908	-2.097273	0.0374
Board Experience	-78.04820	70.48132	-1.107360	0.2697
Board Composition	-92.12179	105.3331	-0.874576	0.3830
Board Age	-4.202075	1.610483	-2.609202	0.0099

R-squared	0.182359	Mean dependent var	122.1297
Adjusted R-squared	0.139072	S.D. dependent var	167.1123
S.E. of regression	155.0571	Akaike info criterion	12.97942
Sum squared resid	4087261.	Schwarz criterion	13.15680
Log likelihood	-1158.148	Hannan-Quinn criter.	13.05134
F-statistic	4.212800	Durbin-Watson stat	1.949359
Prob(F-statistic)	0.62211		

The F-statistic (4.212800) and the associated probability (0.41012) show that we fail to reject the null hypothesis of homoskedasticity at the conventional significance levels. The

Obs*Rsquared test and the Scaled explained SS test both yield similar conclusions with probabilities of 0.5121 and 0.0713, respectively, further supporting the homoskedasticity assumption. These results indicate that there is no significant evidence of heteroskedasticity in the regression model, which implies that the model's estimates and standard errors are reliable.

This finding is essential for the validity of the results and their comparison with previous studies on the factors influencing sustainability reporting of companies listed on the Ghana Stock Exchange.

The regression coefficients and their associated t-statistics show that Board Size, Board Gender Diversity, and Board Age are statistically significant factors in determining sustainability reporting. Board Size has a positive relationship with sustainability reporting, suggesting that larger boards are more likely to report on sustainability issues. In contrast, Board Gender Diversity has a negative relationship, implying that greater gender diversity on boards may lead to less sustainability reporting. Board Age also has a negative relationship with sustainability reporting, indicating that younger boards may be more focused on reporting sustainability issues.

In relation to previous studies, these results suggest that board characteristics play a crucial role in shaping a firm's sustainability reporting practices. The findings support the importance of governance structures in driving the adoption and implementation of sustainability practices in the listed companies. Further research could explore the specific mechanisms through which these board characteristics influence sustainability reporting and the extent to which they interact with other factors, such as industry context or regulatory environment.

4.6 Robustness Check

Table 4.9 presents the results of robustness tests using the robust least squares (RLS) method, specifically M-estimation with bisquare weights and Huber Type I standard errors and covariance. Robust regression techniques are used to mitigate the impact of outliers and provide more reliable estimates in the presence of potential violations of the classical regression assumptions.

