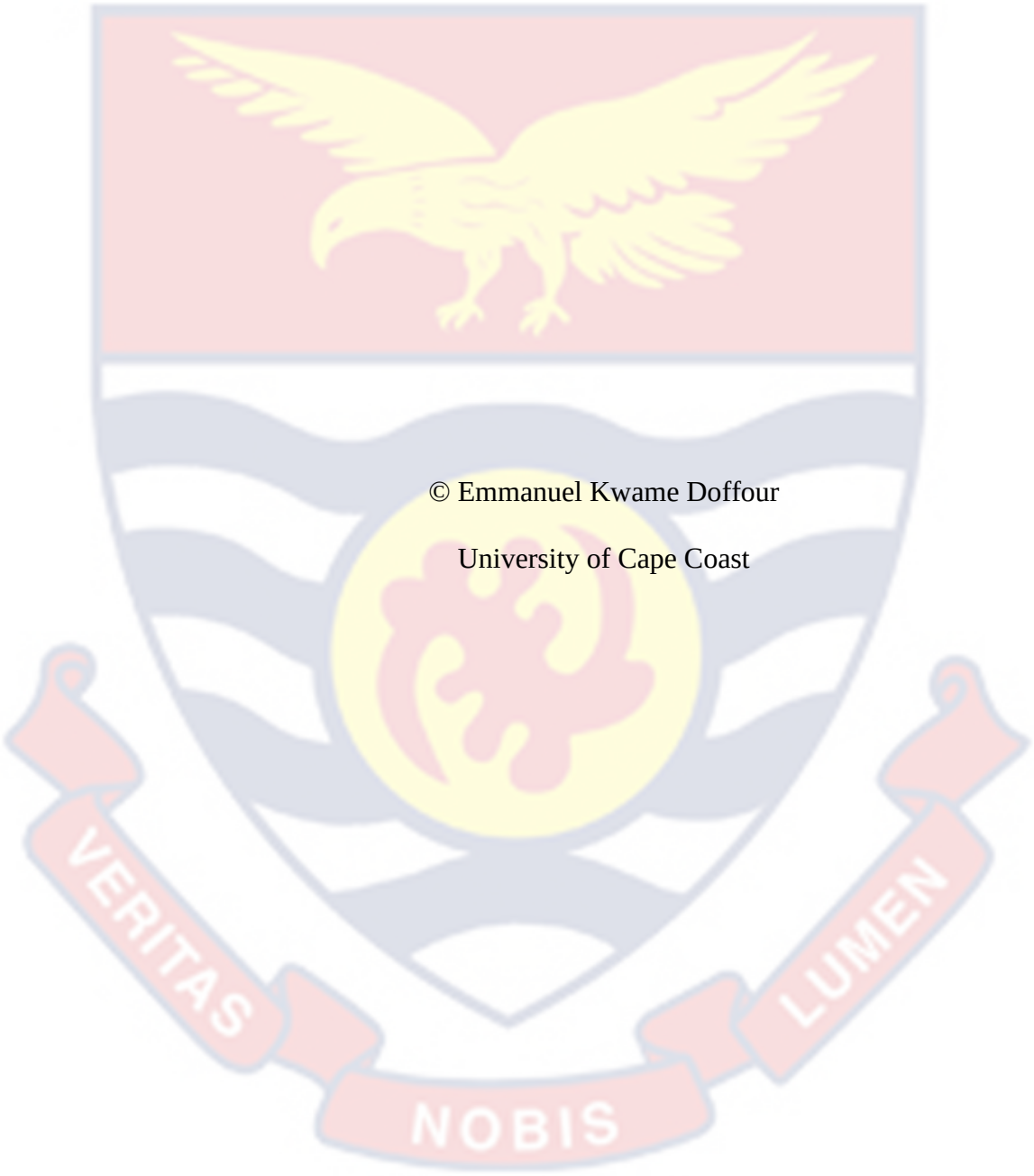
UNIVERSITY OF CAPE COAST

SUSTAINABILITY REPORTING, DIRECTORS' OWNERSHIP AND FINANCIAL PERFORMANCE OF LISTED MANUFACTURING FIRMS IN AFRICA

EMMANUEL KWAME DOFFOUR

2022



UNIVERSITY OF CAPE COAST

SUSTAINABILITY REPORTING, DIRECTORS' OWNERSHIP AND FINANCIAL PERFORMANCE OF LISTED MANUFACTURING FIRMS IN AFRICA

BY

EMMANUEL KWAME DOFFOUR

Thesis submitted to the Department of Accounting, School of Business, College of Humanities and Legal Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of a Master of Commerce Degree in Accounting.

DECEMBER 2022

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature……. Date……

Name: Emmanuel Kwame Doffour.

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of the thesis laid down by the University of Cape Coast

Supervisor's Signature: …… Date: ……

Name: Dr. Anthony Adu-Asare Idun.

ABSTRACT

Sustainability reporting cannot be overlooked due to the firm's current and future ramifications. However, sustainability reporting standards are generally optional, and corporations are hesitant to incorporate new systemic procedures without a quantifiable economic gain. Manufacturing enterprises in Africa demand greater resources to operate, thus their actions to limit and mitigate harm must be reviewed. Convergence of interest asserts that if directors' and the firm's interests coincide, the firm will perform better financially. By using the GMM estimating technique, this research examined the moderating effect of directors' ownership in the relationship between sustainability reporting and the financial performance of 154 manufacturing companies. A total sample of 158 was employed however some firms appeared on multiple stock exchanges and these duplicates were omitted to arrive at a sample size of 154 firms. The study also examined the level of sustainability reporting by African manufacturing firms. First, the study found that African manufacturing firms scored very low marks in the level of sustainability reporting. Also, directors' ownership positively moderates the relationship between economic disclosures and both ROA and ROE only. It is recommended that manufacturing firms in Africa should increase their sustainability reporting disclosures, especially those that pertain to the environmental impact of their activities as well as maintain or increase their directors' ownership levels to ensure that they positively affect their economic disclosures and financial performance.

KEYWORDS

Firm Age

Firm Size

Firm Leverage

Return on Assets

Return on Equity

Tobin's Q

Sustainability Reporting Disclosures

ACKNOWLEDGEMENTS

To my supervisor, Dr Anthony Adu-Asare Idun of the Department of Finance, I would like to offer my sincere appreciation, for the commitment, support, and direction he has provided me during this work. I will be forever thankful to you.

For their consistent inspiration and support, I am also thankful to Mr Isaac Kwadwo Anim, Mr Francis Kwesi Otoo, Mr Emmanuel Asamoah Boye, Mr Albert Awortwi Sagoe and Dr Evan Kulu.

Also, I would want to offer my appreciation. To Mr James Nee Aryeh Cofie, Mr Jesse Anak, Miss Nester Kumiwaa Owusu, Miss Jennifer Cudjoe, Mr Carl Botchwey and Mr Paul Bekai for their consistent encouragement and support.

Finally, I would like to offer my heartfelt gratitude to my parents, Mr George Kwesi Doffour and Mrs Theresah Owusuaa, as well as to my siblings, my uncles (Mr Daniel Sasu, Mr Alexander Afriyie, Dr Kojo Kwarteng-Ashia, and Mr Philip Asamoah Asia), and my aunties (Mrs Felicia Agyeiwaa and Mrs Ama Ohenewaa) and everyone for the many ways in which they helped me throughout my studies.

DEDICATION

To my grandmothers, Obaapanyin Rose Darkwah and Obaapanyin Janet Adarwaa

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

CSR	Corporate Social Responsibility
DOW	Directors' Ownership
ECO	Economic Disclosures
ENV	Environmental Disclosures
FP	Financial Performance
GRI	Global Reporting Initiative
ROA	Return on Assets
ROCE	Return on Capital Employed
ROE	Return on Equity
SD	Sustainability Disclosures
SOC	Social Disclosures
SUST	Sustainability Reporting
TBL	Triple Bottom Line
TQ	Tobin's Q

CHAPTER ONE

INTRODUCTION

Global Reporting Initiative (2013) defines sustainability as meeting existing demands without jeopardising future generations' ability to do so. The financial aspects of a firm must be presented using an approach stipulated by a regulatory body or a country's law (Mahone et al., 2013). However, the presentation of non-financial aspects is dependent on voluntary initiatives (Runhaar & Lafferty, 2008). Doorasamy (2015) argues organisations are hesitant to adopt new systemic approaches without a measurable economic benefit. Convergence of interest states that if directors' and the firm's interests align, the firm will perform better financially. This ensures that sustainability initiatives are included, which could enhance financial performance (Fahlenbrach & Stulz, 2009). This study examines how manufacturing firms might benefit from sustainability disclosures or prevent losses. These gains and losses affect the corporation's financial success. This research, however, investigates the moderation role directors' ownership on the effect of sustainability reporting on the financial performance of manufacturing firms in Africa.

Background to the Study

Growing attention and focus on the social and environmental implications of establishments has pushed most firms to effectively assume responsibility for and control their sustainability tracks (Janggu et al., 2014; Blowfield, 1999). This has caused annual reports to incorporate financial and non-financial disclosures. The reporting of financial operations is supported by reporting non-financial activities; therefore, sustainability is primarily because

of the pressure exerted by stakeholders. to make the firm more transparent (Bonsón & Bednárová, 2015).

Private and public institutions, in addition to fulfilling different stakeholder expectations, are expected to conduct their activities lawfully and ethically as well as make their activities transparent (Abukari & Abdul-Hamid, 2018). Sustainable management is a very essential part of being socially responsible and thus, this has resulted in firms producing statements that contain financial and historical information and information on their impacts on where they operate (Bonsón & Bednárová, 2015).

Sulemena (2016) says most companies report on sustainability to appease major stakeholders. Sustainability reports are voluntarily released by firms who want to inform their interest groups about their impact (Garg, 2015). Young (2013) stipulated that 95% of the top 250 firms make sustainability disclosures to boost performance, secure workers' trust, protect the firm's public image, and build shareholder and stakeholder confidence. Companies that intend to succeed today have to introduce new ways of keeping themselves ahead of the competition in a competitive market environment. It may not be sufficient to focus only on service or product quality. More companies attempt to use the relationship of stakeholders to gain strategic benefits (Sen, 2006). Being socially responsible is one possible way to influence corporate relationships (Kavaliauskė & Stancikas, 2014).

According to Jayaram, Kendall and Somers (2021), the manufacturing sector is the leading emitter of greenhouse gases, with the African manufacturing industry emitting about 440 MtCO2 e or 30 to 40% of total African emissions. Without decarbonization commitments, it could increase to

830 MtCO2 e by 2050. Africa, among the most susceptible to climate change and unpredictability, has a major motivation to engage in this global endeavour and strengthen its adaptive capacity. (Boko et. Al., 2017). The manufacturing sector is responsible for 11% of employment and 10% of the GDP in Africa (KPMG, 2015).

Unmanaged sustainability issues can impair a company's reputation and performance. Apple Inc. and Coca-Cola are accused of exploiting child labour to make its products. Dell Inc. has been accused of poor garbage disposal (Parmigiani, Klassen & Russo, 2011); Milk product manufacturers in China have faced safety and ecological issues (Chen, Zhang & Delaurentis, 2014). These misconducts have hurt these firms' performance and reputation. These instances show how important sustainability management is to a company's reputation and performance.

Population growth and increased requests for consumer products exert strain on the manufacturing industry. To satisfy these demands, new sectors are formed, and more produced goods are introduced to the market (Ahmad & Wong, 2018). There are social and economic ramifications of the fact that manufacturing consumes a great deal of fuel and environmental assets (Linke et al., 2013) and produces greater air and land emissions. With increased knowledge of rising temperatures and climate change, environmental and social consequences management and minimization have become important manufacturing sector objectives (Haapala et al., 2013) unlike previously where the focus was mostly on improving efficiency and reducing costs (Mohanty & Prakash, 2017).

The triple-bottom-line (TBL) concept incorporates economic, environmental, and social sustainability (Ozanne et al., 2016), and the manufacturing industry must implement systems to record and assess its sustainability performance (Ahmad & Wong, 2018). Sustainable manufacturing employs techniques that reduce adverse environmental consequences, save energy and natural resources, and ensure worker and community safety (Hutchins, Robinson & Dornfeld, 2013). The importance of manufacturing to economic and social growth cannot be overstated. However, these enterprises also greatly add up to global problems such as pollution and climate change.

Managing a company involves various aspects, and one of them is the disclosure of sustainability. By committing to effective corporate governance, the company can regulate and control its operations, ultimately creating positive value for all stakeholders (Renaldo et al., 2022). To fulfil this responsibility, companies can take up social responsibility initiatives and presents them in their sustainability reports, demonstrating their commitment to the well-being of the community and the environment (Susilo, 2018). Directors' ownership is a significant factor in corporate governance. This ownership stake encourages directors to work diligently for the company's success (Jan et al., 2019).

The convergence of interest hypothesis posits that when directors' stake in a firm is higher, the business's performance tends to be stronger (DeAngelo & DeAngelo, 1985). The reason behind this is that when directors hold a considerable stake in the business's shares, they are more motivated to work diligently to increase share prices, as their interests are closely tied to their value. This makes the interests of managers align with those of the firm, resulting in an enhancement in the company's overall value (Fahlenbrach & Stulz, 2009).

Directors who have a substantial stake in the business's shares are highly motivated to make better choices, especially, engaging in sustainability activities and reporting. This alignment of interests drives them to aim for improved decision-making, which, in turn, boosts the firm's financial performance (Mishra & Suar, 2010). Some previous studies by Bouras and Gallali (2017), and Barnhart and Rosenstein (1998) have also found a positive connection between directors' ownership and firms' financial performance.

This research examines the level of each dimension of sustainability reporting of manufacturing firms in Africa according to the GRI-G4 framework, as well as its impact on these firms' financial performance, with directors' ownership as a moderator.

Statement of the Problem

The exploration and extraction, aircraft, forestry, construction materials, and manufacturing industries directly affect the economy, environment, and society (Basavaraj & Ravi, 2016). Studies have focused on this, as such (Alazzani & Wan-Hussin, 2013; Arthur et al., 2017; Karaman, Kilic & Uyar, 2018; Basavaraj & Ravi, 2016). Other academics have focused on industries with less effect on society and the environment, for example, banking and finance (Islam & Kokubu, 2018; Chang et al., 2019).

Concerns about resource utilisation, waste management, air pollutants, water contamination, and employee welfare are growing in the manufacturing business (Chen, Feldmann & Tang, 2015). Manufacturing enterprises harm the environment through emissions, wastes, effluents, and resource use (Sanusi & Sanusi, 2019). According to Punchihewa (2021), the manufacturing industry has substantial harm resulting from the consumption of environmental assets,

energy, water, and pollution, as well as the construction of manufacturing facilities in industrial zones where local communities are negatively impacted by air, water, and noise pollution. Due to their enormous resource consumption, manufacturing sectors bear numerous obligations and risks associated with sustainability (Ahmad, Wong & Rajoo, 2018).

Recent research on indicators of sustainability did not address the environment, economy, or society. Typically, a single-dimensional indicator was presented and analysed, such as environmental aspects for the food and beverage sector by Maxime, Marcotte and Arcand (2006) and green supply chain management by Ahi and Searcy (2015). Likewise, Sutherland et al. (2016) independently published a comprehensive assessment of expert-based social indicators. Nevertheless, the TBL concept (Slaper & Hall, 2011) compels manufacturing sectors to completely evaluate all three dimensions of sustainability.

Various studies have examined manufacturing firms and their sustainability disclosures. Some of these studies focused on the impact of sustainability reporting on performance in different regions using the Dow Jones Corporate Assessment (Gungor & Dincel, 2018), while others used the GRI framework to explore the same relationship (Chen, Feldmann & Tang, 2015). Some studies delved into the value relevance of sustainability disclosures in the Nigerian manufacturing industry (Amedu, Iliemena & Umaigba, 2019), as well as those that focused on specific aspects of sustainability for manufacturing companies, particularly environmental sustainability (Testa & D'Amato, 2016). As for the findings on the effect of sustainability reporting on financial performance, they have been mixed. Some studies, such as those

conducted by Nugroho and Arjowo (2014), Buallay (2019), and Reddy and Gordon (2010), found a significant positive effect. However, Buallay (2021) reported no significant relationship between sustainability, ROA and TQ, while Rokhmawati (2014) discovered a negative relationship.

In the world of business, both corporate governance and sustainability play vital roles in determining financial performance. However, there is still uncertainty surrounding the impact of corporate governance on the relationship between sustainability and financial performance (Harjoto & Jo, 2011). For this study, the researcher focused on one specific aspect of corporate governance – directors' ownership. The aim was to investigate whether it moderates the connection between sustainability reporting and financial performance. Previous literature contains numerous studies that explore corporate governance as a means through which Corporate Social Responsibility influences financial performance, utilizing various proxies. For instance, Li, Li and Minor (2016) examined CEO power, Jo and Harjoto (2012) studied board independence and the presence of institutional investors and analyst coverage, Huang (2010) considered independent directors, foreign and local institutional shareholders, with Akben-Selcuk, (2019) using ownership concentration as the proxy for corporate governance. There are very limited studies that used directors' ownership as a proxy for corporate governance and the few also showed mixed results.

Fahlenbrach and Stulz, (2009) posit that convergence of interest states that if directors' and the firm's interests align, the firm will perform better financially as this ensures the addition of sustainability initiatives and might improve financial success. This theory is confirmed by Jan et al. (2019) who

found out that the more that directors have an interest in the organisation, the more sustainability disclosures that the firm will make and this will lead to improved financial performance. However, Hou (2018), found mixed results as there was a positive moderating role of directors' ownership on the relationship between CSR and financial performance for electronic companies but when narrowed down to family businesses, it played a negative moderating role.

It is crucial to explore how directors' ownership can affect the connection between sustainability reporting and financial performance in African manufacturing companies. To fill the gap in existing research and better understand the situation in Africa, this study investigated the influence of sustainability reporting on the financial performance of listed firms in the region, with a specific focus on the role of directors' ownership as a moderator.

Purpose of the Study

This study examines the moderating role of directors' ownership on the effect of sustainability reporting on the financial performance of listed manufacturing companies in Africa.

Research Objectives

The objectives of this research were;

1. To examine the level of economic, environmental and social dimensions of sustainability reporting of listed manufacturing firms in Africa.
2. To examine the moderating role of directors' ownership in the relationship between the economic dimension of sustainability reporting and the financial performance of listed manufacturing firms in Africa.

3. To examine the moderating role of directors' ownership in the relationship between the environmental dimension of sustainability reporting and the financial performance of listed manufacturing firms in Africa.
4. To examine the moderating role of directors' ownership in the relationship between the social dimension of sustainability reporting and the financial performance of listed manufacturing firms in Africa.

