

DURBAN UNIVERSITY OF TECHNOLOGY

**SUSTAINABILITY REPORTING IN SUB-SAHARAN AFRICA: A
CORPORATE GOVERNANCE AND OWNERSHIP STRUCTURE
PERSPECTIVE**

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PERSPECTIVE**

Submitted in fulfilment of the requirements of the
degree of Doctor of Philosophy in Management Sciences Specialising in
Business Administration in the Faculty of Management Sciences at the
Durban University of Technology

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ABSTRACT

The level of sustainability reporting (SR) in sub-Saharan Africa (SSA) is still low and unsatisfactory. Nonetheless, studies on corporate governance and SR in SSA are limited. The immaturity of the capital markets of the SSA limits the acquisition of valid and reliable sustainability data. Most studies on corporate governance and SR are therefore, largely within the context of businesses in the developed world with matured capital markets. There is also evidence of limited emphasis on the boundary condition of ownership structure in the relationship between corporate governance and sustainability reporting. The aim of this study was to investigate the moderating role of ownership structure in the extent to which the corporate governance practices of businesses in SSA promote SR. The study focused on SSA's publicly listed non-financial firms as of 31 December 2021. STATA 14.1 and GMM were used to analyze secondary data. The Arellano-Bond dynamic panel-data estimation method was applied to a balanced panel of 1,969 observations from 275 groups spanning 2012 to 2021. The study revealed ownership structure notably shaped corporate governance's effect on sustainability disclosure in SSA listed businesses. In addition it was found that government ownership bolstered board independence's environmental sustainability reporting (ESR) impact, while foreign ownership weakened Board female gender diversity (BFGD) influence. Board independence enhanced social sustainability reporting (SSR), but government ownership weakened audit committee attributes' SSR link. Foreign ownership amplified the connection between audit committee size and SSR, but weakened it for sustainability committee independence. BFGD, board independence, independent remuneration, and sustainability committees positively correlated with ESR. Conversely, larger remuneration committees and more sustainability meetings negatively related to reduced ESR. It is therefore imperative for SSA firms to establish standard CSR/ESG boards for functional effectiveness. In a nutshell, the influence of corporate governance on reporting is moderated by ownership structure, highlighting the importance of tailored ownership arrangements to enhance sustainability reporting. Policies should prioritize environmental and social reporting, as it receives less emphasis compared to traditional financial reporting.

DECLARATION BY STUDENT

'I hereby declare that this submission is my own work towards the “**Doctor of Philosophy in Management Sciences: Business Administration**” degree and that, to the best of my knowledge and belief, it contains no material previously published by another person, nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text’.

Marshall Wellington Blay
(22175075)

Signature

24/05/2024
Date

DEDICATION

This work is dedicated, with deep love and appreciation, to my spouse.

ACKNOWLEDGEMENT

My first heartfelt thanks go to the Almighty God and my Saviour Jesus Christ for his grace, wisdom, guidance, and always keeping me safe and strong, to get through the course successfully. Many have contributed, in diverse ways, to the completion of this work, and I see it as a privilege to have received their love and support. I'm indebted to my able and wonderful supervisor, Dr Prosper Kweku Hoeyi, for his patience, diligence, useful comments and suggestions, which have helped tremendously towards the successful completion of this research. It was evident that the support you were offering me was beyond the limit of your responsibilities, but you never hesitated to do so. I am grateful to my co-supervisor, Dr Ebenezer Agyemang Badu. I appreciate your guidance, kindness, patience, encouragement, friendship, and also, the scholarly skills and virtues you've given me.