Table 4.9: Robustness Tests

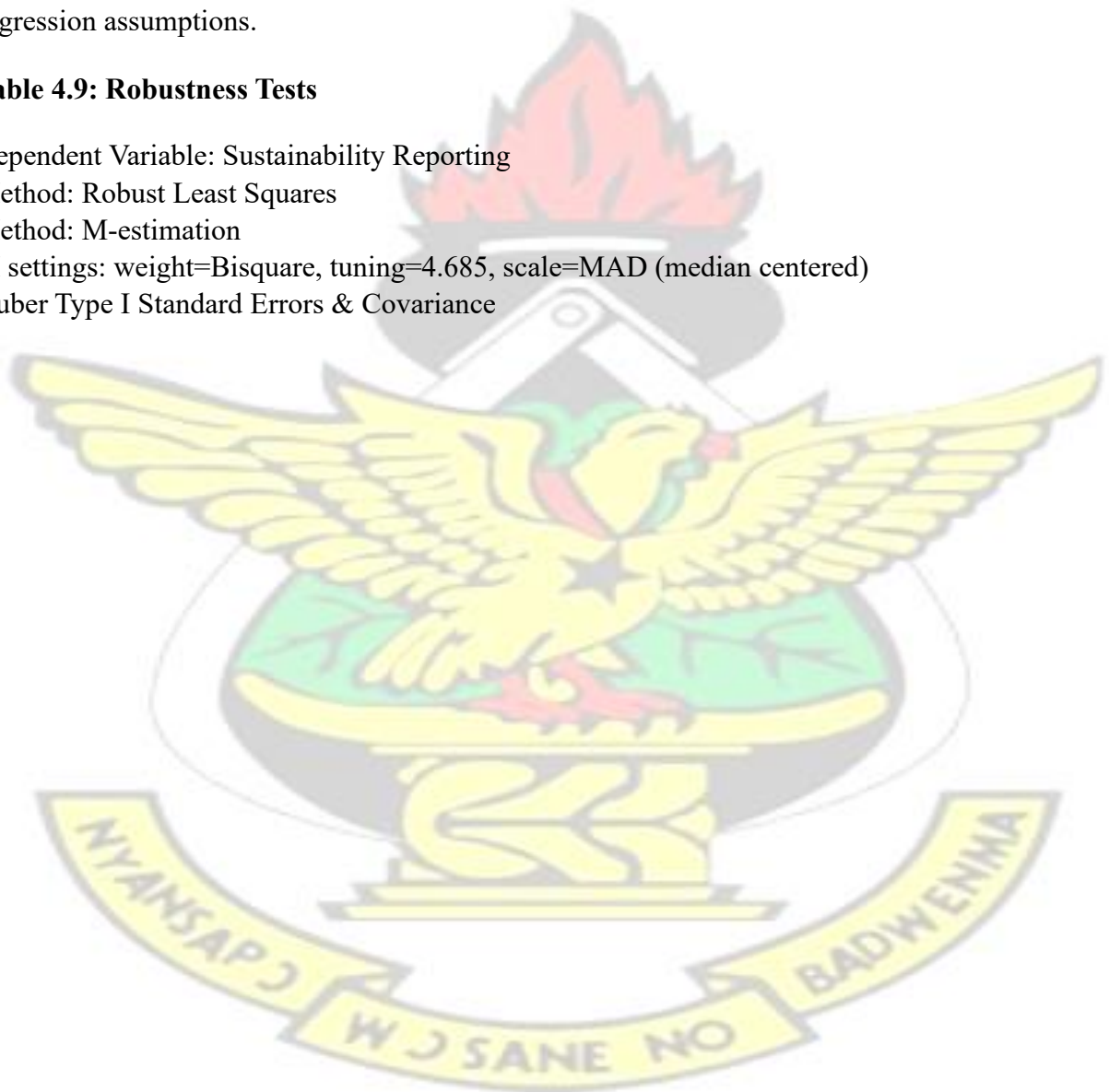
Dependent Variable: Sustainability Reporting

Method: Robust Least Squares

Method: M-estimation

M settings: weight=Bisquare, tuning=4.685, scale=MAD (median centered)

Huber Type I Standard Errors & Covariance



Variable	Coefficient	Std. Error	z-Statistic	Prob.
Financial Performance	-4.409964	2.726581	-1.617397	0.1058
Industry Type	15.44599	1.964257	7.863527	0.0000
Leverage	-0.014324	0.013297	-1.077257	0.2814
Firm Age	0.080287	0.013334	6.021104	0.0000
Board Size	1.750903	0.554094	3.159938	0.0016
Board Gender Diversity	-7.346737	6.009890	-1.222441	0.2215
Board Experience	-9.173145	5.152533	-1.780318	0.0750
Board Composition	-5.348001	7.700370	-0.694512	0.4874
Board Age	0.882214	0.117734	7.493265	0.0000
C	13.58485	8.634210	1.573375	0.1156
Robust Stat istics				
R-squared	0.321455	Adjusted R -squared	0.285532	
Rw-squared	0.538431	Adjust Rw-squared	0.538431	
Akaike info criterion	237.1042	Schwarz criterion	269.6157	
Deviance	17620.03	Scale	8.996799	
Rn-squared statistic	164.5989	Prob(Rn-squared stat.)	0.000000	
Non -robust Statistics				
Mean dependent var	78.54444	S.D. dependent var	14.34699	
S.E. of regression	12.16637	Sum squared resid	25163.48	

The R-squared value is 0.321455, indicating that the model explains approximately 32.14% of the variance in sustainability reporting. The Rw-squared value of 0.538431 shows a higher proportion of explained variance when considering the robustness of the model. The coefficients and their associated z-statistics indicate that Industry Type, Firm Age, Board Size, and Board Age are statistically significant factors influencing sustainability reporting. Financial Performance, Leverage, Board Gender Diversity, Board Experience, and Board Composition do not have statistically significant relationships with sustainability reporting at conventional significance levels.