Research Question

1. What are the levels of each of the dimensions of sustainability reporting of listed manufacturing firms in Africa?

Research Hypotheses

H1: The relationship between economic sustainability reporting and the financial performance of manufacturing firms in Africa is significantly moderated by directors' ownership

H2: The relationship between environmental sustainability reporting and the financial performance of manufacturing firms in Africa is significantly moderated by directors' ownership.

H3: The relationship between social sustainability reporting and the financial performance of manufacturing firms in Africa is significantly moderated by directors' ownership

Significance of the Study

This study reveals the degree to which African manufacturing businesses are involved in sustainability disclosures, so allowing the companies to discover the areas in which they fall short. In addition to this, it provides information to regulators, which enables them to assess whether or not they

should take action to encourage African manufacturing firms to participate in sustainability reporting disclosures.

The findings of this study also contribute to the extensive body of previous work on the topic of sustainability. Also, it contributes to the formulation of policies for African manufacturing firms, which will ultimately be of use to a diverse variety of stakeholders. It enlivens government authorities and policymakers about the sustainability reporting employed by African manufacturing companies.

Delimitation of the Study

Using the Global Reporting Index, this study investigated how the various aspects of sustainability disclosures influence the financial performance of manufacturing businesses listed on the Anglophone Stock Markets in Africa This research concentrated on the Anglophone Stock Markets in Africa because of the language barrier presented by other manufacturing firms as well as the different accounting policies that are used by other manufacturing companies that are listed on markets that are not anglophone. The companies' annual reports from 2015 to 2021 were used because, although the GRI 4 was launched in 2013, it set a two-year timeline for the transition to the use of the GRI 4 index. In addition, this research only controlled for characteristics at the firm level; it did not control for variables at the country level.

Limitations of the Study

Secondary data from yearly reports might not capture the entirety of the sustainability reporting made by the companies. Also, the study used a census however, when compared to the period covered by the research, some of the manufacturing companies have only been operating for a period less than the

years under review. Such companies were omitted from the study and this could affect the generalizability of the results. The availability of corporate reports of the entities on their websites, which could be quickly and conveniently accessed for the study, was a drawback. The researcher contacted the firms through emails to get access to the annual reports as well as visiting the websites of the stock exchanges and other websites but not all the firms replied and not all the annual reports could be accessed. Such firms were also omitted from the study and this could affect the generalizability of the results.

Definition of Operational Terms

Sustainability reporting

It refers to the disclosure of a company's economic, environmental, and social activities and their effects on its operating region.

Financial performance

This is the extent to which the financial targets of manufacturing organisations have been reached from the perspectives of management, shareholders, and the market.

Directors' ownership

Directors' ownership refers to the proportion of a company's shares owned by its directors.

Organization of the Study

The study is structured into five chapters. The first chapter, which addressed the introduction, started with a background of sustainability, directors' ownership financial performance, and a synopsis of Africa's manufacturing enterprises, and established the problem statement. In addition to the objectives and hypotheses, the importance of the study, limitations, and delimitations were

addressed. The second chapter focuses on a literature review, diving into the study's theoretical underpinnings, empirical studies, and conceptual framework. In the third chapter, the study's research methods were also addressed which included the study's design, population and sampling techniques, sources of data, variables and measurements, model specifications, and data analysis techniques. The fourth chapter summarises the results of the research using descriptive and regression techniques, as well as a discussion of the findings in connection to the objectives and the literature evaluated. Chapter Five concludes with a summary, findings, recommendations and future study suggestions.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The operations of businesses and their complex effects on the environment, society, and economy contribute to sustainability reporting. This could affect businesses' financial success over time (Garg, 2015). In the topic under study, research has become more essential in academia and business.

Theoretical Review

The researcher examines some of the pertinent theories from previous works of literature that form the foundation of this study in this section of the study as well as develops the hypothesis for the study. During this session, theories such as stakeholder theory, good management theory, and convergence of interest will be covered.

Stakeholder theory

A business's primary goal is to satisfy the requirements of its diverse stakeholders. Recently, companies that engage in sustainability have adopted a strategic dimension in which they aim to create relationships with stakeholders as a competitive differentiator (Morsing & Schultz, 2006). Modern stakeholder theory evolved from Freeman's (1984) Strategic Management: An Approach to Stakeholder, which is used to explain who and what managers should lead their sustainability towards and motivate businesses to take part in sustainable activities. Stakeholder theory posits that companies are answerable to their stakeholders. Despite this, organisations may struggle to meet all of their stakeholders' interests and expectations (Jones & Wicks, 1999).

Not only in academia but also in business, interest in the theory of stakeholders has progressively risen (Donaldson & Dunfee, 1999). Literature classifies stakeholders by power, legitimacy, and urgency (Donaldson & Preston, 1995). According to Caroll and Buchholtz (1989), secondary stakeholders are positioned near the company's borders and may influence their actions despite the absence of a contractual agreement. Donaldson and Dunfee, (1999) also defined institutional stakeholders as those concerned about laws, regulations and professional bodies; economic stakeholders as those involved in the company's markets; and ethical stakeholders as those with legal and political interests operating in the company's markets.

Clarkson (1995) distinguished between voluntary and involuntary stakeholders based on their risk-taking behaviours with the organisation. There are further distinctions between internal stakeholders, conventional external stakeholders, and other external stakeholders with an impact. Regardless of the definition of a stakeholder, it holds that there is a partnership that involves stakeholders affecting and being affected by the operations of the organisation.

Stakeholder theory holds organisations accountable beyond their financial success. Therefore, it is likely that they will provide information willingly about their societal and environmental performance. Content analysis can test this notion in many ways. Annual reports effectively interact with interest groups that want to regulate particular areas of an organisation (Guthrie, Petty & Yongvanich, 2004). Sustainability disclosure content can be analysed for this. It indicates if corporations offer a voluntary account of their sustainability actions as stakeholder theory predicts.

The value creation perspective indicates that a firm's sustainability initiative boosts its reputation, which helps them financially (Porter, 1991; Porter & Kramer, 2006; Sharfman & Fernando, 2008) whiles the cost capital reduction argues the primary aim of a company is to enhance the wealth of its shareholders, and non-financial goals make the company less successful (Friedman, 1962). The study adopts the value creation perspective which suggests that addressing numerous stakeholders may increase a firm's performance and that sustainability boost firm performance (Jan et al., 2019).

Good management theory

The literature uses both a unidirectional and a bidirectional causality between sustainability and the performance of an organisation (Jan et al., 2019). According to Waddock and Graves's (1997) research, the direction of causation can be argued using either the good management theory or the slack resource theory. According to Preston and O'Bannon (1997), the argument on the connection between sustainability and financial performance places a significant emphasis on the question of whether or not one factor causes the other.

According to the Slack resource theory, it considers a company's financial performance as the independent variable, whereas sustainability reporting is considered the dependent. It suggests that a company that has excess resources can afford to spend more money on measures that promote sustainability. In accordance with the slack resource hypothesis, a business ought to centre its attention on its current financial standing, which will enable it to contribute to its continued viability (Griffin & Mahon, 1997). To get started on sustainability, one needs finances, which may be acquired through the

successful completion of financial performance. According to this notion, the most important factor is a company's financial performance.

Whereas sustainability reporting is treated as an independent variable following the good management theory. On this hand, financial performance is treated as the dependent variable in this model of the direction of causality (Waddock & Graves, 1997). The idea that social performance should come first is central to good management theory. According to this line of reasoning, if a firm is seen as having a positive reputation by its various stakeholders, the business will end up in a better financial situation. This study used the good management theory as its foundation and framed financial performance as the dependent variable of sustainability reporting.

From the shareholder and good management theories, the following research hypothesis was formulated

Convergence of interest hypothesis

The results of the effect that directors' ownership has on the performance of the corporation point in both directions. The entrenchment theory contends that when managers have a significant amount of vested interest in a company, they are less inclined to operate beneficially in the interest of shareholders. However, according to the convergence of interest, the level of success that a company achieves is directly proportional to the amount of ownership that its directors have in that company. This is due to the high stakes that directors have in the company's shares, which motivates them to work diligently toward boosting share prices. In other words, high share prices encourage high stakes. At this point, the interests of the firm and those of the directors begin to coincide,

which eventually increases the value of the company (Fahlenbrach & Stulz, 2009).

Director ownership is the proportion of a company's shares held by its directors. As a result of their ownership position in the company's shares, these directors are highly driven to ensure that their board makes sound judgments. The fact that their interests are converging in this way serves to drive them to make better decisions to boost the performance of the organisation. In light of this, it seems to imply that the performance of the corporation will be improved proportionately to the level of ownership that the director has in the company (Mishra & Suar, 2010). This theory implies a positive relationship between directors' ownership and the financial success of a company.

Based on the above theories, the following hypotheses were formulated.

H1a: Economic disclosures have a significant positive effect on financial performance

H1b: Directors' ownership significantly positively moderates the relationship between economic disclosures and financial performance.

H2a: Environmental disclosures have a significant positive effect on financial performance.

H2b: Directors' ownership significantly positively moderates the relationship between environmental disclosures and financial performance.

H3a: Social disclosures have a significant positive effect on financial performance.

H3b: Directors' ownership significantly positively moderates the relationship between social disclosures and financial performance.

Conceptual Review

This section relates to the discussion of the concepts underpinning this study. They include sustainability reporting, the environmental, social, and economic dimensions, directors' ownership and the measurement of financial performance.

Sustainability reporting

One of the most important and urgent problems to solve on a planet that is struggling with issues such as overpopulation, climate change, ecological deterioration, and dwindling resources is the issue of sustainability (Ruiz-Lozano & Tirado-Valencia, 2016). According to Hahn and Kühnen (2013), it has become an increasingly relevant study area that has garnered considerable interest. Sustainability is the capacity of enterprises to save finite resources for subsequent generations while providing and retaining value for the present generation (Hamad, Draz & Lai, 2020). It consists of three parts, namely economic, environmental, and social concerns; thus, every organisation applying a sustainability plan must examine these three dimensions. (Jensen & Berg, 2012).

According to Kılıç and Kuzey (2018), sustainability disclosures aim to provide details on a firm's operations., goals, and general perception of environmental and social concerns. Stakeholder engagement in this effort, allows businesses to align their beliefs, results, and activities with the overarching goal of sustainable growth. (Brusca, Labrador & Larran, 2018). It has attracted considerable attention from corporations, some of which produce a distinct report on their CSR activities whilst others dedicate just a part of their

yearly statements to CSR projects (Husin, Abdullah, Husin, Salleh & Alrazi, 2018).

The GRI Standards are the sustainability report standards that have received the most widespread recognition. The GRI is an autonomous establishment that operates on a global scale and is responsible for the GRI Sustainability Report standards and the G4 Guidelines. These criteria are designed to assist organisations in improving their level of transparency and reporting on both the good and negative effects that they have had on sustainable development. These criteria may be used by companies to identify threats and opportunities, enhance corporate strategy, lessen risk exposure, and cultivate positive connections with various stakeholders. It is suited for all organisations, notwithstanding their size, field, or country of origin (GRI, 2013).

These prerequisites can be broken down into two distinct categories. To begin, the requirements for the foundation, general disclosure, and management strategy are all a part of the universal standards. Second, the most essential specific requirements are those pertaining to the economy, the environment, and society. It is permissible for entities to use any or all of these criteria for reporting purposes, or they can pick and choose which criteria to use to divulge definite information. The GRI index is now the standard that is most commonly adopted for reporting on corporate responsibility by large businesses in over 100 countries (KPMG, 2017).

Businesses often provide various stakeholders with an overview of their actions relating to the economy, the environment, and society through the dissemination of sustainability reports, which are public documents (Heemskerk, Pistorio & Scicluna, 2002). As a consequence of this, a

sustainability report provides stakeholders with details about a business's efforts to strike a balance between its economic, environmental, and social objectives, also known as the triple bottom line (Elkington, 1998).

The environmental dimension of sustainability reporting

Environmental disclosures centre around the impact of an organisation on living and non-living biological environments, such as the earth, atmosphere, water, and biodiversity (GRI, 2013). The effects on water and energy and outputs are discussed in the Environmental Category (including discharges, sewages and waste). Also, it discusses the effects on the environment, transportation, and products, as well as the costs and requirements for compliance (GRI, 2013).

Reporting on the environmental sustainability of a company is an essential instrument for fostering greater transparency and keeping stakeholders up to date on the environmental strategies and policies of businesses (Comyn, 2016). According to Hughes, Anderson, and Golde (2001), frequent environmental disclosure techniques include sponsoring society projects and events, allocating budget for health and welfare as well as accident occurrences, and presenting environmental plans to the authority that is concerned. Environmental accounting shows accounting for and preserving the environment for future usage (Tackie, Agyenim-Boateng & Arthur, 2017) as well as the impacts of products and services and processes on air, water, land, biodiversity, and human health (Anielski, 2002)

According to De Villiers, Naiker and Van-Staden (2011), improved environmental sustainability during the preceding decade can be attributed to one of two causes. They came up with the hypotheses that businesses that

engage in environmental sustainability have a better chance of achieving good economic performance than businesses that do not engage in environmental sustainability, and that reporting on an organization's environmental sustainability can improve both its internal and external legitimacy if it is done per recognised standards. Environmental reporting acts as a link between management and the community, reducing the burden that is placed on management by environmental activist organisations and governments. In addition to this, exposure to information disclosure helps decrease the informational gap that exists between organisations and their stakeholders (Masud, Nurunnabi & Bae, 2018).

According to Boiral (2013), environmental reporting intends to provide information about the social and environmental implications of economic operations. This is the purpose of environmental reporting. Environmental accounting difficulties include variations in content and internal action, reporting rationale, standalone or integrated reporting, and compliance or voluntary reporting. Environmental accounting and reporting increases compliance requirements and control systems and can entice long-term capital and secure advantageous funding conditions, in addition to demonstrating transparency, generating financial value, and enhancing a company's reputation.

The waste intake capacity of the earth is limited (Moldan, Janouková & Hák, 2012), as such, the environmental component of sustainable development prioritises the well-being of the earth in that regard (Goodland, 1994). The environmental element recognises that resources are in short supply and are continuously being depleted, which is an issue that must be handled (Choi & Sirakaya, 2006). Therefore, these resources are not to be extracted at a pace that

surpasses their regenerative capacity (Basiago, 1998). The buildup of garbage must not exceed what the ecosystem can absorb. According to Rockstrom et al. (2009), this balance must be sustained within a range of planetary restrictions or limits regarding climate change or the pace of biodiversity loss on Earth. These restrictions cannot be exceeded. It is hoped that environmental indicators will offer early caution to avert this harm (Huang et al., 2009).

The amount of effluent created, the quantity of water used, and the percentage or number of materials used or recycled are some examples of classic environmental indicators. Other types of environmental pointers include emissions per sale or product produced. Environmental performance includes the usage of materials as well as their recycling, the consumption of water and energy (both directly and indirectly), a decrease in the levels of carbon emissions, sewage, and waste as well as their treatment, the preservation of biodiversity life, and the reduction of the effects that products and services have on the environment (GRI, 2013).

The social dimension of sustainability reporting

Wood (2010) asserts that social performance consists of socially responsible attitudes and activities, as well as the policies, programmes, and visible externalities imposed on its many stakeholders. It focuses on the influence of an establishment on the social systems in which it operates (GRI, 2013). Institutional sustainability focuses on relational processes such as democracy and inclusion (institutional mechanisms), gender equality (institutional orientations), or independent and diverse information sources (Spangenberg, 2002). As an independent aspect of sustainability, social sustainability is as important as economic and environmental elements. Mostly,

social sustainability is explored solely concerning the social consequences of environmental policy, and not as a full vital aspect of sustainable development (Gallopin, 1997).

The concepts of fairness, emancipation, availability, involvement, sharing, cultural uniqueness and institutional steadiness underpin the social aspect. (Basiago, 1998). It emphasizes the cohesiveness of society and its capacity to work toward the achievement of common objectives while simultaneously satisfying personal needs, such as health and well-being, nourishment, housing, educational opportunities, and the visage of cultural values (Gallopin, 1997).

From the perspective of the manufacturing industry, the social dimension reveals the orientation of businesses approaching their workers, clientele, and the general public. During a social sustainability evaluation, both the positive and adverse social impacts of various sectors and activities are evaluated. In other words, the amount of benefit or harm that they contribute to society and the values held by society (Shokravi & Kurnia, 2014). At the moment, it is essential to focus more attention on the social dimension to evaluate the imperceptible features of a product or process, for example, customer satisfaction (Ocampo, Clark & Promentilla., 2016).

The improvement is also related to the labour force (such as training programmes for employees, inclusion, equality of opportunity, health and safety for employees, and addressing pay discrimination matters), the addressing of the concerns of consumers (such as health and safety of customers, complaints of customers, product labelling, communication, and abidance by-product legislation), the protection of human rights (freedom of expression), and the

improvement of activities that are related to human resources are all included in the concept of social performance (GRI, 2013).

The economic dimension of sustainability reporting

The company's effects on the financial state of its interest groups, as well as models at the local, countrywide, and worldwide levels, are the focus of the economic component of sustainability. The economic category explains the movement of capital amongst the many interest parties as well as the significant economic effects that the company has on society as a whole. When making comments on the economic indicators, it may be a good idea to get the information from data in the company's audited accounts or internally-audited management accounts, when available. This will help ensure that the information is accurate. Gather the necessary information regardless of whether you are applying the necessary IFRS and Interpretations of Standards (which should be examined) or the National or regional standards that are recognised worldwide for final accounts (GRI, 2013).

Economic reporting is defined as the impact that the organisation has on the local and global economies in which it participates (Okudo & Ndubuisi, 2021). The organization's financial performance has the potential to have an effect on its intangible assets, including its human capital and status. Economic disclosures address all of the facets of the organization's relations with the economic system, which includes not only the conventional financial accounting indicators but also the intangible aspects that do not typically come up in financial circumstances. Reporting on the economy should encompass the documentation of investments in peripheral business infrastructure, the

economic value produced, the value chain, ramifications of climate change, risks, opportunities, and risk management (GRI, 2013).

Additionally, the economic part is intricately linked to the other aspects of the concept (Reddy & Thomson, 2014). Mostly, the issue of intergenerational equity is viewed as being related to the economic dimension. Significantly less effort has been invested into researching the economic dimension in comparison to the environmental dimension (Winroth, Almström & Andersson, 2016). As a direct consequence of this, the number of economic indicators that are employed in industrial activities is extremely limited and undeveloped.