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

In the world of accounting, discussions on corporate governance are progressively shifting to sustainability, largely expressed through social equity, economic performance and environmental performance (Rogers & Hudson, 2011: 3). Hence, companies across the globe are strategically embracing environmental, social, and governance (ESG) objectives to efficiently oversee their influence on both society and the environment (Mutuha, 2022: 6). In many parts of the world, there is an increasing demand for sustainability reporting among stakeholders, due to climate change, changing consumer preferences, and environmental accidents (Dienes, Sassen & Fischer, 2016: 154). A sustainability report is a public report on the social, environmental and governance impact of the practices and operations of businesses, and it is published voluntarily (Anderson, 2023: 15). The world has witnessed enormous growth in sustainability reporting in the past two decades, due to the relevance of the subject to society, from 100 firms reporting 20 years ago to more than 6,000 companies issuing sustainability reports around the world in 2013 (Thijssens, Bollen & Hassink, 2016: 86). Although not required by law, 86% of the companies in the S&P 500 in 2018 published their sustainability reports as part of their corporate responsibility (Anderson, 2023). Consequently, the concept of corporate sustainability appears to be a significant advancement within global businesses (Stanny & Ely, 2008: 338). It has become a part of the decision-making process of managers (Windolph, Schaltegger & Herzig, 2014: 378), of accounting practices (Chau & Gray, 2010: 93) and of reporting practice (Guidry & Patten, 2010). Sustainability reporting is perceived to be associated with risk management strategic enhancement; savings and cost optimization; decision-making process streamlining; and reputation and corporate trustworthiness bolstering (Buallay, 2022). Sustainability reporting provides businesses with the opportunity to exhibit their commitment level to world's sustainable development (Dilling, 2010: 19; Henri, Boiral & Roy, 2016: 269).

Nonetheless, the extent of sustainability reporting by businesses is regarded, in the extant literature, as highly dependent on the corporate governance of businesses (Bing & Amran, 2017: 90; Lopes, 2020; Islam, French & Ali, 2022: 1134; Olayinka, 2022: 70). The corporate governance decision-making processes of businesses are deemed essential, since the true value of businesses, regardless of industry and size, is unlocked through corporate governance (Bates, 2013). Corporate governance is perceived as a pre-requisite for the sustainable growth of businesses (Sakai & Asaoka, 2003:6). It is critical for firms in terms of establishing an attractive investment climate; exposure to efficient financial markets; risk mitigation; performance enhancement; a higher level of transparency; and social responsibilities (Pintea & Fulop, 2014: 519). The corporate governance systems of companies are largely described as frameworks, guidelines, or systems of rules dictating the control and direction of a business (Pham & Islam, 2022: 190). Decision-making bodies, and power and accountability mechanisms, are defined under corporate governance systems (Donthu *et al.*, 2021). An existing corporate governance system serves as a toolkit to enable the boards and management of businesses to efficiently manage prevailing challenges (Aguilera *et al.*, 2021). The corporate governance mechanism promotes the establishment of appropriate controls and decision-making processes to promote the interests of all stakeholders (Tao *et al.*, 2022). Good corporate governance is perceived to provide the appropriate infrastructural platform for businesses to make quality decisions that satisfy the interests of stakeholders (Kumar *et al.*, 2021). The characteristics of the members of the corporate governance mechanisms of businesses, including CEOs, the board of directors, the top management team and institutional investors, are perceived to either promote or inhibit sustainability practices and reporting (Zaman *et al.*, 2022).

However, the incentives for managers and board members to promote sustainability reporting in a business are believed to depend on the existing ownership structure of the businesses (Khan *et al.*, 2020). The ownership

structure dictates the degree of control and power allotted to stakeholders in the decision-making process of a business (Abdallah & Ismail, 2017:15). Thus, the existing principal-agency problem of businesses, dictated by the agency theory, is highly dependent on the ownership structure of businesses. The existing principal-agency theory varies, depending on the different types of business ownership, including block holding, family, institutional, managerial, and government. The professed principal-agency problem dictated by the agency theory, therefore, suggests a potential moderating role of ownership structure in the relationship between corporate governance and sustainability reporting.

1.2 CONTEXT OF THE STUDY

In many parts of the world, there is an increasing demand for sustainability reporting among stakeholders due to climate change, changing consumer preferences, and environmental accidents (Dienes, Sassen & Fischer, 2016: 154). There has been maximum growth in sustainability reporting in the US, Europe and Asia (Matta, 2017: 106). However, in the developing world, especially in sub-Saharan Africa, participation in sustainability reporting is a recent practice and is still extremely low (Sampong *et al.*, 2018: 4518; Adjintettey *et al.*, 2021).

Studies on the role of corporate governance in the extent of sustainability reporting have largely focused on businesses in the developed world (Dienes, Sassen & Fischer, 2016: 154). Studies in sub-Sahara Africa on corporate governance have largely focussed on its relationship with firm performance, with limited emphasis on sustainability (Tilt *et al.*, 2020). Notwithstanding the importance of institutional characteristics, like ownership structure, in the practice of corporate governance (Hashim, Mahadi & Amran, 2015: 36), studies on the moderating role of ownership structure in the linkage between corporate governance and sustainability are scarce.