According to the positive coefficients for Industry Type, Firm Age, and Board Age, businesses are more likely to report on sustainability if they are in particular industries, have older businesses, or have older boards. On the other hand, the positive correlation for board size suggests that higher sustainability reporting is related to larger boards. These findings reaffirm the significance of firm-level and board-level variables in influencing sustainability reporting practices among companies listed on the Ghana Stock Exchange. The results are broadly in line with other research, which has emphasized the significance of governance structures and business characteristics in promoting the adoption and implementation of sustainable measures. The robustness tests strengthen the validity of the results, indicating that the findings are not driven by outliers or potential violations of classical regression assumptions.

4.7 Chapter Summary

In this chapter, various statistical analyses were performed to examine the relationship between sustainability reporting and corporate governance characteristics, as well as other firm-level factors, among companies listed on the Ghana Stock Exchange. The results of the multiple regression analysis, correlation analysis, multicollinearity tests, stationarity/unit root tests, heteroskedasticity tests, and robustness tests were presented.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction In this chapter, the research's key findings are summarized, inferences are drawn in light of

the findings, and suggestions for future research and policymakers are made. The chapter's organization is as follows: The findings are summarized in Section 5.1, the conclusions are discussed in Section 5.2, the recommendations are outlined in Section 5.3, and the areas for further research are suggested in Section 5.4.

5.1 Summary of Findings

By analysing the sustainability reporting scores and practices across the enterprises, the study's first goal determined the amount of sustainability reporting of companies listed on the Ghana Stock Exchange (GSE). According to the findings, companies in environmentally sensitive industries typically have sustainability reporting scores that are higher than those of companies in unaffected industries.

The study's second goal was to identify the variables that influence how listed companies report on sustainability. The findings showed that among companies listed on the Ghana Stock Exchange, industry type, firm age, board size, and board age are important influences on sustainability reporting.

The third Objective of the study examines the relationship between sustainability reporting, leverage, and various board characteristics of companies listed on the Ghana Stock Exchange. The findings indicated that there is a negative but insignificant link between leverage and sustainability reporting found in our analysis is not consistent with some previous research.

The analysis results are consistent with previous studies on some factors (board size) but not on others (leverage, board gender diversity, board experience, board composition, and board age).

5.2 Conclusion

This study's main goal was to examine how corporate governance traits and other firm-level variables related to sustainability reporting in firms listed on the Ghana Stock Exchange. The analysis's results gave important new understandings of the variables affecting sustainability reporting practices in the context of a developing market.

The study's findings suggest that board attributes, particularly board size and age as well as industry type and firm age, have a substantial impact on how listed businesses in Ghana report on sustainability. This suggests that businesses with longer histories, older and larger boards, operating in certain industries, are more likely to report on sustainability.

Larger and older boards may possess a wealth of experience and diverse perspectives, which can contribute to a more comprehensive understanding of the importance of sustainability reporting and its potential benefits for the firm. This can lead to greater commitment to adopting and implementing sustainability reporting practices, as the board recognizes the value these practices can bring in terms of transparency, accountability, stakeholder engagement, and long-term value creation.

In addition to board characteristics, the study also found that Industry Type and Firm Age are significant factors influencing sustainability reporting practices. This suggests that certain industries may be more inclined to adopt sustainability reporting due to the nature of their operations, regulatory requirements, or stakeholder expectations. Similarly, older firms may have a greater sense of corporate responsibility and awareness of the value of sustainability

reporting, as they have had more time to establish their reputation and build relationships with stakeholders.