As per the GRI (2013) report, economic performance pertains to the immediate monetary advantage generated and shared, fiscal ramifications, and alternative prospects and hazards resulting from climate change for the entity's activities. It also involves the fulfilment of the company's defined benefit plan commitments, economic aid acquired from governmental sources, and proportions of standard starting wages categorized by gender-linked to the prevailing local minimum wage at crucial sites.

Measuring financial performance

Performance is a multidimensional concept that may be broken down into these four components (Alam et al., 2011). performance that is centred on the customer, such as customer satisfaction and the performance of goods or services; performance that is centred on the economy and finances, such as sales, income, position in the market, money cycle time, and earnings per share; performance that is centred on human capital, such as job satisfaction; and performance that is centred on the organisation, including speed to market, innovation, and manufacturing and supply chain flexibility.

Market-based measurements and accounting measures are the two primary classifications that can be applied to the numerous indicators that have been compiled as a result of research conducted on this topic (Mas-Tur & Ribeiro-Soriano, 2014). The ROA and ROE are two of the prevalent accounting metrics used. These two criteria were used in this study. According to Wu (2006), accounting measurements are better indicators than market measures, although accounting measurements are more susceptible to manipulation. In addition, whereas market indicators can be able to explain the behaviour of a company, accounting data reveal what is happening within the organisation (López, Garcia & Rodriguez, 2007). Measurements of the market, such as Tobin's Q, can be used to forecast future profitability; nevertheless, it is common knowledge that other macroeconomic factors can have an effect on these projections (Griffin & Mahon, 1997). As financial performance indicators, this study focuses on ROA, ROE and Tobin's Q.

ROE represents the proportion of net earnings to shareholder capital. ROA is calculated by dividing the pre-interest and pre-tax profit by the average total assets. Additionally, TQ is determined by dividing the market value of the enterprise by its asset's replacement cost (Jan et al., 2019).

Director's ownership (moderating variable)

An enterprise displaying robust corporate governance ought to allocate increased resources to sustainability initiatives and improve client consciousness. The board serves as the main operational entity within the corporate governance framework of a company (Akben-Selcuk, 2019). Apart from overseeing managerial activities, it devises corporate policies, tackles agency conflicts, and enhances business decisions, thus potentially elevating the

performance of the enterprise (Jan et al., 2019). Furthermore, when directors and supervisors possess a higher stake in the firm's shares, their motivation to oversee operations increases, leading to the promotion of social responsibility within the enterprise.

Zahra and Pearce (1989) argued the presence of a correlation between directors' ownership and the implementation of sustainability policies. Moreover, Wang and Coffey (1992) empirically validate that the ratio of insider stock ownership positively correlates with companies' charitable contributions. This finding contradicts the entrenchment hypothesis, which suggests that directors would solely prioritize increasing their compensation instead of concentrating on value maximization.

Control Variables

It has been proposed that firm size, firm age, and leverage all affect sustainability reporting levels and financial performance. The empirical model incorporates controls for these factors to prevent misspecification concerns.

The size of the company is a vital element in determining the level of an organization's profitability (John & Adebayo, 2013). Firm size is an essential control variable since, in general, bigger organisations have reduced business and financial risks (Flammer, 2015) and higher demand from external stakeholder groups for enhanced sustainability participation. The link between business size and profitability makes firm size an essential control variable (Brower & Mahajan, 2013). This is because major firms attract a greater amount of attention from the general public, the media, and legislators. As a result, the researcher employs a control for the firm's size, as indicated by the natural log of total assets.

Older companies are generally considered to be more profitable, and it is this higher profit that brings them into the spotlight. Additionally, because of this increased visibility, older companies are frequently criticised by a variety of interest groups because they are so visible. These businesses are adopting more environmentally and socially responsible policies and procedures to deflect criticism and appease the various interest groups (Naser et al., 2006). Adoption and disclosure of additional sustainability measures enhance financial performance. Jan et al. (2019) reveal that firm age influences the relationship between sustainability and a company's financial performance; hence, this study accounts for it.

Waddock and Graves (1997) posit that the risk tolerance of management has an effect on the way that the management reacts to actions that have the potential to build or destroy markets, generate savings, or incur costs in the present or the future. The degree of debt carried, which is referred to as leverage, is employed as a stand-in for management's risk tolerance. The debt-to-equity ratio is a measure of the financial risk that is captured through leverage. The high cost of capital places burdens on a company's assets, although it signals a commitment to growth. According to Zahra and Fescina (1991), there is an inverse correlation between the amount of debt leverage and profitability. This unfavourable correlation is supported by the findings of Nzekwe, Okoye and Amahalu (2021), hence for this investigation, firm leverage has been controlled.

Empirical Review

This is an analysis and study of previous research that was conducted on the subject that is currently being discussed. Studies on sustainability disclosures its relationship with performance and the moderating role of

directors' ownership as a proxy for corporate governance from various regions of the world have been analysed during this session.

Sustainability reporting levels

Onyali, Okafor and Egolum (2014) conducted a study using of three manufacturing businesses in Nigeria using a questionnaire that was given to forty chartered accountants as well as content analysis. This was done to evaluate the environmental disclosure. According to the results, the environmental disclosure policies that are followed by companies in Nigeria contain very little or no data that can be quantified. However, because there were only three companies used as samples in this research, it is impossible to say that the results are accurate representations of all of the population. Also, only the environmental aspect was analysed. However, in this current study, a larger sample was employed to enhance the effectiveness of generalization. Additionally, this current study analysed all three aspects of sustainability.

Munshi and Dutta (2016) used the content analysis method to conduct their research using 10 American and 10 Indian manufacturing companies. When calculating a sustainability disclosure index, the complete disclosure of the indicators received a score of 2, partial disclosure received a score of 1, and non-disclosure received a score of 0; these scores were assigned respectively. They discovered that American manufacturing firms scored high marks in environmental disclosures, followed by economic, and social disclosures respectively. On the other hand, Indian manufacturing firms scored high marks in economic disclosures, followed by social, and environmental disclosures respectively. Both Munshi and Dutta's study and this present study collected data using content analysis and used GRI to measure the sustainability

disclosures in manufacturing firms; however, the location of the studies is different, with this current study taking place in Africa.

Amedu, Iliemena and Umaigba (2019) analysed the value relevance of sustainability disclosures among manufacturing businesses in Nigeria. For their sample, they randomly chose thirty companies to use in their research. Secondary data was obtained from yearly reports, which covered the years 2010-2018. They concluded that the annual reports were heavily focused on disclosures of financial information as well as issues that had significant economic significance to the company. In general, manufacturing companies remained silent on environmental sustainability disclosures. In regards to social disclosures, the disclosures made did not cover all the significant areas. Both Amedu, Iliemena and Umaigba and this current study used the GRI framework to measure the sustainability disclosure in the manufacturing sector, however, this current study used a larger sample size beyond Nigeria to enhance the effectiveness of generalization.

In their research published in 2018, Laskar and Maji studied the trends in corporate sustainability disclosure in Japan, South Korea, Indonesia, and India. In this study, 111 companies' annual reports were evaluated. The evaluation was conducted over six years and was based on the GRI. According to the findings, firms in Japan, India, and South Korea reported the greatest average disclosure levels, whilst Indonesian companies reported the lowest levels. Again, significant disparities across countries in the disclosures were identified. Both Laskar and Maji's study and this present study collected data using GRI to measure the sustainability disclosures; however, Laskar and Maji's

study used GRI 3 whiles this current study used GRI 4. Also, the location of the studies is different, with this current study taking place in Africa.

Isa (2014) used content analysis to evaluate sustainable reporting among food and beverage companies by selecting six companies by random sampling from Nigeria. The results indicated that the companies engage in some form of sustainability reporting, even though this is largely minor. The level of disclosure only covered 2% of the annual reports. Environmental activities account for 20.40%, followed by product disclosures, which account for 19.7%, and human rights disclosures, which account for 12.8%. Both Isa's study and this current study used content analysis and used the GRI framework to measure the sustainability disclosure in the manufacturing sector, however, Isa's study used a sample size of six and only one year but this current study used a larger sample size beyond Nigeria over seven years to enhance the effectiveness of generalization measurement of the levels.

Using the GRI guidelines as a benchmark, Quick (2008) evaluated the efficacy of sustainability among companies in Germany. Analyzing 26 reports from firms, the average score for the social and environmental dimensions was 40%, whereas the average score for the economic dimension was 13.83%. This study, which investigated sustainability disclosures of economic, social, and environmental components, has close similarities to this current study. Quick's study exhibited resemblances to the present research as it also analyzed the three dimensions of sustainability disclosures through the GRI framework. However, Quick's study was in a developed economy, which sets it apart from the current study, which focuses on the Ghanaian economy, a developing country.

In a worldwide setting, Faisal, Tower and Rusmin (2012) analysed company sustainability disclosure. A sample of 24 distinct countries was drawn from the 2009 annual reports of the largest firms around the globe. Using the legitimacy theory, these findings were examined to understand how robust traits and structural effects characterise sustainability communication. The 2006 GRI Guideline was used. Per empirical findings, the level of disclosure was 61.9%. In addition, statistical analysis revealed that highly ranked industries and enhanced assurance methods influenced the sharing of additional sustainability information. Interestingly, corporations operating in developing country structures reported greater sustainability-related information than those in Anglo-Saxon or communitarian countries. These findings revealed that internationally renowned companies were using sustainability disclosure as a legitimising tool. Similar to the present study, content analysis was also used. However, this study used the GR1 3 framework, with this current study using the GRI 4 framework.

Between 2010 and 2018, Oluwatoyin, Agbi and Mustapha (2021) examined the influence of board characteristics on the sustainability disclosures of non-financial companies in Nigeria following the GRI (G4) guidelines and analysed the content of corporations' annual sustainability reports. The study used 30 companies and secondary data taken from their audited annual reports. According to their research, the total sustainability score for non-financial firms in Nigeria is 37%. Both Oluwatoyin, Agbi and Mustapha's study and the current study utilized the GRI framework to assess sustainability disclosure in the manufacturing sector. However, the current

study employed a larger sample size that extended beyond Nigeria, aiming to improve the generalizability of the findings.

Arthur et al. (2017) analysed the sustainability report of (10) mining firms in Ghana using content analysis methods. The results indicate that the optional sustainability activities and reporting aimed at enhancing answerability, integrity, and comparability. According to the data, Ghanaian mining corporations revealed more on environmental dimensions than social dimensions, despite economic disclosures being the most prevalent. This research was conducted among mining companies, which also have a direct impact on sustainability issues as manufacturing firms. This study, however, employs the GRI 4 framework with Arthur et al. using GRI 3 framework as the basis for measuring sustainability disclosures.

Sustainability reporting and financial performance

Nugroho and Arjowo (2014) explored the impact of Sustainability Report disclosure on the financial performance of manufacturing firms in Indonesia. They utilized the GRI index to measure sustainability disclosures as independent variables and employed linear regression analysis for their investigation. The findings showed that disclosure in the Sustainability Report had a positive influence on financial performance, specifically in terms of ROA. Similarities can be drawn between Nugroho and Arjowo's study and the current research, as both were conducted in the manufacturing sector and employed the GRI framework to assess sustainability disclosures. However, there are some notable differences. Nugroho and Arjowo's study used financial performance metrics such as debt-equity ratio, ROA, dividend payout ratio, current ratio and inventory turnover. In contrast, the current study uses different financial

performance measurements, including ROA, ROE, and TQ. Additionally, the current study is set in an African context, while Nugroho and Arjowo's research was conducted in Indonesia.

In 2015, Rokhmawati analyzed 102 publicly traded manufacturing companies in Indonesia using multiple regression techniques to examine the effect of greenhouse gas emissions, and environmental and social performance on financial performance. The findings revealed that greenhouse gas emissions had a positive and significant effect on all financial performance metrics. The environmental aspect had an insignificant effect on all the performance indicators. However, the social performance had a positive and significant effect on ROA, ROS and ROI, but not on ROE TQ and ROIC. Unlike the current study, Rokhmawati's research did not consider the economic aspects of sustainability. Furthermore, their study was conducted in a non-African setting, specifically in Indonesia. These distinctions highlight the differences between the two studies and the relevance of conducting research in diverse contexts to understand the various influences on financial performance.

Buallay (2021) examined the correlation between the extent of sustainability disclosures and the performance of the food industry. The dataset consisted of 1426 observations collected from 31 nations between 2008–2017. The empirical findings of the research unveiled a significant relationship between sustainability and ROE. However, no significant relationship was found between ROA and TQ and sustainability. The previous analysis utilized the ESG score to measure sustainability performance, the present study, in contrast, employed the Global Reporting Index as its gauge of sustainability performance.

Buallay (2019) examined the relationship between sustainability reporting and financial performance in financial institutions in 20 countries. The study used data from 6,800 observations. The study found that there was a positive relationship between sustainability reporting and market performance, but a negative relationship between sustainability reporting and financial and operational performance. Buallay used the ESG dimension score whiles this study used the GRI framework. This study was conducted in the manufacturing sector, while the previous study was conducted in financial institutions.

A study by Nyirenda, Ngwakwe and Ambe (2013) found an insignificant relationship between environmental management and financial performance in South African mining companies. This suggests that mining companies are more likely to compile environmental reports out of a desire to comply with regulations and to demonstrate ethical responsibility, rather than for financial gains. These findings support the institutional theory, which argues that organizations adopt certain practices to conform to the expectations of their stakeholders. The study by Nyirenda et al. focused on the environmental policies and procedures of mining companies. However, this current study will consider all three aspects of sustainability reporting.

In 2017, Zyadat conducted a study in Jordan to explore the influence of sustainability reporting dimensions on the financial performance of Islamic banks. The research involved content analysis to gather the required data for the investigation. The study's results revealed that all aspects of sustainability reporting had a significant impact on financial performance, as measured by ROA and EPS. However, these aspects were found to have an insignificant effect on ROE. Zyadat's research focused on Islamic banks, which are different

from manufacturing firms. Moreover, the study was conducted in Jordan, while the current study was carried out in an African context

A study by Moufty (2014) found that European banks pay more attention to stakeholder groups and interact with them more than American banks. They also found that European banks have a higher level of sustainability awareness than American banks. However, the study found no relationship between environmental aspects and financial performance, but a positive relationship with social aspects. The study compiled reports from 483 different banks between 2006 and 2012 using content analysis as the data collection method. The goal of the study was to develop a model for the long-term viability of the banking sector. The study focused on only two determinant aspects. However, the current study focuses on the three pillars of sustainability reporting and is based in Africa and the manufacturing industry.

Sharma et al. (2021) examined the corporate social responsibility (CSR) and financial performance of Indian manufacturing and service sector organizations. The study found that there was a correlation between CSR and FP. The study used financial data from 2008 to 2017 for the industrial and service sectors. The correlation analysis showed that ROE, ROA, and ROCE had an inverse relationship with the CSR score of manufacturing sector companies. However, ROE, ROA, and ROCE all correlated positively with the CSR scores of service sector companies. Unlike this current study Sharma et al. Conducted their study in India.

Kaya and Akbulut (2019) examined sustainability reporting and firm value in the automotive industry. The study used data from 155 companies in 20 different countries over the period 2010-2018. The GRI index was used to

measure sustainability reporting, and firm size, TQ, leverage and ROA were used to measure firm value. The results showed sustainability reporting having a positive and significant effect on business growth, but it had a negative relationship with financial leverage. This suggests that sustainability reporting can help companies to grow their businesses, but it can also make them more financially vulnerable. The study by Kaya and Akbulut is similar to the current study in that both studies used the GRI framework to measure sustainability reporting. However, the current study was conducted in the manufacturing industry, while the study by Kaya and Akbulut was conducted in the automotive industry.

In 2019, Ibrahim and Hamid conducted a study in Nigeria, examining the influence of CSR on the financial outcomes of publicly traded companies not involved in financial services. The research spanned ten years from 2008 to 2017. The findings showed CSR has a significantly positive impact on financial performance. The research suggests that by engaging in socially responsible activities, companies can enhance their financial effectiveness. Unlike the current study, Ibrahim and Hamid's research did not utilize a well-recognized framework such as the GRI to measure sustainability.

The moderating role of director's ownership on the relationship between sustainability reporting and financial performance

In 2019, Jan et al. examined how Islamic corporate governance influences the relationship between sustainability and performance. They employed content analysis and the GMM estimation technique. According to their findings, sustainability reporting demonstrated a positive correlation with a company's financial performance as perceived by shareholders and

management. However, this correlation was not observed from the market's perspective. Nevertheless, the study revealed that the previously insignificant relationship between sustainability and TQ became significant when considering the moderating effects of Shariah governance and managerial ownership. Like the current study, they measured financial performance using metrics (ROA, ROE, and TQ).

In 2018, Hou examined CSR and CFP in Taiwan. The research revealed that companies focusing on CSR initiatives achieved better financial outcomes compared to firms that did not prioritize CSR. Additionally, the study explored the moderating role of directors' ownership on the relationship between CSR and CFP. In the context of non-electronics industries, the findings indicated that board ownership had a significantly positive influence on the CSR–CFP relationship. It is important to note that Hou's research was carried out in Taiwan, while the current study took place in an African setting

In 2019, Akben-Selcuk conducted a study in Turkey on CSR and corporate financial performance (CFP), and how ownership concentration moderates this relationship among firms on the BIST-100 index from 2014 to 2018. CSR was measured using a composite index based on the ESG framework. The finding showed CSR has a positive influence on CFP (ROA and TQ). However, this impact was weakened by ownership concentration. The study argued that ownership concentration could diminish the incentives and pressures for firms to engage and disclose CSR information, potentially undermining the benefits of CSR for firm value and performance. Akben-Selcuk's study used ownership concentration as a proxy for corporate governance, while the current study employed directors' ownership.

Furthermore, the present study was conducted in an African context, unlike Akben-Selcuk's research, which was conducted in Turkey

The connection between firm financial outcomes (FFO) and sustainability disclosure (SD) and how it is affected by the presence of institutional shareholders was investigated by Abd-Mutalib and Shafai (2023). The researchers used a group of 270 Malaysian publicly traded companies and assessed SD by a combined index based on ESG criteria. The researchers discover that FFO and institutional ownership have a favourable impact on SD, but institutional ownership reduces the positive FFO-SD connection. The researchers claim that institutional shareholders may have diverse preferences and motives for SD, depending on their investment duration, supervisory role and social responsibility inclination. Abd-Mutalib and Shafai's study employed ownership of institutional shareholders as a substitute for corporate governance, while the present study used directors' ownership for the same objective. Moreover, unlike this present study, Abd-Mutalib and Shafai's study was carried out outside of Africa.