This study is significant in the sense that it throws light on the need for sustainability information disclosure with respect to corporate governance and ownership structure in SSA. The study will also, hopefully, motivate businesses to be more accountable to society, as the agency theory emphasizes that more information disclosure is needed in order to keep businesses accountable to society. The theory of legitimacy also emphasizes the need for sustainability disclosure in order for businesses to establish legitimacy in society.

1.3 RESEARCH PROBLEM

The rate of global greenhouse gas (GHG) and carbon dioxide (CO₂) emissions is persistently increasing. The global CO₂ emissions from fossil fuels and industry that totaled 37.15 billion metric tons (GtCO₂) in 2022 is reported to have risen by 1.1 percent in 2023 to reach a record high of 37.55 GtCO₂ (Tiseo, 2024). The area and regions of the continent of Africa that lie south of the Sahara, described as sub-Saharan Africa, which encompasses Central Africa, East Africa, Southern Africa, and West Africa is reported to contribute about 1.9% to Global CO₂ emissions (Ritchie, 2023). Although sub-Saharan Africa's contribution to the global CO₂ emissions of 1.9% is relatively small, there is an increasing trend due to increasing economic growth that is being spurred by fossil fuel (Ritchie, 2023). This increasing GHG and CO₂ emissions phenomenon is accompanied several human activities disruptions and environmental hazards, in the form of climate change, air pollution and respiratory disease from smog, disruptions in food supply, and increased wildfires (Tan, et al., 2022: 2955). Based on this phenomenon, sustainability practices and disclosure is increasingly becoming an important requirement for legitimizing firms.

Sustainability is becoming more important for all companies, across all industries in the last years because of diverse international scandals (e.g. Cadbury in Nigeria, Parmalt in Italy, and Banco Português de Negócios in Portugal, Enron and WorldCom in the US, several among others) (Gimbason

& Yahaya, 2024: 77). A sustainability strategy is considered to be necessary for competitiveness today by 62% of business executives; and another 22% think it will be in the future (Haanaes, 2016). In a survey conducted by McKinsey in February 2010, although companies actively managing sustainability are reaping the benefits of superior shared value, most companies fail to manage sustainability actively (Krechovská & Procházková, 2014: 1144). Simply put, sustainability is a business approach for creating long-term value by taking into consideration how a given organization operates in the ecological, social and economic environment. Sustainability is built on the assumption that developing such strategies fosters company longevity. Although sustainability reporting is becoming more prevalent in the developed world, its practice and adoption is still extremely low in developing countries, especially, among businesses in sub-Saharan Africa (SSA) (Marquis & Qian, 2014: 127). The corporate strategic planning of businesses in SSA largely focuses on immediate financial performances, often overlooking the importance of sustainability.

1.3.1 Research Gaps

Based on evidence in the existing corporate governance literature, studies on corporate governance and sustainability reporting in SSA are limited. The immaturity of the capital markets of the sub-region that seemingly limits the acquisition of valid and reliable data, particularly sustainability information has limited the interest of practitioners and scholars in studying the role of governance in the disclosure of sustainability information. The scholar interest has largely been on the role of corporate governance in the financial performance of listed firms in the SSA region (Savitri, et al., 2020: 3395; Akomea-Frimpong, et al., 2022: 1; Sarpong-Danquah, et al., 2022: 185). Most studies on corporate governance and sustainability are, therefore, largely within the context of businesses in the western and developed nations, such as the USA, Canada, the UK, and Australia (Tkachenko, Pervukhina & Sokolovskaya, 2020: 189; Ong & Djajadikerta, 2020; Camilleri, 2018:567; Dienes, Sassen & Fischer, 2016: 154; Thijssens, Bollen &