It is crucial to highlight that the study did not discover statistically significant connections between sustainability reporting and other factors, such as financial performance, leverage, board gender diversity, board experience, and board composition, at conventional significance levels. This emphasizes the complexity of the factors impacting sustainability reporting and argues that more study is required to comprehend the dynamics of these interactions and the possible impact of additional contextual factors.

In summary, the study advances our understanding of the variables impacting sustainability reporting practices in the context of a developing market and emphasizes the significance of board characteristics, Industry Type, and Firm Age in determining these practices.

5.3. Policy Implications and Recommendations

The findings of this study have several policy implications and offer practical recommendations for various stakeholders, including companies, policymakers, regulators, and investors. These implications and recommendations are aimed at promoting sustainability reporting practices and improving corporate governance among companies listed on the Ghana Stock Exchange.

5.3.1 Strengthening corporate governance frameworks.

Policymakers and regulators should strengthen corporate governance frameworks to promote better board practices and enhance the role of boards in overseeing sustainability reporting. This can be achieved by incorporating specific guidelines related to board size, board age, and board diversity into corporate governance codes and regulations. Providing guidance on

board composition, structure, and performance evaluation can also help improve board effectiveness in promoting sustainability reporting.

5.3.2 Industry-specific sustainability reporting guidelines

Policymakers and regulators should consider developing industry-specific guidelines and regulations for sustainability reporting. This would encourage companies in sectors with higher environmental and social impacts to adopt sustainability reporting practices that are tailored to their unique contexts and address relevant stakeholder concerns.

5.3.3 Capacity building and training

Companies should invest in capacity building and training programs for their board members and senior management to enhance their understanding of sustainability reporting and its potential benefits. This can include workshops, seminars, and executive education programs focusing on sustainability, corporate social responsibility, and integrated reporting.

5.3.4 Encouraging board diversity

Companies should strive to achieve greater diversity on their boards in terms of gender, age, experience, and expertise. This can help foster a broader range of perspectives and promote a more inclusive approach to sustainability reporting. Policymakers and regulators can support these efforts by establishing targets or quotas for board diversity and monitoring progress toward achieving these goals.

5.4 Suggestions for further research

It could be possible to perform long-term research that looks at how companies listed on the Ghana Stock Exchange report on sustainability over time. This would make it possible to examine how businesses' sustainability practices have changed over time and how those changes have affected the success of those firms.

It could be possible to perform comparison research that looks at the sustainability reporting procedures of businesses listed on other African stock markets. This will enable a comparison of Ghanaian and other African country business sustainability reporting methods.

The perspectives and attitudes of stakeholders about Ghana's sustainability reporting procedures might be investigated in a qualitative research. As a result, it would be possible to comprehend the motivations for and obstacles to sustainability reporting in Ghana. A study that examines the relationship between sustainability reporting and other firm outcomes, such as reputation and social responsibility, could be conducted. This would allow for a more comprehensive understanding of the impact of sustainability reporting on firm performance.

A study that looks at the connection between company risk and sustainability reporting could be done. This would make it possible to examine the potential advantages of sustainability reporting for risk reduction and management.

Overall, the aforementioned ideas for additional study could offer insightful information about the sustainability reporting practices of businesses in Ghana and add to the body of knowledge on the relationship between sustainability reporting and firm performance.

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Appendix

Variable	Measurement	Source of Data
Sustainable Reports (SR)	GRI 4 indicators (economic, social and environmental indicators)	Annual reports of firms under review

Size	Natural Logarithms of total assets at the end each year	Annual reports of firms under review
Company Performance	Return on Asset (ROA)	Annual reports of firms under review
Age of Company	Listing the age of each company	Stock Exchange Website
Board Size	the number of board members	Annual reports of firms under review
Gender Diversity	Dividing the number of women on the board by board size	Annual reports of firms under review
Board Independence	Ratio of independent directors to total directors on the board	Annual reports of firms under review
Leverage	Long-Term Debt to Short-Term Debt Ratio	Annual reports of firms under review.