The sustainability disclosure (SD) in the energy industry of Bangladesh, which is a developing nation facing energy shortage and environmental issues, was examined by Raquiba and Ishak (2020). The researchers use a group of 19 energy firms on the Dhaka Exchange from 2011 to 2017 and assess SD by a content analysis of their yearly reports based on the GRI standards. The researchers discovered that the degree of SD in the industry is low and differs across various dimensions of SD. The researchers also discovered that management ownership has a favourable impact on SD. Both Raquiba and Ishak's study and this present study employed the GRI framework to evaluate

sustainability disclosures. However, Raquiba and Ishak's study was carried out in the energy industry outside Africa and used management ownership as an explanatory variable to sustainability disclosure while this present study uses it as a moderating variable.

The influence of ownership structures on sustainability disclosures banks was explored by Mahdi, Muter and Sakhry (2023). The researchers use a group of 30 commercial banks from 2011 to 2021 and evaluate the quality of sustainability reports by a content analysis based on the GRI standards. The researchers also use the Method of Moments Quantile Regression (MMQR) to analyze the impacts of government, managerial, foreign, institutional and family ownership on the quality of sustainability reports. The researchers find that all kinds of ownership have favourable impacts on the quality of sustainability reports, implying that different owners have diverse motives and pressures to disclose sustainability information. Mahdi, Muter and Sakhry's study, along with the present study, employed the GRI framework to measure sustainability disclosures. However, Mahdi, Muter and Sakhry's study concentrated on the banking industry outside Africa and used management ownership as an explanatory variable to evaluate sustainability reporting. In contrast, the present study considers management ownership as a moderating variable.

The impact of family directors and non-family directors on the firm outcomes (measured as ROA and TQ) of publicly traded firms in Malaysia was investigated by Kamardin (2014) using a group of 112 firms. The study discovers that managerial ownership has a favourable relationship with both measures of firm outcomes. The study also discovers that the favourable effect of managerial ownership is driven by non-family directors. Kamardin's study

employed management ownership as an explanatory variable of financial performance while this present study uses it as a moderating variable.

Adeyanju (2023) explored how managerial ownership influences firm outcomes. The study uses data from Johannesburg Security Exchange (JSE) traded firms and discovers that managerial ownership (percentage holdings of managers who also held executive roles) has a favourable impact on firm outcomes. In Adeyanju's study, management ownership was used as an explanatory variable to measure financial outcomes. In contrast, the present study employs management ownership as a moderating variable.

Conceptual Framework

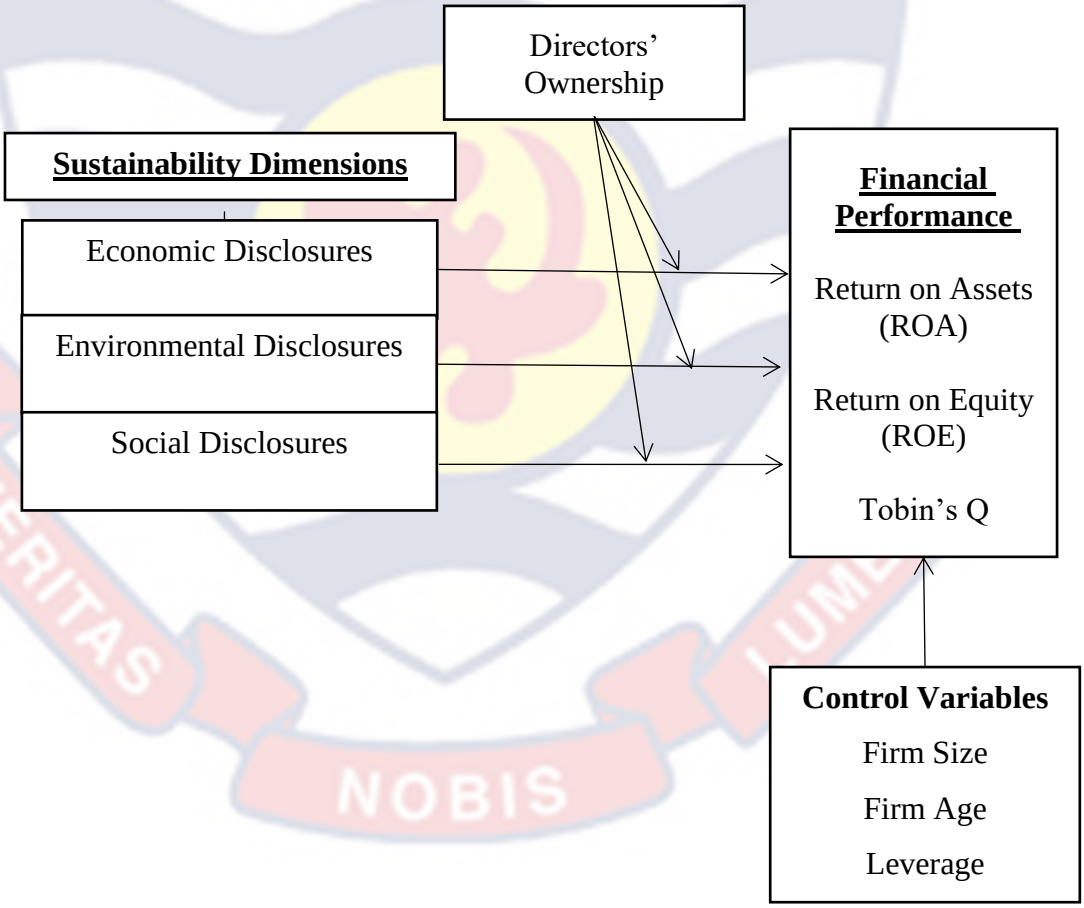


Figure 1: Conceptual Framework of the Study

Source: Researcher's Construct (2022)

The objectives of the study are represented in Figure 1, which was created by the researcher. Directors' ownership was used as a moderator to help establish the relationship between disclosures of the dimensions of sustainability based on the GRI-G4 disclosure indicators (the independent variables) and the dependent variables, financial performance (ROA, ROE and TQ). The study was controlled by using variables such as firm size, firm age, and firm leverage.

Chapter Summary

In the first section of the chapter, the researcher discussed the underlying theories for the research. This chapter also includes the conceptual review, empirical evidence of studies related to the current study's four objectives and the development of a conceptual framework for the research. In the discussions, the levels of sustainability reporting among firms in underdeveloped countries outside of Africa are very low, but they are high among developed nations. As this study focuses on firms in Africa, where the majority of countries are developing, it seeks to determine whether this is true for all other developing nations. Regarding the moderating effect of directors' ownership on the relationship between sustainability and financial performance, there are contradictory findings from different regions. This research will contribute to the outcomes that will assist shape literature.

CHAPTER THREE

RESEARCH METHOD

Introduction

This chapter discusses the research methods that were employed to carry out this study. It includes the design and approach for the research, the population, the sampling, the sources of the data, the method of analysis, and the processing of the data.

Research Approach

Approaches that are taken to carry out research can be categorised as one of three distinct types: quantitative, qualitative or mixed methods (Creswell, 2007). The mixed-methods approach was adopted. According to Creswell (2007), the mixed approach requires the researchers to gather, analyse, and incorporate both qualitative and quantitative data into their findings, regardless of whether they are conducting a single study or numerous studies. Combining qualitative and quantitative research methods enables supplemental approaches and produces more in-depth insights and discoveries than each of them alone.

The goal of using the mixed method is to better address the objectives of the research being conducted. Quantitative methods were used to evaluate the financial performance of the company as well as the moderating role of directors' ownership on the effect of dimensions of sustainability reports on financial performance. In addition, content analysis was used to investigate and collect data on the sustainability reporting of firms (Nwobu, 2015; Arthur et al., 2017).

Research Philosophy

Hallebone and Priest (2008) posit that the theory and the scientific approach of a study are represented in research philosophy, and they are considered to be extremely crucial to the aim, direction, and meaning of the study. Creswell and Clark (2011) define a mixed method as an approach to research that combines a particular research philosophy with specific research techniques. Mixed methodology theorists were compelled to present an alternative philosophical foundation for supporting mixed methodology because the traditional paradigms had well-developed epistemologies. This was done to differentiate mixed methodology from other similar principles (Tashakkori & Teddlie, 1998).

The pragmatist approach to research was taken as the basis for the study. This is because pragmatism or free choice is the appropriate epistemology for mixed methods, as Johnson and Onwuegbuzie (2004) have hypothesised. Pragmatism enables the researcher to use the methods that are most effective to answer the research question that is being considered (Tashkori & Teddlie, 1998). The theory of pragmatism has its origins in a variety of philosophical approaches and historical developments, all of which are accepted by pragmatists (Maxcy, 2003). This paradigm is primarily associated with the mixed approach to methodology, and it places more emphasis on the questions and objectives of the research than it does on the methods themselves. The rhetoric can either be formal or informal, depending on the circumstances (Cresswell & Clark, 2011).

The pragmatic approach was taken in this investigation because the research questions were answered using mixed methods. The researcher

employed content analysis to extract the data from the sustainability disclosures to determine whether or not there is a moderating role of directors' ownership in the link between the dimensions of sustainable reporting made by the companies and their financial performance.

Research Design

According to Emory (1985), a research design is a strategy, plan, and framework for conducting an inquiry that is designed to attain answers to research questions. The methods for collecting and evaluating data, as well as how the research questions are answered, are all determined by the study design (Gray, 2013). Research designs can be descriptive, exploratory, and explanatory (Saunders & Lewis, 2011). Both an explanatory and a descriptive design were used to complete this study.

The descriptive design explains a situation, individual, or happening, or establishes how one item naturally connects to another (Blumberg, Cooper & Schindler, 2005). For objective one, which was to examine the levels of sustainability reporting across manufacturing companies, the descriptive research methodology was used. Explanatory research aims to explain the phenomena that are being investigated, rather than merely describe them (Maxwell & Mittapalli, 2008). The explanatory study methodology was used to investigate the moderating role of the director's ownership on the effect of each aspect of sustainability reporting on financial performance.

Population

A population is the whole collection of cases that satisfy a certain set of requirements (Creswell, 2007). The population that was used for the study consisted of the manufacturing companies that were publicly traded in Africa;

more specifically, the firms that were traded on an anglophone stock market between 2015 and 2021 using the census. The study limited the years from 2015 to 2021 because the GRI 4 was launched in 2013, it set a two-year timeline for the transition to the use of the GRI 4 index. Therefore 2015 was the appropriate year to start using the framework as a measurement of sustainability disclosures. The entire number of manufacturing companies that are listed on each of the Anglophone stock exchanges in Africa is outlined in Table 1.

Table 1: Summary of Manufacturing Firms Summary of Manufacturing Firms on the Anglophone Stock Market in Africa

Stock Exchange	Number of Firms
Botswana	2
Eswatini	1
Ghana	9
Johannesburg (South Africa)	37
Lusaka (Zambia)	8
Malawi	1
Mauritius	20
Nairobi (Kenya)	21
Namibia	1
Nigeria	49
Rwanda	1
Dar es Salaam (Tanzania)	7
Uganda	4
Zimbabwe	22
Total	183

Source: Field Survey (2022)

Sampling Methods

Sampling is the method of choosing multiple units from a study's population (Phrasisombath, 2009). According to Fowler (2009), sampling in research selects a representative sample of the population. The sample comprises every manufacturing company listed on the Anglophone stock exchange. Singh and Masuku (2014) postulate that the census survey is used when data can be collected from all members of the available population. This study accessed all listed manufacturing firms on anglophone stock markets in Africa that filed annual reports between 2015 and 2021 using the census. Table 2 displays the total number of African Anglophone stock exchange manufacturing firms that have released their annual statements between 2015 and 2021.

Table 2: Summary of Manufacturing Firms on the Anglophone Stock Market in Africa that have produced Annual reports between 2015-2021

Stock Exchange	Number of Firms
Botswana	1
Eswatini	1
Ghana	6
Johannesburg (South Africa)	33
Lusaka (Zambia)	7
Malawi	1
Mauritius	14
Nairobi (Kenya)	20
Namibia	1
Nigeria	44

Rwanda	1
Dar es Salaam (Tanzania)	7
Uganda	3
Zimbabwe	19
Total	158

Source: Field Survey (2022)

Data Collection Procedures

Secondary information was collected and used from yearly annual reports and historical profiles of various firms. The researcher used content analysis as content analysis is widely used to systematically, accurately and critically analyse the content of the disclosures (Krippendorff, 1980; Guthrie & Parker, 1989).

Similar researchers agree that the use of content analysis in social and environmental reporting is appropriate based on their empirical findings (Guthrie & Parker, 1989; Hackston & Milne, 1996). According to Krippendorff (1980), content analysis is a method for classifying the data into a set of predetermined categories to determine the pattern of information contained in an annual report (Guthrie & Parker, 1989). The researcher needs to decide on a unit of analysis to make the content analysis successful. In the past, academics have coded phrases (Deegan & Gordon, 1996), paragraphs (Guthrie, Petty & Yongvanich, 2004), pages (Unerman, 2000), and words (Deegan & Gordon, 1996). (Zeghal & Ahmed, 1990) to aid them in their content analysis. However, the GRI reporting system includes a list of the items that are being used as units of measurement in the present setting to calculate sustainability reporting (Burhan & Rahmanti, 2012). The financial statements of the manufacturing

companies as well as the annual reports produced by the manufacturing companies were combed through to gather information regarding firm size, firm age, leverage, ROA, ROE and TQ. On their various websites, the profiles of the manufacturing companies provided a source for information regarding the companies.

Model Specification

Model - The Moderating Role of Directors' Ownership in the Relationship between Sustainability Reporting and Financial Performance

This study adapted the model developed by Jan et al. (2019) for the second to fourth objectives, which are to investigate the moderating effect that directors' ownership plays on the relationship between sustainability reporting and financial performance. As a result, models 1 to 6 reflect the relationship between sustainability reporting and financial success as measured by ROA, ROE, and TQ, with the directors' ownership playing a moderating role in the relationship.

Models

$$\mathrm{ROA}_{it} = \beta_1(\mathrm{ROA}_{it} - 1) + \beta_2(\mathrm{SUST}_{it}) + \beta_3(\mathrm{FAGE}_{it}) + \beta_4(\mathrm{FLEV}_{it}) + \beta_5(\mathrm{FSIZ}_{it}) + \mathcal{E}_{it} \quad \ldots 1$$

$$\mathrm{ROE}_{it} = \beta_1(\mathrm{ROE}_{it} - 1) + \beta_2(\mathrm{SUST}_{it}) + \beta_3(\mathrm{FAGE}_{it}) + \beta_4(\mathrm{FLEV}_{it}) + \beta_5(\mathrm{FSIZ}_{it}) + \mathcal{E}_{it} \quad \ldots 2$$

$$\mathrm{TQ}_{it} = \beta_1(\mathrm{TQ}_{it} - 1) + \beta_2(\mathrm{SUST}_{it}) + \beta_3(\mathrm{FAGE}_{it}) + \beta_4(\mathrm{FLEV}_{it}) + \beta_5(\mathrm{FSIZ}_{it}) + \mathcal{E}_{it} \quad \ldots 3$$

$$\mathrm{ROA}_{it} = \beta_1(\mathrm{ROA}_{it} - 1) + \beta_2(\mathrm{SUST}_{it}) + \beta_3(\mathrm{DOW}_{it}) + \beta_4(\mathrm{SUST}_{it} * \mathrm{DOW}_{it}) + \beta_5(\mathrm{FAGE}_{it}) + \beta_6(\mathrm{FLEV}_{it}) + \beta_7(\mathrm{FSIZ}_{it}) + \mathcal{E}_{it} \quad \ldots 4$$

$$ROE_{it} = \beta_1(ROE_{it} - 1) + \beta_2(SUST_{it}) + \beta_3(DOW_{it}) + \beta_4(SUST_{it} * DOW_{it}) + \beta_5(FAGE_{it}) + \beta_6(FLEV_{it}) + \beta_7(FSIZ_{it}) + \varepsilon_{it} \quad \ldots 5$$

$$TQ_{it} = \beta_1(TQ_{it} - 1) + \beta_2(SUST_{it}) + \beta_3(DOW_{it}) + \beta_4(SUST_{it} * DOW_{it}) + \beta_5(FAGE_{it}) + \beta_6(FLEV_{it}) + \beta_7(FSIZ_{it}) + \varepsilon_{it} \quad \ldots 6$$

Where;

- ROA_{it} represents Return on Assets of the firm;
- ROA_{it}-1 represents the lag of Return on Assets;
- ROE_{it} represents the Return on Equity of the firm;
- ROE_{it}-1 represents the lag of Return on Equity;
- TQ_{it} represents Tobin's Q of the firm;
- TQ_{it} -1 represents the lag of Tobin's Q
- $SUST_{it}$ represents the sustainability disclosures made up of economic, social and environmental disclosures;
- DOW_{it} represents Directors' Ownership
- $FSIZ_{it}$ represents Firm Size;
- FLEVit represents Firm Leverage
- $FAGE_{it}$ represents Firm age
- β represents the coefficients;
- ε_{it} is the error term.

Data Processing and Analysis

Derry et al. (2010) reported that the processing of data requires editing, coding, classification, tabulation, and graphical display of data. In addition, Cooper and Schindler (2011) asserted that the analysis of data generally means making the data collected something that can be worked with, constructing a description, observing patterns and the use of statistical techniques.

The data for this research were analyzed using Stata 15, and the models were estimated using the Dynamic GMM panel estimator. The Dynamic GMM was used because it is well-suited for addressing endogeneity issues that arise in econometric models, is efficient in handling panel data and deals with serial correlation (Blundell & Bond,1998).

Measurement of Variables

Various literature influenced the measurement of the variables used. Financial performance, as measured by ROA, ROE, and TQ. ROA was determined by dividing the profit before taxes by the average total assets. ROE was determined by dividing net income after taxes by shareholders' equity. TQ was calculated by dividing the market value of the company by the replacement cost of its assets. Jan et al. (2019) identify ROA as the perspective of management on financial performance, ROE as the perspective of shareholders on financial performance, and TQ as a market estimate of future profitability.

The sustainability disclosures adopted the GRI framework independent variable were measured on each of the three pillars of disclosure (economic, environmental and social). The various disclosures were measured as a percentage of the ratio between the disclosures made by the company and the total number of disclosures in the framework.

In the study, the moderating variable was directors' ownership, which was measured by the proportion of firm shares held by directors. The control variables, firm size was assessed by the firm's log of total assets, firm age is measured by the number of years in operation, and firm leverage is calculated as total liabilities divided by total assets. The variables, measurement, data sources, and their empirical justifications are summarised in Table 3.