Hassink, 2016: 86). That the focus of these studies is on developed nations is unsurprising, as sustainability reporting is more mandatory for countries in the global north (Europe and North America), where capital markets are more developed. In Asia, most of the sustainability reporting studies were conducted in developed, or newly developed, countries such as China (Li, Zhang & Foo, 2013: 519; Marquis & Qian, 2014:127), Japan (Fukukawa & Moon, 2004: 45), and Pakistan (Sharif & Rashid, 2014: 2501). In addition, the limited studies on corporate governance and sustainability reporting in developing nations have largely focused on south Asian countries (Setyahadi & Narsa, 2020: 885; Wahyuni, 2020:8; Masud, Nurunnabi & Bae, 2018: 1). Most of these studies largely investigated the role of corporate governance in promoting sustainability reporting, without emphasis on the moderating role of the ownership structure of businesses. However, it is evident from the literature that the level of corporate governance practices, the interest in sustainability practices and information disclosure varies by ownership structure types of listed businesses (Oyerogba, et al., 2024: 104). The ownership type of businesses plays significant role in the sustainability reporting orientation. Different types of owners, such as institutional investors, family owners, or dispersed public shareholders, may have varying priorities regarding sustainability reporting (Haladu & Salim, 2016: 1784; Qasem, et al., 2022: 11316). Institutional investors, for instance, often push for higher transparency and sustainability due to their focus on long-term value creation (Giordino, et al., 2024: 123132). Family-owned businesses might prioritize reputation and legacy, which could enhance their commitment to sustainability reporting (Martínez, et al., 2019: 57). In Contrast, managerial owners are often profit-oriented and less focused on sustainability issues. Also, highly concentrated ownership in the hands of a few entities or individuals might feel less pressure for transparent and comprehensive sustainability reporting (Lawati & Sanad, 2023: 178). In this situation, corporate governance mechanisms might not effectively promote sustainability reporting, while the contrast is true. In another instance, the ownership structure can be influenced by the legal and regulatory

environment of the jurisdiction in which the company operates (Fuadah, et al., 2022: 42). Stringent regulations regarding corporate governance and sustainability reporting can mitigate the influence of ownership structure on reporting practices. Based on these discussions, it can be inferred that the ownership structure acts as a lens through which corporate governance practices are applied and sustainability reporting is managed. It is therefore evident that ownership structure of listed businesses could serve as a boundary condition for the role of corporate governance in the level of sustainability disclosure, particularly in SSA, where there are limited regulations to enforce the practice. This study will, therefore, contribute to the extant literature on corporate governance and sustainability reporting by providing comprehensive information on the moderating role of ownership structures in corporate governance to promote sustainability reporting in the context of sub-Saharan Africa.

1.4 RESEARCH AIM

This is to investigate the moderating role of ownership structure on the extent to which corporate governance practices of businesses in sub-Saharan Africa promote sustainability reporting.

1.5 RESEARCH QUESTIONS

The main question of the study was 'Does ownership structure moderate the relationship between corporate governance and sustainability reporting of listed non-financial firms in sub-Saharan Africa?' However, the specific research questions answered in this study include:

1. What is the effect of board composition on social sustainability reporting?
2. What is the effect of board composition on environmental sustainability reporting?
3. What is the effect of board structure on social sustainability reporting?

4. What is the effect of board structure on environmental sustainability reporting?
5. What is the moderating role of ownership structure in the relationship between board composition and social sustainability reporting?
6. What is the moderating role of ownership structure in the relationship between board composition and environmental sustainability reporting?
7. Does ownership structure moderate the relationship the relationship between board structure and social sustainability reporting?
8. Does ownership structure moderate the relationship between board structure and environmental sustainability reporting?

1.6 RESEARCH OBJECTIVES

The objectives of this study are grouped into two – primary objectives and secondary objectives. The primary objectives are largely general, whereas the secondary objectives are specifically defined.

1.6.1 Primary objectives

The primary/major objectives of the study are:

1. Examine the effect of corporate governance on sustainability reporting in sub-Saharan Africa.
2. Examine the effect of ownership structure on sustainability reporting in sub-Saharan Africa.
3. Determine the moderating role of ownership structure on the effect of corporate governance on sustainability reporting in sub-Saharan Africa.

1.6.2 Secondary objectives of the study

The secondary objectives, deduced from the three main primary objectives of the study, are to:

1. Determine the effect of board composition on social sustainability reporting.

2. Determine the effect of board composition on environmental sustainability reporting.
3. Determine the effect of board structure on social sustainability reporting.
4. Determine the effect of board structure on environmental sustainability reporting.
5. Examine the moderating role of ownership structure in the relationship between board composition and social sustainability reporting.
6. Examine the moderating role of ownership structure in the relationship between board composition and environmental sustainability reporting.
7. Examine the moderating role of ownership structure in the relationship between board structure and social sustainability reporting.
8. Examine the moderating role of ownership structure in the relationship between board structure and environmental sustainability reporting.