Table 3: Description of Variables, Measurement, Source of Data and Empirical Justification

Variable	Measurement	Data Source	Empirical Justification
Sustainability Disclosures	The number of disclosures by the firm divided by the total number of disclosures in the framework	GRI-G4 Framework	Arthur, Wu, Yago and Zhang (2017); Masud, Seong and Jong (2017); Laskar and Maji (2017); and Kumar and Prakesh (2018).
Return on Assets	Profit before interest and tax over average total assets.	Websites of the firms	Zyadat (2017); Jan et al. (2019); and Buallay (2019)
Return on Equity	Profit after tax over average shareholders' equity	Websites of the firms	Zyadat (2017); Jan et al. (2019); and Buallay (2019)
Tobin's Q	The market value of the company is divided by the company's assets'	Websites of the firms	Jan et al. (2019); and Buallay (2019)

	replacement cost.		
Directors' Ownership	Percentage of shares owned by the company's directors.	Websites of the firms	Jan et al. (2019)
Firm Size	Log of Total Assets	Websites of the firms	Waddock and Graves (1997); Quick (2008); Bhatia and Tuli (2015); and Alotaibi (2020).
Firm Age	The year since the company's founding date	Websites of the firms	Bhatia and Tuli (2015); Mentes (2020); and Alotaibi (2020).
Leverage	The debts of the company divided by the company's total assets.	Websites of the firms	Nzekwe, Okoye and Amahalu (2021); Lee and Roh (2012)

Source: Field Survey (2022)

Chapter Summary

In this chapter, the methods utilised in this study are explored in depth. The study employed a mixed research approach. In addition, an explanatory design was employed to examine the relationship between financial performance and sustainability performance, with directors' ownership functioning as a moderating variable and a descriptive design was employed to examine the levels of sustainability levels. A model was developed by using a baseline model as a starting point. The purpose of the models was to examine the impact of sustainability performance on ROA, ROE and TQ, with directors' ownership serving as a moderating variable. The GMM technique was during the estimation of each of the models during analysis.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter shows and explains the findings that emerged from analysing the data. This chapter first explains descriptive statistics to provide a description of the sustainability disclosure procedures, directors' ownership, and financial outcomes of firms throughout the period that was under investigation. This answers objective one. The results of the relationships between the individual dimensions of sustainability disclosure and the financial outcomes of the firms are shown in the next section of the chapter with and without the moderating impact that directors' ownership on the relationship.

Descriptive Statistics

In Table 4, the various descriptive statistics on the variables pertaining to the sample have been presented. To present descriptive statistics, data from a sample of hundred and fifty-four (154) manufacturing firms (the total sampled firms were 158 but one firm appeared on three stock exchanges and two firms appeared on two stock exchanges each leaving the total sampled firms to total 154) on sustainability performance, directors' ownership, ROA, ROE, TQ, firm age, firm size and leverage were analysed. The mean, the standard deviation, as well as the number of observations, are presented here in Table 4.

Table 4: Descriptive Statistics of the Dependent, Control, Moderating and Independent Variables

Variable	Mean	Maximum	Minimum	Std. Dev.	Observations
ROA	-0.6813	11.5817	-860.7954	26.2289	1,078
ROE	0.4406	298.5164	-34.5481	9.3135	1,078
TQ	112.1473	59405.9400	-0.5080	2557.5360	1,078
ECO	0.5102	0.8889	0.2222	0.1407	1,078
ENV	0.3143	0.9412	0.0000	0.2852	1,078
SOC	0.3635	0.9792	0.0000	0.1748	1,078
DOW	0.0919	0.8401	0.0000	0.1782	1,071
F_SIZ	18.3452	26.2777	5.7137	2.3290	1,078
F_AGE	55.2727	191.0000	2.0000	33.9401	1,078
F_LEV	5.0447	2803.8980	-7.1249	103.8377	1,078

Source: Field survey (2022)

Firm age is denoted by F_AGE, Firm Size is denoted by F_SIZ, F_LEV stands for Firm Leverage, DOW stands for directors' ownership, Economic Disclosures is denoted by ECO, Environmental Disclosures is denoted by ENV, Social Disclosures is denoted by SOC, ROA stands for Return on Assets, Return on Equity is abbreviated as ROE and Tobin's Q is abbreviated as TQ.

The Return on Assets had a degree of variability of 26.2289, ranging from -860.7953 to 11.5817, with an average of -0.6813. The average ROE score was 0.4406, which was higher than the average ROA score. The ROE score also had a standard deviation of 9.3135, ranging from a low of -34.5481 to a high of 298.5164. Tobin's Q also has a mean of 112.1473, which is higher than the ROA and ROE, and a standard deviation of 2557.5360, ranging from -0.5080 to 59405.9400. The minimum score for directors' ownership is 0.0000, while the

maximum score was 0.8401. The mean score for directors' ownership is 0.0919, with a variation from the average score of 0.1782.

From Table 4, the scores that were derived from the disclosures were used to illustrate the sustainability reporting of the manufacturing companies. Disclosures regarding the economy scored an average of 0.5102 out of a range that went as low as 0.2222 and as high as 0.8889, with a standard deviation of 0.1407 from the mean. Environmental disclosures received the lowest possible mean score of 0.3143, with a maximum of 0.9412 and a minimum of 0.0000, and a variation from the measure of central tendency that was 0.2852. Finally, social disclosures had an average value of 0.3635 with a standard deviation of 0.1748. The lowest value was 0.0000 and the highest value was 0.9792.

Objective 1: Level of Economic, Environmental and Social Dimensions of Sustainability Reporting

From Table 4, manufacturing companies in Africa disclose the most information regarding their economic activities, followed by their social activities, and finally their environmental activities. Only the economic disclosures received a grade that was significantly higher than average (51.02%), according to the interpretation provided in Table 5. The disclosures regarding the environment and the social each received an extremely low grade: 31.43% and 36.35% respectively. The average for the economic, environmental, and social disclosures was found to be 39.60%. which suggests that, in general, manufacturing enterprises in Africa have very low levels of sustainability disclosures.

Based on this, manufacturing companies in Africa report more on economic disclosures on the GRI, followed by social disclosures, and then

environmental disclosures. This is in agreement with the findings of Amedu, Iliemena and Umaigba (2019), who discovered that manufacturing firms in Africa (specifically Nigeria) report more on economic factors than social factors, and finally environmental factors. Oluwatoyin, Agbi and Mustapha (2021) also discovered that non-financial enterprises in Nigeria had a low level of average on the total sustainability index at 37%. This finding also found that manufacturing firms in Nigeria received low marks in the overall sustainability index.

In contrast to the findings of Isa (2014), which revealed that environmental disclosures predominated the levels of disclosures, the results of this study found that economic disclosures came in second, followed by social disclosures. Isa's research involved participation from six different Nigerian manufacturing companies operating in the food and beverage industry. The inconsistency in the findings may have been caused by factors such as the size of the sample or the depth of the research. On the other hand, the findings agree with Isa's study about the generally low disclosures of sustainability.

According to the findings of Munshi and Dutta (2016), manufacturing companies in India scored highest in economic disclosures, and then social disclosures in that order. In contrast, American manufacturing companies scored highest in environmental disclosures, followed by economic and social disclosures. In terms of the overall sustainability index, manufacturing firms in India scored a substantial mark of 78.8%, while manufacturing firms in the United States scored a moderate mark of 57.6%. However, when it comes to the level of individual disclosures, both African and Indian manufacturing

firms are similar in that they disclose more information on economic, followed by social, and then environmental topics in that order. Despite this, when it comes to the actual marks scored, the Indian Manufacturing firms scored high marks in each of the disclosures. According to the findings of Munshi and Dutta's research, the sustainability of American manufacturing companies and those of African manufacturing companies are very different. This could be attributed to the regulatory requirements that developed countries, such as the United States of America, which are sensitive to climate, environmental, and social issues, have placed on activities that affect the environment (Dilling, 2010).

When Faisal, Tower and Rusmin (2012) investigated business sustainability disclosure procedures within the context of a worldwide setting, they discovered results that were comparable to those seen in African countries. In their study, the countries that were looked into were divided into three categories: developing markets, communitarian, and Anglo-Saxon. The highest scores were given for economic disclosures by countries in emerging markets. This was followed by the highest scores for social disclosures, and then environmental disclosures. Communitarian and Anglo-Saxon countries also scored highest on economic disclosures however followed by environmental and social disclosures in that order. This study offered a comprehensive analysis of sustainability reporting adopted by companies around the world, using GRI as a standard. The findings of this study are in line with those found in other research conducted in African nations as most African countries belong to emerging markets.

On the other hand, Arthur et al. (2017) results showed that mining companies in Ghana, disclosed more economic, followed by environmental dimensions and then social dimensions. The differences may be attributed to the stricter regulations that mining companies must comply with when it comes to environmental concerns.

The descriptive statistics of this study, when compared to previous relevant literature, provide indications on two different broad bases. The first thing to note is that firms involved in manufacturing in Africa place a greater emphasis on economic and social disclosures, whereas firms engaged in mining have a robust record of both economic and environmental disclosures. Moreover, countries with advanced economies engage in a higher number of economic and environmental disclosures compared to countries with emerging economies, which concentrate more on economic and social disclosures.

Table 5: Sustainability Index Interpretation

Percentage	**Level**
100-70	Substantial
69-60	High
59-50	Moderate
49-40	Low
39-0	Very Low

Source: Adapted from Michael and Oluseye (2014)

Correlation Analysis

Table 6: Correlation Matrix

	ROA	ROE	TQ	ECO	ENV	SOC	DOW	F_SIZ	F_AGE	F_LEV
ROA	1.0000									
ROE	0.0038	1.0000								
TQ	-0.7083	-0.0060	1.0000							
ECO	0.0167	-0.0380	-0.0203	1.0000						
ENV	0.0311	-0.0285	-0.0433	0.6075	1.0000					
SOC	0.0510	-0.0443	-0.0695	0.6437	0.7335	1.0000				
DOW	0.0204	0.0242	0.0052	-0.1181	-0.1759	-0.1220	1.0000			
F_SIZ	0.1655	0.0050	-0.2343	0.4367	0.6106	0.5682	-0.2670	1.0000		
F_AGE	0.0397	-0.0214	-0.0569	0.0770	0.2984	0.2704	-0.1688	0.1906	1.0000	
F_LEV	-0.8229	-0.0048	0.9838	-0.0206	-0.0437	-0.0700	0.0010	-0.2325	-0.0567	1.0000

Source: Field survey (2022)

F_AGE represents Firm Age, F_SIZ represents Firm Size, F_LEV represents Firm Leverage, D_OW directors' ownership, ECO represents Economic Disclosures of the GRI framework, ENV represents Environmental Disclosures of the GRI framework, SOC represents Social Disclosures of the GRI Framework, ROE stands for Return on Equity, TQ stands for Tobin's Q. and ROA stands for Return on Assets.

Table 7: Collinearity Statistics

Independent Variables	Tolerance	VIF
Economic	0.543	1.842
Environmental	0.382	2.619
Social	0.379	2.638
Director Ownership	0.908	1.102
Firm Size (Log)	0.556	1.798
Firm Age	0.856	1.169
Leverage	0.927	1.078

Source: Field survey (2022)

The pairwise correlation can be found shown in Table 6. Because the independent variables used do not show correlation coefficients of more than 0.90, as suggested by Senthilnathan (2019), there is no issue of multicollinearity in the empirical specification. Moreover, there was no significant correlation between any of the independent variables (such as economic, environmental, or social disclosures) and any of the dependent variables (ROA, ROE and TQ). However, the correlation between a control variable (leverage) and an independent variable (TQ) exceeds the threshold of 0.9 therefore the VIF and Tolerance were calculated to aid in to better determining the presence of multicollinearity or otherwise

Table 7 shows the collinearity statistics (VIF and Tolerance) of the variables. According to Pallant (2010). A tolerance value of less than 0.10 and a variance inflation factor (VIF) above 10 indicate multicollinearity. From Table 7, none of the variables has a tolerance value of less than 0.10 or a VIF of more than 10. This indicates that there is no issue of multicollinearity

Regression Analysis

This section provides and discusses the results along with empirical evidence for objectives two to four to make a comparison of the effect of the aspects of sustainability reporting on financial performance with and without the moderating variable. The results are presented and discussed in line with empirical evidence.

Table 8 exhibits the findings of a regression analysis that examined the association between manufacturing companies in Africa and the financial performance of their businesses without the moderating variable (Models 1, 2 and 3 representing ROA, ROE and TQ respectively as financial performance metrics) and with the introduction of directors' ownership as the moderating variable (Models 4, 5 and 6 representing ROA, ROE and TQ respectively as financial performance metrics). The results of the control variables (firm age, firm size, and firm leverage) are also presented in Table 8.

Table 8: The Moderating Effect of Directors' Ownership in the Relationship between Sustainability Reporting and Financial Performance of Manufacturing Firms in Africa

VARIABLES	Model 1 ROA	Model 2 ROE	Model 3 TQ	Model 4 ROA	Model 5 ROE	Model 6 TQ
L.ROA	0.582***			-1.213***		
	(0.138)			(0.162)		
L.ROE		0.00571***			0.00603***	
		(0.000211)			(0.000155)	
L.TQ			-0.439***			0.500***
			(0.000506)			(0.0665)
ECO	123.8***	-1.126	-142.6***	4.642	-0.441	1.164
	(17.15)	(1.388)	(26.63)	(29.84)	(1.773)	(0.985)
ENV	-17.61***	0.329	43.12***	2.676	1.897***	0.181
	(5.179)	(0.580)	(16.17)	(5.413)	(0.624)	(0.399)
SOC	-48.99***	-6.939***	7.921	8.041	-4.504***	-0.360
	(8.927)	(0.320)	(19.77)	(12.24)	(0.221)	(0.321)

DOW				24.35	3.922*	-0.225
				(45.53)	(2.192)	(1.663)
Moderation						
ECODOW				270.9**	28.33***	-3.226
				(131.7)	(7.676)	(2.749)
ENVDOW				-104.6*	-20.55***	-4.573*
				(54.61)	(7.796)	(2.601)
SOCDOW				-242.7**	-17.61	6.734
				(108.1)	(11.31)	(4.540)
Controls						
F_SIZ	-6.125***	-0.224***	-3.837***	-1.504	-0.141***	0.0297
	(0.690)	(0.0249)	(0.910)	(1.067)	(0.0252)	(0.0390)
F_AGE	1.331***	0.0943***	0.900***	0.687***	0.0691***	-0.0218*
	(0.201)	(0.00634)	(0.293)	(0.188)	(0.00518)	(0.0114)
F_LEV	-0.212***	3.68e-08	30.50***	-0.209***	0.000170	0.00263***
	(0.00325)	(0.000346)	(0.00996)	(0.00502)	(0.000330)	(0.000257)
Diagnostics						
Wald Chi2	30508.91	5170.30	2.89e+10	42619.07	28708.73	2513.78

P(Wald)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AR (1): z	-0.99902	-1.2886	-0.043	-1.0011	-1.4286	-3.4413
AR (1) p-value	0.3178	0.1975	0.9657	0.3168	0.1531	0.0606
AR (2): z	1.9118	1.4582	-1.5684	1.1554	1.3727	.24635
AR (2) p-value	0.0559	0.1448	0.1168	0.2479	0.1698	0.8054
Sargan P-value	0.8987	0.2782	0.9634	0.5401	0.2728	0.9997
Number of Instruments	26	26	26	30	30	30
Number of Observations	924	924	924	918	918	914
Number of Groups	154	154	154	153	153	153

Source: Field survey (2022)

The first lag in Return on Assets, Return on Equity and Tobin's Q is denoted by the acronym ROA-1, ROE-1 and TQ-1 respectively. Economic Disclosures are represented by the variable ECO, Environmental Disclosures by the variable ENV, and Social Disclosures by the variable SOC. The control variables section includes the variables F_AGE, which represents the age of the firm, F SIZ, which represents the size of the firm, and F LEV, which represents the leverage of the firm. ECODOW stands for the interaction of Directors' Ownership and Economic Disclosures, ENVDOW represents the interaction of Directors' Ownership and Environmental Disclosures, and SOCDOW represents the interaction of Directors' Ownership and Social Disclosures. These three variables are found in the section titled Interaction Variables. The values that are not included in brackets represent the coefficients, whereas the values that are enclosed in brackets represent the standard errors. The diagnostics section provides information regarding the Wald Chi2, P(Wald), AR (1) and (2), Sargan P-value, Number of Instruments, number of observations and the number of groups respectively. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Objective 2: Moderating Role of Directors' Ownership in the Relationship Between Economic Disclosures and Financial Performance

From Table 8, the results show that without the moderating variable, ECO had a significant effect on ROA and TQ at a significant level of 1% but did not have a significant effect on ROE. In Model 1, a higher economic disclosure is associated with a higher ROA (β = 123.8). In Model 3, a higher economic disclosure is associated with a lower Tobin's Q (β = -142.6). However, in Model 2, ECO of sustainability does not have a statistically significant impact on ROE (β = -142.6).

This result is partially consistent with Zyadat (2017) whose study found a significant positive effect of economic disclosures on ROA. However, Zyadat's study found a significant positive effect of economic disclosures on ROE but this current study found a negative insignificant effect. This disparity may be attributable to the fact that Zyadat's study was carried out within the banking industry, whereas the present study was carried out within the manufacturing industry. It is also possible that the studies' results are different because of the difference in locations.

With the introduction of the moderating variable (directors' ownership), the significant effect of economic disclosures on ROA and ROE all became insignificant. Also, when Director's ownership was introduced as a moderator, its main effect is not statistically significant for ROA (β = 24.35) and TQ (β = -0.225) but had a significant positive effect on ROE (β = 3.922) at a 5% significance level. This suggests that Director's ownership alone does not have a significant direct impact on ROA and TQ but has a significant positive effect on ROE. However, with the interaction, the interaction of economic disclosures

and directors' ownership had a positive effect on ROA (β = 270.9) at a 5% significance level and ROE (β = 28.33) at a 1% significance level but a negative insignificant effect on TQ (β = -3.226).

This result shows that directors' ownership strengthens the relationship between economic disclosures and ROA and TQ. This study is partly consistent with the study of Jan et al. (2019), which discovered a significant moderating influence of management ownership in the connection of all the sustainability indicators and financial performance (ROA, ROE and TQ) but the current study found a moderating effect only on the relationships between economic disclosures and ROA and ROE. The inconsistency in the findings may be due to the different industries that were used in the various studies, such as how Jan et al. (2019) used the banking industry and how this current study used the manufacturing industry. Additionally, the inconsistency may be due to the locations where the study was situated, such as how Jan et al. (2019) used firms in Malaysia and how this current study used firms in Africa.

This study is not consistent with the study of Hou (2018) which found that board ownership significantly moderates the sustainability and financial performance (TQ) relationship as this current study showed an insignificant moderation effect. The inconsistency may be due to the locations where the study was situated, such as how Hou's study was conducted in Taiwan.

Objective 3: Moderating Role of Directors' Ownership in the Relationship Between Environmental Disclosures and Financial Performance

From Table 8, without the introduction of the moderating variable, Environmental disclosures impact financial performance, but the direction and significance vary across the models. In Model 1, Environmental disclosures

have a significant negative impact on ROA at a significance level of 1% (β = -17.61). This means that firms with higher environmental disclosures tend to have lower ROA. In Model 2, ENV does not have a significant impact on ROE (β = 0.329). This suggests that there is no strong relationship between environmental disclosures and ROE. In Model 3, Environmental disclosures have a significant positive impact on TQ at a significance level of 1% (β = 43.12). This indicates that firms with higher environmental disclosures tend to have higher market valuations.

This result is partially in line with the results of Zyadat (2017) who found an insignificant relationship between environmental disclosures and ROE as this study also found an insignificant effect of environmental disclosures and ROE. However, Zyadat (2017) also found an insignificant relationship between environmental disclosures and ROA but this current study has a negative significant relationship. The banking industry, where Zyadat's study took place, may have different characteristics from the manufacturing industry, where this study occurred. This could explain the disparity between the studies' results. Another possible explanation is the difference in locations.

This study is also partially consistent with the study of Rokhmawati (2015) which found an insignificant effect of environmental disclosures ROA, ROE and TQ. However, this study only found an insignificant effect on ROE and a significant effect on ROA and TQ. A possible explanation of the disparity between the studies' results could be the difference in locations where both studies were conducted.

The introduction of moderating variable made the insignificant effect of ENV on ROE became significant whiles the significant effect on ROA and TQ

became insignificant. Also, in Model 4, the interaction of environmental disclosures and directors' ownership showed a significant negative coefficient (β = -104.6) for ROA at a 10% significance level of 10%. This indicates that Directors' ownership weakens the relationship between Environmental disclosures and Return on Assets. Also, in Model 5, the interaction term has a significant negative coefficient (β = -20.55) for ROE at a 1% significance level. This suggests that Directors' ownership weakens the relationship between Environmental disclosures and Return on Equity. Furthermore, in Model 6, the interaction term has a significant negative coefficient (β = -4.573) for Tobin's Q at a 10% significance level. This implies that Directors' ownership weakens the relationship between Environmental disclosures and market valuation.

This result shows that directors' ownership weakens the relationship between environmental disclosures and all the financial performance metrics employed for this study. The current study found a negative moderating effect of management ownership on the relationship between sustainability indicator (environmental) and financial performance (ROA, ROE and TQ), while Jan et al. (2019) found a positive and significant one. This difference in results may reflect the different industries and locations of the studies. Jan et al. (2019) studied the banking industry in Malaysia, whereas this study focused on the manufacturing industry in Africa.

The current study's results also differ from the study of Hou (2018) as this current study found a negative and significant moderation effect of board ownership on the relationship between environmental disclosures and TQ, while Hou (2018) found a positive and significant one for the relationship between sustainability and TQ. This difference in results may stem from the different

locations of the studies. Hou's study was based in Taiwan, whereas this study was not.

Objective 4: Moderating Role of Directors' Ownership in the Relationship Between Social Disclosures and Financial Performance

From Table 8, without the moderating variable, the impact of social disclosures on financial performance varies in direction and significance across the models. In Model 1, Social disclosures have a significant negative impact on ROA (β = -48.99) at a significant level of 1%. This means that firms with higher social disclosures tend to have lower ROA. In Model 2, Social disclosures have a significant negative impact on ROE (β = -6.939) at a significant level of 1%. This suggests that firms with higher social disclosures tend to have lower ROE. In Model 3, Social disclosures do not have a significant impact on Tobin's Q (β = 7.921). This indicates that there is no strong relationship between social disclosures and market valuation.

The result is varying with that of Zyadat (2017), who found a positive significant relationship between social disclosures and ROA. This study, on the other hand, found a negative significant relationship between social disclosures and ROA. Zyadat's study was conducted in the banking industry, while this study was conducted in the manufacturing industry. This difference in industries could explain the discrepancy between the results of the two studies. Additionally, the studies were conducted in different republics, which could also be a factor.

This study is also partially consistent with the study of Rokhmawati (2015) which discovered a positive significant effect of social disclosures on ROA with this study finding a negative significant effect. Also, Rokhmawati

(2015) found an insignificant effect of social disclosures on ROE and TQ. However, this study only found an insignificant effect on TQ and a negative significant effect on ROE. A possible explanation of the difference between the studies' results could be the difference in locations.

The introduction of the moderating variable made the effect of social disclosures on ROA change from significant to insignificant with the significance of the effect on ROE and TQ remaining the same. Also, in Model 4, the interaction term has a significant negative coefficient (β = -242.7) for ROA at a significance level of 5%. This indicates that Directors' ownership weakens the relationship between social disclosures and ROA. In Model 5, the interaction term has a non-significant negative coefficient (β = -17.61) for ROE. This suggests Directors' ownership does not moderate the relationship between social disclosures and ROE in Model 6, the interaction term has a non-significant positive coefficient (β = 6.734) for Tobin's Q. This implies that Directors' ownership does not moderate the relationship of social disclosures and market valuation.

The results of this study contradict the findings of Jan et al. (2019), who found that sustainability reporting has a positive and significant moderating effect on ROA, ROE, and TQ. In contrast, this study found that directors' ownership weakens the relationship between social disclosures and ROA, and has no moderating effect on the relationship between social disclosures and ROE and TQ. The difference in results between the two studies may be due to the different industries and locations of the studies. Jan et al. (2019) studied the banking industry in Malaysia, while this study focused on the manufacturing industry in Africa. Additionally, Hou (2018) found a positive and significant

moderating effect of board ownership on the relationship between social disclosures and TQ, while this study found a negative and insignificant moderation effect. This variance might be because of the different locations of the studies. Hou's study was based in Taiwan.

Results of Control Variables

In the models without moderation, firm size has a significant negative impact on ROA (β = -6.125), ROE (β = -0.224), and Tobin's Q (β = -3.837) all at a significance level of 1% indicating an inverse relationship. Also, firm age has a significant positive impact on ROA (β = 1.331), ROE (β = 0.0943), and Tobin's Q (β = 0.900), all at a significance level of 1% suggesting that older firms have better financial performance. Additionally, financial leverage has a significant negative impact on ROA (β = -0.212) at a 1% significance level, suggesting that higher leverage is associated with lower Return on Assets. However, financial leverage has a significant positive impact on Tobin's Q (β = 30.50) at a 1% significance level, indicating that higher leverage is associated with higher market valuation. With the effect of financial leverage on ROE, the effect was insignificant (β = 3.68e-08). This indicates a mixed impact of financial leverage on financial performance.

With the introduction of the Director's ownership as a moderator, the control variables' impact remains similar in the models with moderation, except for some variations in significance. The effect of firm size on ROA (β = -1.504) and TQ (β = 0.0297) changed from significant to insignificant with the impact on ROE (β = -0.141) remaining negative and significant at a 1% significance level. The impact of firm age on ROA (β = 0.687) and ROE (β = 0.0691) remained positive and significant at a 1% significance level but the effect on

TQ (β = -0.0218) changes to significant and negative at a 10% significance level. Also, the effect of financial leverage remained the same in significance and direction with it having a significant negative impact on ROA (β = -0.209) at a 1% significance level, suggesting that higher leverage is associated with lower Return on Assets. and a significant positive impact on Tobin's Q (β = 0.00263) at a 1% significance level, with the effect of financial leverage on ROE being insignificant (β = 0.000170).

Diagnostics on the Models

The given diagnostics provide information about the validity and performance of the GMM estimation used in the regression analysis The Wald Chi2 statistic tests the joint significance of all the estimated coefficients in the GMM model. In all six models, the Wald Chi2 statistics are very large, ranging from 2513.78 to 2.89e+10. The associated p-values are all very close to zero (0.0000), indicating that the estimated coefficients are jointly significant in explaining the variations in the dependent variable. The AR (1) and AR (2) tests are used to test for the presence of first-order and second-order autocorrelation in the GMM model's residuals, respectively. Autocorrelation in residuals suggests that the model's error terms are not independent, violating one of the GMM assumptions. In all six models, the z-scores for AR (1) and AR (2) tests are not significant at conventional levels (alpha = 0.05). The p-values for AR (1) range from 0.1531 to 0.9657, and for AR (2) range from 0.0559 to 0.8054. These non-significant p-values suggest that there is no evidence of autocorrelation in the residuals, indicating that the GMM model's assumptions related to error independence hold reasonably well. The Sargan test is used to test the validity of the overidentification restrictions in the GMM model. It

checks whether the instruments used in the model are uncorrelated with the error terms. In all six models, the Sargan p-values are quite high, ranging from 0.2728 to 0.9997. A high p-value (closer to 1) is desirable, as it indicates that the instruments are not correlated with the error terms, supporting the validity of the overidentification restrictions. Also, the number of instruments used in the GMM estimation is all less than the number of groups for all six models indicating no instrument proliferation (Mileva, 2007).

Chapter Summary

In the beginning of this chapter, the descriptive statistics on the variables that were used in the study were presented. This helped to answer the first objective. This showed that manufacturing firms in Africa scored lower than average on assessments of their sustainability reporting methods. The disclosures pertaining to the economy received the highest score, followed by those pertaining to society, and finally, those pertaining to the environment.

In Objective 2, the impact of the economic dimension of sustainability on financial performance indicator and the moderating role of Directors' ownership on the relationship, without considering the moderating variable, the economic dimension shows a significant positive effect on ROA and a significant negative effect on Tobin's Q, but no significant effect on ROE. However, when Directors' ownership is introduced as a moderator, the significant effects of economic disclosures on ROA and ROE become insignificant. However, the interaction of economic disclosures and Directors' ownership, positively moderates the relationship between economic disclosures and ROA and the relationship between economic disclosures ROE but does not moderate the relationship between economic disclosures Tobin's Q.

Objective 3 examined the impact of Environmental disclosures on financial performance indicators and the moderating role of Directors' ownership. Without considering the moderating variable, Environmental disclosures have a significant negative impact on ROA and a significant positive impact on Tobin's Q, but no significant effect on ROE. After introducing Directors' ownership as a moderator, the significant effect on ROE becomes significant, while the significant effects on ROA and Tobin's Q become insignificant. The interaction between Environmental disclosures and Directors' ownership negatively impacts ROA, ROE, and Tobin's Q, suggesting that Directors' ownership weakens the relationship between Environmental disclosures and financial performance.

In Objective 4, the focus is on the impact of social disclosures on financial performance indicators and the moderating role of Directors' ownership. Without considering the moderating variable, social disclosures have a significant negative impact on ROA and ROE but do not significantly affect Tobin's Q. When Directors' ownership is introduced as a moderator, the significant effect on ROA becomes insignificant, while the significant effects on ROE and Tobin's Q remain the same. The interaction between Social disclosures and Directors' ownership negatively impacts ROA, suggesting that Directors' ownership weakens the relationship between Social disclosures and Return on Assets. However, the interaction does not significantly affect the relationship between social disclosures and ROE or Tobin's Q.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

In this last chapter, the researcher briefly reviews the study's objectives, methodology, and data analysis procedures. This chapter also provides a synopsis of the results with respect to each objective, followed by their implications. Suggestions for further study are also provided in this chapter.

Summary of the Study

This study aimed to assess the moderating role of directors' ownership in the relationship between the aspects of sustainability reporting and financial performance. An explanation of sustainability reporting, financial performance and directors' ownership was presented in the introductory chapter. This chapter also discussed an overview of the manufacturing industry in Africa. In the second chapter, the researcher did a review the pertinent literature and the theories that were used to underpin the study. The stakeholder theory, the good management theory, and the convergence of interest theory were specifically applied during the research. The empirical review was conducted concerning the four objectives of sustainability reporting in manufacturing firms in Africa and the moderating effect of directors' ownership in the relationship between sustainability reporting and financial performance. This review was centred on the four study objectives.

Pragmatism and a mixed research approach were the foundations on which the study was built. The research design used was both descriptive and explanatory. Descriptive design was used to describe the sustainability reporting of manufacturing enterprises in Africa, while explanatory research was used for

model estimations. In the research, the researcher used a sample of 154 manufacturing enterprises to participate out of a total population of 182 manufacturing firms in Africa. Six different models were developed for the study. Within the context of the relationship between financial performance and sustainability reporting standards, the model specifications attempted to evaluate the moderating effect that directors' ownership has on the relationship. GMM was used to carry out the model estimations.

Summary of Key Findings

The research resulted in some perceptive findings that are important to both the literary world and the policy world. Examining the sustainability reporting of manufacturing companies in Africa in accordance with the GRI-G4 framework was the initial objective. According to the findings, the number of manufacturing companies in Africa that engage in sustainable reporting methods is rather low. The findings have been tabulated as follows in Table 9:

Table 9: Summary of the Confirmation of the Hypotheses

Hypothesis	Result
H1a: Economic disclosures have a significant positive effect on financial performance	Mixed
H1b: Directors' ownership significantly positively moderates the relationship between economic disclosures and financial performance.	Mixed
H2a: Environmental disclosures have a significant positive effect on financial performance.	Mixed
H2b: Directors' ownership significantly positively moderates the relationship between environmental disclosures and financial	Rejected

performance.	
H3a: Social disclosures have a significant positive effect on financial performance.	Rejected
H3b: Directors' ownership significantly positively moderates the relationship between social disclosures and financial performance.	Rejected

Source: Field survey (2022)

According to the findings of the first objective, African manufacturing companies, on average, disclose below-average levels of sustainability reporting procedures, with an average of 39.60%. With the individual dimensions of disclosure, the economic disclosures were the most prominent, followed by the social and environmental disclosures, which were the least prominent.

In Objective 2, the study explores the impact of the economic dimension of sustainability and how Directors' ownership moderates this relationship with financial performance indicators. Initially, the economic dimension shows a significant positive effect on ROA and a significant negative effect on Tobin's Q, but no significant effect on ROE when the moderating variable is not considered. However, when Directors' ownership is introduced as a moderator, the significant effects of economic disclosures on both ROA and ROE become insignificant. Nevertheless, the interaction of economic disclosures and Directors' ownership positively moderates the relationship between economic disclosures and ROA and the relationship between economic disclosures and ROE. It does not, however, have a significant moderating effect on the relationship between economic disclosures and Tobin's Q.

In Objective 3, the study investigates the impact of Environmental disclosures on financial performance indicators and the moderating role of Directors' ownership. Initially, Environmental disclosures have a significant negative impact on ROA and a significant positive impact on Tobin's Q, but no significant effect on ROE when the moderating variable is not considered. However, after introducing Directors' ownership as a moderator, the significant effect on ROE becomes significant, while the significant effects on ROA and Tobin's Q become insignificant. The interaction between Environmental disclosures and Directors' ownership further weakens the relationship between Environmental disclosures and financial performance indicators, impacting ROA, ROE, and Tobin's Q negatively.

In Objective 4, the study focuses on the impact of social disclosures on financial performance indicators and the moderating role of Directors' ownership. Initially, social disclosures have a significant negative impact on ROA and ROE, but they do not significantly affect Tobin's Q when the moderating variable is not considered. However, after introducing Directors' ownership as a moderator, the significant effect on ROA becomes insignificant, while the significant effects on ROE and Tobin's Q remain the same. The interaction between Social disclosures and Directors' ownership further weakens the relationship between Social disclosures and Return on Assets but does not significantly affect the relationship between social disclosures and ROE or Tobin's Q.

Conclusions

It has been determined, based on the data that have been presented, that with regard to the first objective, manufacturing companies in Africa have low

levels of sustainability disclosures, notably on the environmental aspects of their operations. This result is unexpected as the manufacturing industry is one of the industries with an enormous impact on the society and environment. The reason for the low levels of sustainability might be due to a lack of awareness and knowledge benefits and opportunities of sustainability, lack of incentives and pressure from stakeholders and lack of resources and capacity

With the second objective, the Economic disclosures have a positive significant effect on ROA. This means that the disclosure of economic activities positively influences financial performance from the perspective of management. However, there is a negative significant effect on TQ, which means that the market does not respond favourably to the reporting of the economic act ivies of the firms. Also, directors' ownership positively moderates the relationship between economic disclosures and ROA and ROE. This means that directors' ownership strengthens the relationship between economic disclosures and financial performance from the perspective of management and shareholders. A positive moderating effect of directors' ownership on the relationship between economic disclosures and ROA and ROE means that the positive effect of economic disclosures on ROA and ROE is stronger when directors' ownership is higher. In other words, directors who own more shares in their firms are more likely to benefit from disclosing economic information to their stakeholders.

With the third objective, the environmental disclosures have a positive significant effect on TQ. This means that the market responds favourably to the disclosure of environmental activities. This shows that the market is particular about the environmental aspects of these firms. However, environmental

disclosures have a negative significant effect on ROA. This means that engaging in environmental sustainability and reporting decreases the financial performance from the management perspective Also, directors' ownership negatively moderates the relationship between environmental disclosure and all the financial performance metrics. This supports the entrenchment hypothesis. This implies that the effect of environmental sustainability on financial performance is weaker when managerial ownership is higher. In other words, managers who own more shares in their firms are less likely to benefit from engaging in environmental sustainability, thus this may indicate that they perceive environmental sustainability as a cost rather than an investment.

With the fourth objective social disclosures have a significant negative impact on ROA and ROE. This means that engaging in social sustainability and reporting decreases the financial performance from the management and shareholders' perspective. Also, directors' ownership negatively moderates the relationship between social disclosures and ROE. A negative moderating effect of directors' ownership on the relationship between social disclosures and ROE means that the positive effect of social disclosures on ROE is weaker when directors' ownership is higher. In other words, directors who own more shares in their firms are less likely to benefit from disclosing social information to their stakeholders. An insignificant moderating effect of directors' ownership on the relationship between social disclosures and both ROA and TobinsQ means that the effect of social disclosures on ROA and TobinsQ does not depend on the level of directors' ownership.

Recommendations

When it comes to the first objective, it is suggested that African manufacturing companies increase their sustainability reporting disclosures, especially those that pertain to the environmental impact of their activities. They should adopt and follow internationally recognized standards and frameworks for sustainability disclosures. Although some African manufacturing enterprises have already started reporting on their sustainability policies, regulators can do more to promote their participation.