1.7 CONTRIBUTIONS OF THE STUDY

This section elucidates the various contributions of the study. The study contributions have been presented in three sub-sections, including theoretical contributions, methodological contributions and practical or managerial contributions.

1.7.1 Theoretical Contribution

The existing theories, particularly the agency theory emphasizes on existence of conflict of interest among the board and management, with each prioritizing their own interest. The potential principal-agent problem is perceived to be limited through effective corporate governance practices that could stimulate effective sustainability strategies implementation and hence, higher sustainability disclosure. However, this theory largely explain how existing principal-agent could be limited through effective corporate governance practices to stimulate superior or favourable business outcomes without emphasizing the role of the ownership structure characteristics of the firms. Although, the limitation of the principal-agency conflict could stimulate

higher level of sustainability disclosure, the level of effectiveness of the corporate governance practices differ based on ownership characteristics. There is limited conflict of interest between principal and agency in state owned firms relative to institutionally owned firms, and hence, their difference in the decision-making regarding sustainability disclosure. This study therefore contributes to theoretically by emphasizing on the moderating role of ownership structure in the linkage between corporate governance and sustainability disclosure.

1.7.2 Methodological Contribution

Methodologically, previous studies looked at the situation of individual countries in sub-Saharan Africa, while the current study utilized panels of countries and sectors of firms in specified time period, which widens the scope capture the influence of sector-country wide characteristics. The studies have largely explored and described the level of sustainability disclosure in SSA. However, this study contributes to the existing methodologies by explaining the described sustainability disclosure outcomes through the level of corporate governance practices of listed firms in SSA. Studies on corporate governance and outcome variables have largely employed the fixed effect method to account for sector and country specific variables. However, the fixed effect is still deemed as less efficient in terms of accounting for sector-country effects. The usage of the GMM dynamic deemed more efficient and less bias was therefore utilized in this study to limit the influence of sector-country wide confounding variables, and also take into consideration the influence of the lagged dependent variable.

1.7.3 Practical/Managerial Contribution

This study is significant in the sense that it could help throw light on the need for sustainability information disclosure with respect to corporate governance and ownership structure in sub-Saharan Africa. This, hopefully, could help businesses in this region appreciate the important role that corporate governance and ownership structure play in the sustainability of businesses.

Thus, the study could, hopefully, motivate business to be more accountable to society, as the agency theory emphasizes that more information disclosure is needed in order to keep businesses accountable to society, to legitimize their existence, and to enhance their image in the international, or external, world.

This study could serve as a baseline, or reference, for international bodies seeking to invest in sub-Saharan African businesses. With the high level of orientation of sustainability reporting, international businesses seeking to invest are partly motivated by the sustainability practices of businesses. This study could also serve as a reference for policy-makers in sub-Saharan African seeking to promote sustainability practices through their existing business units. For instance, governments in sub-Saharan Africa seeking to promote sustainability practices could be guided by this study to institute stricter regulations and laws on sustainability reporting, and to institute policies that would motivate sustainability reporting, which could eventually enhance the economic image of the country to the international community.

1.8 SUMMARY OF LITERATURE REVIEW

In discussing the obstacles related to sustainability and governance, Krechovska and Prochazkova (2014: 1144) emphasized that corporate sustainability entails the potential to significantly influence the advancement of economic, social, and environmental aspects through the utilization of corporate governance approaches and the strategic placement of the company within the market. Sustainability as a research area is attracting the intense attention of scholars of corporate governance. Many researchers have investigated the relationship between the various components of corporate governance and corporate sustainability (e.g., Mukherjee & Sen, 2019: 167). However, the results from these studies are highly contradictory and inconclusive. In a research involving 82 Islamic Financial Institutions (IFIs) across Gulf Council Co-operation (GCC) and non-GCC nations, Hashim, Mahadi & Amran (2015: 36) discovered that elements such as board

size, directors' independence, inclusion of environmental and social considerations, and the integration of profit into the mission and/or vision exhibited a positive correlation with sustainability practices within IFIs based in GCC countries. However, the scale of the Shariah Supervisory Board (SSB) demonstrated a negligible correlation with the sustainability initiatives of Islamic Financial Institutions (IFIs). Furthermore, the investigators observed that the nation of establishment exerted a moderating influence on the connections between all dimensions of corporate governance and sustainability initiatives, except for the link between the SSB's size and sustainability practices. Although the study of Hashim, Mahadi and Amran (2015: 36) emphasizes the various components of corporate governance, sustainability was measured as a composite variable, while ignoring the importance of institutional characteristics, like ownership structure, in moderating the effect of corporate governance.