Also, concerning the second objective, manufacturing firms in Africa should increase their economic disclosures to improve their return on assets (ROA), which reflects their efficiency and profitability. They should also monitor and manage their directors' ownership levels to ensure that they do not negatively affect their economic disclosures and ROA. Also, they should maintain or increase their directors' ownership levels to ensure that they positively affect their economic disclosures and financial performance. Thus, they should demonstrate their economic contribution and value creation to their stakeholders.

In regards to the third objective, manufacturing firms in Africa should increase their environmental disclosures to improve Tobin's Q, which reflects their market value and growth potential. They should also reduce their directors' ownership levels to ensure that they do not negatively affect their environmental disclosures and financial performance. They should invest in green technologies and activities that reduce their environmental impact and enhance their competitiveness. Also, other shareholders may need to monitor and incentivize

managers more closely to align their interests with those of the firm and its stakeholders.

In regards to the fourth objective, manufacturing firms in Africa should increase their social disclosures to improve their return on equity (ROE), which reflects their effectiveness and shareholder value. They should also reduce their directors' ownership levels to ensure that they do not negatively affect their social disclosures and ROA. They should engage in social welfare activities that benefit their employees, customers, communities, and society.

Contribution of the Study

This study contributes to the literature on sustainability reporting and financial performance by examining the moderating role of directors' ownership in the relationship between different dimensions of sustainability disclosures and different measures of financial performance for manufacturing firms in Africa. This study provides empirical evidence on how directors' ownership affects the benefits and costs of sustainability reporting for firms in a developing context. It will also inform the policy formation of manufacturing firms about the continent's activities related to sustainability reporting, which will be beneficial to the many stakeholders. In addition to this, it will educate regulators and policymakers about the sustainability reporting methods of the continent's manufacturing to create rules and guidelines for manufacturing enterprises on a country-by-country and continental level. In conclusion, the study will serve as a direction for future research on activities related to sustainability reporting.

Suggestions for Further Research

First and foremost, future research can expand their investigation to include other firm-level controls (for example, board size, board diversity audit

quality and capital structure) and country-level controls (for example, inflation and debt-to-GDP ratios). Also, research on the performance of corporations in terms of economic, environmental and social disclosures can be carried out among African businesses operating in different sectors. In addition, the performance of companies concerning corporate sustainability can be evaluated from the point of view of preparers who create the reports and those who are in the management of the companies involved rather than by extracting data from the companies' corporate reports.

REFERENCES

Abd-Mutalib, H., & Shafai, N. A. (2023). Firm financial performance and sustainability reporting: the role of institutional investors' ownership. *International Journal of Business Governance and Ethics*, *17*(2), 131-154.

Abukari, A. J., & Abdul-Hamid, I. K. (2018). Corporate social responsibility reporting in the telecommunications sector in Ghana. *International Journal of Corporate Social Responsibility*, *3*(1), 1. https://doi.org/10.1186/s40991-017-0025-9

Adeyanju, A. S. (2023). Perspectives of Managerial Ownership and Firm Performance in the Phase of Demographic Diversity of Management, Ownership, and Control: Evidence of South Africa Listed Firms. *Ownership, and Control: Evidence of South Africa Listed Firms (July 11, 2023)*.

Ahi, P., & Searcy, C. (2015). An analysis of metrics used to measure performance in green and sustainable supply chains. *Journal of Cleaner Production*, *86*, 360-377.

Ahmad, S., & Wong, K. Y. (2018). Sustainability assessment in the manufacturing industry: a review of recent studies. *Benchmarking: An International Journal 25*(8), 3162-3179.

Ahmad, S., Wong, K. Y., & Rajoo, S. (2018). Sustainability indicators for manufacturing sectors: A literature survey and maturity analysis from the triple-bottom-line perspective. *Journal of Manufacturing Technology Management*, *30*(2), 312-334.

Akben-Selcuk, E. (2019). Corporate social responsibility and financial performance: The moderating role of ownership concentration in Turkey. *Sustainability*, *11*(13), 3643.

Alam, A., Uddin, M., Yazdifar, H., Shafique, S., & Lartey, T. (2020). R&D investment, firm performance and the moderating role of system and safeguard: Evidence from emerging markets. *Journal of Business Research*, *106*, 94-105.

Alazzani, A., & Wan-Hussin, W. N. (2013). Global Reporting Initiative's environmental reporting: A study of oil and gas companies. *Ecological Indicators*, *32*, 19–24. https://doi.org/10.1016/j.ecolind.2013.02.019

Alotaibi, M.M. (2020). Determinants of sustainability disclosure of Saudi Listed Companies. *Journal of Economics and Sustainable Development*, *11*(2), 83-97.

Amedu, J. M., Iliemena, R. O., & Umaigba, F. T. (2019). Value relevance of sustainability reporting in Nigerian manufacturing companies. *Journal of Global Accounting Department of Accountancy*, *6*(2).

Anielski, M. (2002). A Sustainability Accounting System for Canada. *Pembina Institute. National Round Table on the Environment and the Economy*.

Arthur, C. L., Wu, J., Yago, M., & Zhang, J. (2017). Investigating performance indicators disclosure in sustainability reports of large mining companies in Ghana. *Corporate Governance: The International*

Journal of Business in Society, *17*(4), 643–660. https://doi.org/10.1108/cg-05-2016-0124

Barnhart, S. W., & Rosenstein, S. (1998). Board composition, managerial ownership, and firm performance: An empirical analysis. *Financial Review*, *33*(4), 1-16.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, *51*(6), 1173.

Basavaraj, S., & Ravi, A. (2016). Exploring Innovative CSR Practices by Analyzing Manufacturing Companies CSR Practices in South Asia. *Asian Journal of Research in Social Sciences and Humanities*, *6*(9), 1706. https://doi.org/10.5958/2249-7315.2016.00901.1

Basiago, A. D. (1998). Economic, social, and environmental sustainability in development theory and urban planning practice. *Environmentalist*, *19*(2), 145-161.

Bhatia, A. & Tuli, S. (2015). Corporate attributes affecting sustainability reporting: An Indian perspective. *International Journal of Law and Management*, *59*(3), 322-340.

Blowfield, M. (1999). Ethical trade: a review of developments and issues. *Third World Quarterly*, *20*(4), 753-770.

Blumberg, B., Cooper, D.R. & Schindler, P.S. (2005). *Business Research Methods*. Maidenhead, McGraw-Hill.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics, 87*(1), 115-143.

Boiral, O. (2013). Sustainability reports as simulacra? A counter-account of A and A+ GRI reports. *Accounting, Auditing & Accountability Journal*.

Boko, M., Niang, I., Nyong, A., Vogel, C., Githeko, A., Medany, M., Osman-Elasha, B., Tabo, R. & Yanda, P. (2007). Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. *Africa. Climate Change*, 433-467.

Bonsón, E., & Bednárová, M. (2015). CSR reporting practices of Eurozone companies. *Revista de Contabilidad*, *18*(2), 182–193. https://doi.org/10.1016/j.rcsar.2014.06.002

Bouras, M., & Gallali, M. I. (2017). Managerial ownership, board of directors, equity-based compensation and firm performance: A comparative study between France and the United States. *Mediterranean Journal of Social Sciences*, *8*(1), 78.

Brower, J., & Mahajan, V. (2013). Driven to be good: A stakeholder theory perspective on the drivers of corporate social performance. *Journal of business ethics, 117*(2), 313-331.

Brusca, I., Labrador, M., & Larran, M. (2018). The challenge of sustainability and integrated reporting at universities: A case study. *Journal of Cleaner Production, 188*, 347-354.

Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality: An International Journal*, *30*(1), 98–115. https://doi.org/10.1108/meq-12-2017-0149

Buallay, A. (2021). Sustainability reporting in food industry: an innovative tool for enhancing financial performance. *British Food Journal*, *124*(6), 1939-1958.

Burhan, N. A. & Rahmanti, W. (2012). The impact of sustainability reporting on company performance. *Journal of Economics, Business, & Accountancy Ventura*, *15*(2), 257-272.

Caroll, A. B., & Buchholtz, A. K. (1989). Business and society. *Ethics & Stakeholder Management, Cincinnati*.

Chang, W. F., Amran, A., Iranmanesh, M., & Foroughi, B. (2019). Drivers of sustainability reporting quality: financial institution perspective. *International Journal of Ethics and Systems*, *35*(4), 632–650. https://doi.org/10.1108/ijoes-01-2019-0006

Chen, C., Zhang, J., & Delaurentis, T. (2014). Quality control in food supply chain management: An analytical model and case study of the adulterated milk incident in China. *International Journal of Production Economics*, *152*, 188-199.

Chen, L., Feldmann, A., & Tang, O. (2015). The relationship between disclosures of corporate social performance and financial performance: Evidence from GRI reports in the manufacturing industry. *International Journal of Production Economics*, *170*, 445-456.

Choi, H. C., & Sirakaya, E. (2006). Sustainability indicators for managing community tourism. *Tourism Management*, *27*(6), 1274-1289.

Clarkson, M. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of management review*, *20*(1), 92-117.

Comyns, B. (2016). Determinants of GHG reporting: an analysis of global oil and gas companies. *Journal of business ethics*, *136*(2), 349-369.

Cooper, D. and Schindler, P. (2011). *Business Research Methods.* (11th Ed.)., Boston, McGraw Hill.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Sage Publications, Inc.

Creswell, J.W. & Plano Clark, V.L. (2011). *Designing and Conducting Mixed Methods Research* (2nd Ed.)., Los Angeles, Sage Publications.

De Villiers, C., Naiker, V., & Van Staden, C. J. (2011). The effect of board characteristics on firm environmental performance. *Journal of Management*, *37*(6), 1636-1663.

DeAngelo, H., & DeAngelo, L. (1985). Managerial ownership of voting rights: A study of public corporations with dual classes of common stock. *Journal of Financial Economics*, *14*(1), 33-69.

Deegan, C., & Gordon, B. (1996). A Study of the Environmental Disclosure Practices of Australian Corporations. *Accounting and Business Research*, *26*(3), 187–199.

Derry, S., Pea, R., Barron, B., Engle, R., & Erickson, F., & Goldman, R., Hall, R., Koschmann, T., Lemke, J., Sherin, M. & Sherin, B. (2010). Conducting Video Research in the Learning Sciences: Guidance on

Selection, Analysis, Technology, and Ethics. *The Journal of the Learning Sciences. 19*, 3-53.

Dilling, P. F. (2010). Sustainability reporting in a global context: What are the characteristics of corporations that provide high-quality sustainability reports an empirical analysis. *International Business & Economics Research Journal (IBER), 9*(1).

Donaldson, T., & Dunfee, T. W. (1999). Ties that bind: A social contracts approach business ethics. *Journal of Banking & Finance, 26*(9), 1853-1865.

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, *20*(1), 65-91.

Doorasamy, M. (2015). Identifying environmental and economic benefits of cleaner production in a manufacturing company: a case study of a paper and pulp manufacturing company in KwaZulu-Natal. *Investment management and financial innovations, 12*(1), 235-246.

Elkington, J. (1998). Partnerships from cannibals with forks: The triple bottom line of 21st-century business. *Environmental quality management*, *8*(1), 37-51.

Emory, C. (1985). Survey instrument design. *Business Research Methods*, 212-217.

Fahlenbrach, R., & Stulz, R. M. (2009). Managerial ownership dynamics and firm value. *Journal of Financial Economics*, *92*(3), 342-361.

Fahlenbrach, R., & Stulz, R. M. (2009). Managerial ownership dynamics and firm value. *Journal of Financial Economics, 92*(3), 342-361.

Faisal, F., Tower, G., & Rusmin, R. (2012). Communicating key labour issues in a global context. *Journal of Human Resource Costing & Accounting, 16*(2), 320-340.

Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management Science, 61*(11), 2549-2568.

Fowler, F. J. (2009). *Survey research methods* (4th ed.). Sage.

Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Pitman.

Friedman, M. (1962). *Capitalism and freedom*. University of Chicago Press.

Gallopin, G. C. (1997). Indicators and their use: information for decision-making. *Scope-scientific committee on problems of the environment international council of scientific unions, 58*, 13-27.

Garg, P. (2015). Impact of sustainability reporting on firm performance of companies in India. *International Journal of Marketing and Business Communication, 4*(3), 38-45.

Global Reporting Initiatives (2013) *G4 Sustainability Reporting Guidelines: Reporting Principles and Standard*. Global Reporting Initiative.

Goodland, R. (1994). Environmental sustainability and the power sector. *Impact assessment, 12*(4), 409-470.

Gray, D. E. (2013). *Doing Research in the Real World* (3rd ed.). SAGE Publications Ltd.

Griffin, J. J., & Mahon, J. F. (1997). The corporate social performance and corporate financial performance debate: Twenty-five years of incomparable research. *Business & Society, 36*(1), 5-31.

Gungor, N., & Dincel, C. (2018). Does corporate sustainability practices have an impact on financial performance: A study based on BIST manufacturing firms. *PressAcademia Procedia, 8*(1), 9-13.

Guthrie, J. & Parker, L.D. (1989), Corporate social reporting: a rebuttal of legitimacy theory. *Accounting & Business Research, 19*(76), 343-352.

Guthrie, J., Petty, R., Yongvanich, K., & Ricceri, F. (2004). Using content analysis as a research method to inquire into intellectual capital reporting. *Journal of intellectual capital*.

Haapala, K. R., Zhao, F., Camelio, J., Sutherland, J. W., Skerlos, S. J., Dornfeld, D. A., Jawahir, I.S., Clarens, A.F., & Rickli, J. L. (2013). A review of engineering research in sustainable manufacturing. *Journal of manufacturing science and engineering, 135*(4).

Hackston, D., & Milne, M. J. (1996). Some determinants of social and environmental disclosures in New Zealand companies. *Accounting, Auditing & Accountability Journal*, *9*(1), 77–108. https://doi.org/10.1108/09513579610109987

Hahn, R., & Kühnen, M. (2013). Determinants of sustainability reporting: a review of results, trends, theory, and opportunities in an expanding field of research. *Journal of cleaner production, 59*, 5-21.

Hallebone, E., & Priest, J. (2008). *Business and Management Research: Paradigms and Practices*. Red Globe Press.

Hamad, S., Draz, M. U., & Lai, F. W. (2020). The impact of corporate governance and sustainability reporting on integrated reporting: A conceptual framework. *Sage Open*, *10*(2), 2158244020927431.

Harjoto, M. A., & Jo, H. (2011). Corporate governance and CSR nexus. *Journal of business ethics*, *100*, 45-67.

Heemskerk, B., Pistorio, P., & Scicluna, M. (2002). Sustainable Development Reporting–Striking the Balance, 2002. *World Business Council for Sustainable Development: Conches-Geneva*.

Hou, T. C. T. (2018). The relationship between corporate social responsibility and sustainable financial performance: Firm-level evidence from Taiwan. *Corporate Social Responsibility and Environmental Management*, *26*(1), 19-28.

Huang, Z., Zhou, J., Song, L., Lu, Y., & Zhang, Y. (2010). Flood disaster loss comprehensive evaluation model based on optimization support vector machine. *Expert Systems with Applications*, *37*(5), 3810-3814.

Hughes, S. B., Anderson, A., & Golden, S. (2001). Corporate environmental disclosures: are they useful in determining environmental performance? *Journal of accounting and public policy*, *20*(3), 217-240.

Husin, N. M., Abdullah, N. W., Salleh, S. M., & Alrazi, B. (2018). Is Integrated Reporting Determined by Investors' Protection Level? A Study on Asian Companies. *Global Business & Management Research*, *10*(3).

Hutchins, M. J., Robinson, S. L., & Dornfeld, D. (2013). Understanding life cycle social impacts in manufacturing: A processed-based approach. *Journal of Manufacturing Systems*, *32*(4), 536-542.

Ibrahim, M. & Hamid, K.T. (2019). Corporate Social Responsibility and Financial Performance of Listed Non-Financial Services Companies in Nigeria. *American Journal of Business and Society, 4*(2), 56-71.

Isa, M. A. (2014). Sustainability reporting among Nigeria food and beverages firms. *International Journal of Agriculture and Economic Development*, *2*(1), 1.

Islam, M. A., & Deegan, C. (2010). Media pressures and corporate disclosure of social responsibility performance information: A study of two global clothing and sports retail companies. *Accounting and Business Research*, *40*(2), 131–148. https://doi.org/10.1080/00014788.2010.9663388

Jan, A., Marimuthu, M., Hassan, R. & Mehreen (2019). Sustainable business practices and firm's financial performance in Islamic banking: Under the moderating role of Islamic corporate governance, *Sustainability*, *11*, 6606.

Janggu, T., Darus, F., Zain, M. M., & Sawani, Y. (2014). Does good corporate governance lead to better sustainability reporting? An analysis using structural equation modelling. *Procedia-Social and Behavioral Sciences*, *145*, 138-145.

Jayaram, K., Kendall, A., & Somers, K., (2021). *Africa's green manufacturing crossroads: Choices for a low-carbon industrial future*. McKinsey & Company.

Jensen, J. C., & Berg, N. (2012). Determinants of traditional sustainability reporting versus integrated reporting. An institutionalist approach. *Business Strategy and the Environment*, *21*(5), 299-316.

Jo, H., & Harjoto, M. A. (2012). The causal effect of corporate governance on corporate social responsibility. *Journal of business ethics*, *106*, 53-72.

John, A. O., & Adebayo, O. (2013). Effect of firm size on profitability: Evidence from Nigerian manufacturing sector. *Prime Journal of Business Administration and Management (BAM)*, *3*(9), 1171-1175.

Johnson, R. & Onwuegbuzie, A.J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational researcher*, *33*(7), 14-26.

Jones, T. M., & Wicks, A. C. (1999). Convergent stakeholder theory. *Academy of management review*, *24*(2), 206-221.

Kamardin, H. (2014). Managerial ownership and firm performance: The influence of family directors and non-family directors. In *Ethics, governance and corporate crime: challenges and consequences* (pp. 47-83). Emerald Group Publishing Limited.

Karaman, A. S., Kilic, M., & Uyar, A. (2018). Sustainability reporting in the aviation industry: worldwide evidence. *Sustainability Accounting, Management and Policy Journal*, *9*(4), 362–391. https://doi.org/10.1108/sampj-12-2017-0150

Kavaliauskė, M., & Stancikas, A. (2014). The Importance of Corporate Social Responsibility in Lithuania's Finance and Telecommunication Industries. *Procedia - Social and Behavioral Sciences*, *110*, 796–804. https://doi.org/10.1016/j.sbspro.2013.12.924

Kaya, I & Akbulut, D.H. (2019). Sustainability reporting and firm performance. *Press Academia Procedia (PAP), 9*, 81-84.

Kılıç, M., & Kuzey, C. (2018). Determinants of forward-looking disclosures in integrated reporting. *Managerial Auditing Journal, 33*(1), 115-144.

KPMG, (2015). *Sector Report: Manufacturing in Africa*. Retrieved from http//www.kpmg.com/africa.

KPMG, (2017). *Sustainability Reporting*. Retrieved from http//www.kpmg.com.

Krippendorff, K. (1980). *Content analysis: An introduction to its Methodology.* London: Sage.

Kumar, K. & Prakesh, A. (2018). Developing a framework for assessing sustainable banking performance of the Indian banking sector. *Social Responsibility Journal, 15*(5), 689-709.

Laskar, N., & Maji, S. G. (2018). Disclosure of corporate sustainability performance and firm performance in Asia. *Asian Review of Accounting, 26* (4), 414–443.

Lee, J., & Roh, J. J. (2012). Revisiting corporate reputation and firm performance link. *Benchmarking: An International Journal, 19*(4/5), 634-648.

Li, F., Li, T., & Minor, D. (2016). A test of agency theory: CEO power, firm value, and corporate social responsibility. *Int. J. Manag. Financ*, *12*, 611-628.

Linke, B. S., Corman, G. J., Dornfeld, D. A., & Tönissen, S. (2013). Sustainability indicators for discrete manufacturing processes applied to grinding technology. *Journal of Manufacturing Systems*, *32*(4), 556-563.

Lopez, M., Garcia, A., & Rodriguez, L. (2007). Sustainable development and corporate performance: A study based on the Dow Jones sustainability index. *Journal of business ethics*, *75*(3), 285-300.

Mahdi, N. A., Muter, K. J., & Sakhry, M. H. N. (2023). The impact of ownership structures on the quality of sustainability reports for Iraqi commercial banks. *International Journal of Economics and Finance Studies*, *15*(1), 386-404.

Mahoney, L. S., Thorne, L., Cecil, L., & LaGore, W. (2013). A research note on standalone corporate social responsibility reports: Signaling or greenwashing? *Critical Perspectives on Accounting*, *24*(4–5), 350–359. https://doi.org/10.1016/j.cpa.2012.09.008

Mas-Tur, A., & Ribeiro Soriano, D. (2014). The level of innovation among young innovative companies: the impacts of knowledge-intensive services use, firm characteristics and the entrepreneur attributes. *Service Business*, *8*(1), 51-63.

Masud, A. K., Seong, M. B., & Jong, D. K., (2017). Analysis of environmental accounting and reporting practices of listed banking companies in Bangladesh. *Sustainability*, *9*(1), 17-27.

Masud, M., Kaium, A., Nurunnabi, M., & Bae, S. M. (2018). The effects of corporate governance on environmental sustainability reporting:

Empirical evidence from South Asian countries. *Asian Journal of Sustainability and Social Responsibility*, *3*(1), 1-26.

Maxcy, S.J. (2003). *Pragmatic threads in mixed methods research in the social sciences: The search for multiple modes of inquiry and the end of the philosophy of formalism. In Handbook of Mixed Methods in Social and Behavioural Research.* Thousand Oaks: Sage. 51-89.

Maxime, D., Marcotte, M., & Arcand, Y. (2006). Development of eco-efficiency indicators for the Canadian food and beverage industry. *Journal of Cleaner Production*, *14*(6-7), 636-648.

Maxwell, J. A., & Mittapalli, K. (2010). Realism as a stance for mixed methods research. *SAGE Handbook of mixed methods in Social & behavioural research*, *2*, 145-168.

Mentes, S.A. (2020). An analysis of sustainability reporting practices of the Turkish banking sector. *Middle East Journal Management*, *7*(1), 60-74.

Michael, O. B., & Oluseye, B. S. (2014). Sustainable development reporting practices by Nigerian banks. *Mediterranean Journal of Social Sciences*, *5*(23), 2535.

Mileva, E. (2007). Using Arellano-Bond dynamic panel GMM estimators in Stata. *Economics Department, Fordham University*, *8*(1), 1-10.

Mishra, S., & Suar, D. (2010). Does corporate social responsibility influence the firm performance of Indian companies?. *Journal of business ethics*, *95*(4), 571-601.

Mohanty, R. P., & Prakash, A. (2017). Searching for definitions and boundaries in a sustainable production system. *International Journal of Services and Operations Management*, *27*(1), 122-143.

Moldan, B., Janoušková, S., & Hák, T. (2012). How to understand and measure environmental sustainability: Indicators and targets. *Ecological Indicators*, *17*, 4-13.

Morsing, M., & Schultz, M. (2006). Corporate social responsibility communication: stakeholder information, response and involvement strategies. *Business Ethics: A European Review*, *15*(4), 323–338. https://doi.org/10.1111/j.1467-8608.2006.00460.x

Moufty, S.S. (2014). *Sustainability Practices and their Effect on Performance in the Banking Sector: A Stakeholder Approach.* Unpublished PhD Thesis. Brunel University. London, England.

Munshi, D., & Dutta, S. (2016). Sustainability reporting quality of Indian and American manufacturing firms: A comparative analysis. *Serbian Journal of Management*, *11*(2), 245-260.

Naser, K., Al-Hussaini, A., Al-Kwari, D., & Nuseibeh, R. (2006). Determinants of corporate social disclosure in developing countries: the case of Qatar. *Advances in international accounting*, *19*, 1-23.

Nugroho, P. I., & Arjowo, I. S. (2014). The effects of sustainability report disclosure towards financial performance. *International Journal of Business and Management Studies*, *3*(3), 225-239.

Nwobu, O. (2015). The Relationship between Corporate Sustainability Reporting and Profitability and Shareholders Fund in Nigerian Banks. *Journal of Accounting and Management, 5* (3).

Nyirenda, G., Ngwakwe, C.C. & Ambe, C.M. (2013). Environmental Management Practices and Firm Performance in a South African Mining Firm. *Managing Global Transitions, 11* (3), 243–260.

Nzekwe, O. G., Okoye, P. V. C., & Amahalu, N. N. (2021). Effect of sustainability reporting on the financial performance of quoted industrial goods companies in Nigeria. *International Journal of Management Studies and Social Science Research*, *3*(5), 265-280.

Ocampo, L. A., Clark, E. E., & Promentilla, M. A. B. (2016). Computing sustainable manufacturing index with fuzzy analytic hierarchy process. *International Journal of Sustainable Engineering*, *9*(5), 305-314.

Okudo, A. G. (2021). Corporate governance and carbon disclosure practices of quoted manufacturing firms in Nigeria. International Journal of Contemporary Research and Review, 12(07), 20409-20419.

Oluwatoyin, A. A., Agbi, S. E., & Mustapha, L. O. (2021). Board characteristics and sustainability reporting of listed non-financial firms in Nigeria. *Journal of Finance and Accounting*, *9*(5), 182-189.

Onyali, C. I., Okafor, O. G., & Egolum, P. (2014). An assessment of environmental information disclosure practices of selected Nigerian manufacturing companies. *International Journal of Finance and Accounting*, *3*(6), 349-355.

Ozanne, L. K., Phipps, M., Weaver, T., Carrington, M., Luchs, M., Catlin, J., ... & Williams, J. (2016). Managing the tensions at the intersection of the triple bottom line: A paradox theory approach to sustainability

management. *Journal of Public Policy & Marketing*, *35*(2), 249-261.

Pallant, J. (2010). *SPSS survival manual: A step-by-step guide to data analysis using SPSS program* New York, NY: Open University Press.

Parmigiani, A., Klassen, R. D., & Russo, M. V. (2011). Efficiency meets accountability: Performance implications of supply chain configuration, control, and capabilities. *Journal of operations management*, *29*(3), 212-223.

Phrasisombath, K. (2009). Sample size and sampling methods. *Faculty of Postgraduate Studies and Research University of Health Sciences: Vientiane.*

Porter, M. E. (1991). Towards a dynamic theory of strategy. *Strategic management journal*, *12*(S2), 95-117.

Porter, M. E., & Kramer, M. R. (2006). The link between competitive advantage and corporate social responsibility. *Harvard business review*, *84*(12), 78-92.

Preston, L. E., & O'Bannon, D. P. (1997). The corporate social-financial performance relationship: A typology and analysis. *Business & Society*, *36*(4), 419-429.

Punchihewa, R. P. (2021). *The Sustainability Reporting of New Zealand Manufacturing Firms and Compliance with GRI Sustainability Reporting Standards* (Doctoral dissertation, Auckland University of Technology).

Quick, R. (2008). Voluntary sustainability reporting practices in Germany: A study on reporting quality. *Contabilidade e Gestão*, *5*, 7 – 35.

Raquiba, H., & Ishak, Z. (2020). Sustainability reporting practices in the energy sector of Bangladesh. *International Journal of Energy Economics and Policy*, *10*(1), 508-516.

Reddy, K., & Gordon, L. (2010). The effect of sustainability reporting on financial performance: An empirical study using listed companies. *Journal of Asia Entrepreneurship and Sustainability*, *6*(2), 19-42.

Reddy, T. L., & Thomson, R. J. (2015). Environmental, social and economic sustainability: implications for actuarial science. *Actuaries Institute*, 23-27.

Renaldo, N., Suhardjo, S., Suyono, S., Andi, A., Veronica, K., & David, R. (2022, November). Good corporate governance moderates the effect of environmental performance and social performance on financial performance. In *International Conference on Business Management and Accounting* (Vol. 1, No. 1, pp. 1-9).

Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., Lambin, E. F., Lenton, T.M., Scheffer, M., Folke, C., Schellnhuber, H.J. & Foley, J. A. (2009). A safe operating space for humanity. *Nature*, *461*(7263), 472-475.

Rokhmawati, A. (2015). *The effect of greenhouse gas emissions on financial performance of listed manufacturing firms in Indonesia* (Doctoral dissertation, University of Canberra).

Ruiz-Lozano, M., & Tirado-Valencia, P. (2016). Do industrial companies respond to the guiding principles of the Integrated Reporting framework? A preliminary study on the first companies joined to the initiative. *Revista de Contabilidad*, *19*(2), 252-260.

Runhaar, H., & Lafferty, H. (2008). Governing Corporate Social Responsibility: An Assessment of the Contribution of the UN Global Compact to CSR Strategies in the Telecommunications Industry. *Journal of Business Ethics*, *84*(4), 479–495. https://doi.org/10.1007/s10551-008-9720-5

Sanusi, K. A., & Sanusi, O. O. (2019). Environmental sustainability reporting practices in Nigeria: Are clouds darker or fairer in the manufacturing industry? *International Journal of Social Sciences and Humanity Studies*, *11*(2), 39-60.

Saunders, M. N. K., & Lewis, P. (2011). *Doing Research in Business and Management: an essential guide to planning your project* (1st ed.). Pearson Education Canada.

Sen, S. K. (2006). Societal, Environmental and Stakeholder Drivers of Competitive Advantage in International Firms. *SSRN Electronic Journal*. Published. https://doi.org/10.2139/ssrn.1009991

Senthilnathan, S. (2019). Usefulness of correlation analysis. *Available at SSRN 3416918*.

Sharfman, M. P., & Fernando, C. S. (2008). Environmental risk management and the cost of capital. *Strategic management journal*, *29*(6), 569-592.

Sharma, R. B., Sharma, A., Ali, S., & Dadhich, J. (2021). Corporate social responsibility and financial performance: Evidence from manufacturing and service industry. *Academic Journal of Interdisciplinary Studies*, *10*(3), 301-307.

Shokravi, S., & Kurnia, S. (2014). A step towards developing a sustainability performance measure within industrial networks. *Sustainability*, *6*(4), 2201-2222.

Singh, A. S., & Masuku, M. B. (2014). Sampling techniques & determination of sample size in applied statistics research: An overview. *International Journal of economics, commerce and management*, *2*(11), 1-22.

Slaper, T. F., & Hall, T. J. (2011). The triple bottom line: What is it and how does it work? *Indiana business review*, *86*(1), 4-8.

Spangenberg, J. H. (2002). Institutions for sustainable development: Indicators for performance assessment. *Cologne, Austria: SERI Sustainable Europe Research Institute*, 133-162.

Sulemena, A. (2016). Communicating corporate social responsibility via telecommunications websites. *Information Development*, *33*(5), 512–524. https://doi.org/10.1177/0266666916671772

Susilo, D. (2018). The effects of corporate social responsibility on the corporate value. *Arthatama*, *2*(2), 85-96.

Sutherland, J. W., Richter, J. S., Hutchins, M. J., Dornfeld, D., Dzombak, R., Mangold, J., Robinson, S., Hauschild, M.Z., Bonou, A., Schönsleben, P., & Friemann, F. (2016). The role of manufacturing in affecting the social dimension of sustainability. *CIRP Annals*, *65*(2), 689-712.

Tackie, G., Agyenim-Boateng, C., & Arthur, C. L. (2017). An examination of environmental accounting and reporting practices of large-scale mining companies in Ghana.

Tashakkori, A. & Teddlie, C. (1998). Mixed Methodology: Combining Qualitative and Quantitative Approaches. *Applied Social Research Methods Series, 46*; Thousand Oaks: Sage Publications.

Testa, M., & D'Amato, A. (2017). Corporate environmental responsibility and financial performance: Does bidirectional causality work? Empirical evidence from the manufacturing industry. *Social Responsibility Journal*, *13*(2), 221-234.

Unerman, J. (2000). Methodological issues-Reflections on quantification in corporate social reporting content analysis. *Accounting, Auditing & Accountability Journal*.

Waddock, S. A., & Graves, S. B. (1997). The Corporate Social Performance Financial Performance Link. Strategic. *Management Journal, 18* (4), 303-319.

Winroth, M., Almström, P., & Andersson, C. (2016). Sustainable production indicators at factory level. *Journal of Manufacturing Technology Management*, *27*(6), 842-873.

Wood, D. J. (2010). Measuring corporate social performance: A review. *International journal of management reviews*, *12*(1), 50-84.

Wu, M. L. (2006). Corporate social performance, corporate financial performance, and firm size: A meta-analysis. *Journal of American Academy of Business*, *8*(1), 163-171.

Young, E. (2013). Value of sustainability reporting A study by EY and Boston College Center for Corporate Citizenship, *42*(2016) 24-40

Zahra, S. A., & Fescina, M. (1991). Will leveraged buyouts kill US corporate research & development?. *Academy of Management Perspectives*, *5*(4), 7-21.

Zeghal, D., & Ahmed, S. A. (1990). Comparison of social responsibility information disclosure media used by Canadian firms. *Accounting, Auditing & Accountability Journal*, *3*(1).

Zyadat, A. A. H. (2017). The impact of sustainability on the financial performance of Jordanian Islamic banks. *International Journal of Economics and Finance*, *9*(1), 55-63.

APPENDICES

APPENDIX A: LIST OF MANUFACTURING FIRMS SAMPLED

Botswana		
Sechaba Brewery		
Eswatini		
The Royal Eswatini Sugar Company		
Ghana		
Benso Oil	Guinness Ghana	Fanmilk
Cocoa Processing	Intravenous Infusions	Unilever Ghana
South Africa		
AbInBev	Aspen Pharmacare Holdings Limited	Distell
Adcock Ingram Holdings Limited	Astral Foods	Hulamin Limited
Ah-Vest	Aveng	Mondi Plc
Argent	AVI	Mpact Limited
Ascendis Health Limited	BAT	Nampak
Stefanutti Stocks	Bell	Novus Holdings
Tiger Brands Limited	Bowler Metcalf Limited	Nu-World Holdings Limited

Tongaat Hulett Limited	CAFCA Limited	Oceana Group Limited
Transpaco	Sappi	Pretoria Portland Cement
Richemont	South Ocean Holdings	Quantum Food Holdings
RCL Foods	Spanjaard	Rhodes Food Group Holdings Limited
Zambia		
Chilanga Cement	Zambeef Products	Zambia Sugar
Metal Fabricators	Zambia Bata Shoes	Zambia Brewery
National Brewery		
Malawi		
Illovo Sugar		
Mauritius		
Altea	Les Moulins de la Concorde	Phoenix Beverages
Constance La Gaiete	Livestock Feed	PIM Limited
Go Life	Mauritius Chemical & Fertilizer	Quality Beverages
Harel Mallac Limited	Mauritius Oil Refineries	The United Basalt
Innodis	Les Gaz Industriels	
Kenya		

Bamburi Cement	East African Portland Cement	Olympia Capital
BAT Kenya	Everready	Sameer Africa
BOC KENYA	Flame Tree Group	Sasini
CARBACID INVESTMENTS	Kenya Orchards	Unga Group
Crown Paints Kenya	Kakuzi	Williamson Tea
Eaagads	Kapchorua Tea Kenya	East African Cables
East African Breweries	Limuru Tea	
Namibia		
Namibia Breweries		
Nigeria		
Aluminium Extrusion Industries	Ftn Cocoa Processors	Nascon Allied
Austin Laz & Company	Glaxo	Neimeth International Pharmaceuticals
Berger Paints Plc	Greif	Nestle Nigeria
Beta Glass Company	Guinness Nigeria	Nigeria Breweries
Cadbury	Honeywell Flour Mill	Nigerian Enamelware

CAP	Industrial and Medical Gases	Northern Flour Mills Of Nigeria
Champion Breweries	International Breweries	Okomu Oil Palm
Chellarams Plc	Lafarge Cement	Pharma-Deco
Cutix Plc	Livestock Feeds	Premier Paints Plc
Dangote Cement	May & Baker	Presco
Dangote Sugar Refinery	McNichols Plc	Pz Cussons
Eterna	Meyer	Tripple Gee and Company
Fidson Healthcare	Morison Industries	UAC
Flour Mills Of Nigeria	Mrs Oil	Unilever Nigeria
Union Dicon Salt	Vitafoam Nigeria	
Rwanda		
Bralirwa Limited		
Tanzania		
East African Breweries (Same as Kenya)	Tanzania Breweries	TATEPA
Tanga	Tanzania Portland Cement	Tol Gases Limited
Tanzania Cigarette Company		

Uganda		
British American Tobacco Uganda	East African Breweries (Same as Kenya)	Uganda Clay
Zimbabwe		
African Distillers	Hippo	Pretoria Portland Cement (Same as South Africa)
ART Holdings	Innscor	starafricacorporation
Bat Zimbabwe	Lafarge Cement Zimbabwe	Turnall Holdings Limited
Bridgefort	Masimba Holdings Limited	Willdale Limited
CAFCA Limited (Same as South Africa)	Nampak	Zimplow Holdings Limited
Dairibord Holdings	National Foods	General Beltings
Delta Corporation		