The study by Boeva, Zhivkova and Stoychev (2017: 17) also reported a positive association between corporate governance and social and environmental sustainable development. Also reflecting on the impact of corporate governance on sustainability performance through the study of 122 companies from among the 159 companies listed on the CMIE PROWESS database from the FMCG Industry in Indian, Sar (2018:1) reported that companies with a high corporate governance index are associated with superior sustainability performance. In their research, which aimed to provide insights into how corporate governance practices affect sustainable growth of companies in India using longitudinal data analysis, Mukherjee and Sen (2019: 167) demonstrated that, based on a sample of 139 non-financial firms listed on the NSE over a span of five years, board size and board independence exerted a significant impact on corporate sustainable growth in India. This influence was observed after accounting for the impact of leverage. The focus and framework that guided the study of Boeva, Zhivkova and Stoychev (2017: 17) failed to emphasize the various components of corporate governance and also focussed on the environmental and social components of sustainability without mentioning economic considerations.

Although the studies of Sar (2018) and Mukherjee and Sen (2019: 167) considered the various components of corporate governance, corporate sustainability was measured as a composite variable.

In another study by Amidjaya and Widagdo (2020: 231), which delved into the impact of ownership structure and corporate governance on sustainability reporting among banks listed in Indonesia, a balanced panel data comprising 155 observations from the years 2012 to 2016 was utilized in a panel data regression analysis. The study revealed that sustainability reporting among Indonesian listed banks remained at a relatively low level. Additionally, the research found that corporate governance, foreign ownership, and family ownership exhibited positive influences on sustainability reporting. Interestingly, the presence of family ownership was identified as a factor that lessened the impact of corporate governance, whereas foreign ownership did not exhibit a significant moderating effect. Furthermore, family ownership was found to weaken the effect of corporate governance, while foreign ownership had no significant moderating role. A limitation of this study lies in its failure to differentiate between board composition and board structure, as well as their diverse facets, regarding the impact of corporate governance on sustainability reporting. Additionally, the measurement of sustainability was approached as a composite variable, posing challenges in isolating the influence of corporate governance on specific aspects of sustainability reporting, such as environmental, social, and economic components. To address these gaps in research, the present study aims to shed light on the extent of sustainability reporting in the Sub-Saharan Africa (SSA) region. It seeks to ascertain how corporate governance and ownership structure of non-financial institutions impact the level of sustainability reporting within this sub-region. Furthermore, this study endeavors to build upon prior scholarly works by unveiling the distinct role played by corporate governance and ownership structure in various dimensions of sustainability, encompassing environmental and social factors.

1.9 SUMMARY OF RESEARCH METHODOLOGY

Philosophically, this study was largely positivist in paradigm, as the study aimed to test developed hypotheses and existing theories on corporate governance, ownership structure and corporate sustainability. Creswell (2015) emphasizes that a comprehensive perspective on the varying nuances between quantitative and qualitative research lies in the fundamental philosophical beliefs that researchers bring to their studies, the research strategies they employ, and the specific methods utilized within these strategies. Based on the positivist philosophical assumptions set as the foundation of this study, this study is largely perceived as quantitative in approach. Furthermore, this study was also deemed more explanatory in design, as it was largely built on the testing of causal relationships between corporate governance, ownership structure and corporate sustainability.

1.9.1 Research population, sample size and sampling method

The population of the study was all non-financial institutions listed on the stock markets of sub-Saharan African countries. Although there are major concerns about the level of sustainability practices and reporting in sub-Saharan Africa due to the absence of regulatory system to enforce the practice, the scholarly explanation for the degree of sustainability disclosure is still unclear. This therefore implies that the sub-Saharan African situation regarding the subject matter seems to be more favourable and significant to the interest of scholars and practitioners, and hence, the focus on listed firms in sub-Saharan Africa. Also, there are variations in the sustainability measurement approach, and the elements weighted of financial and non-financial firms. With this difference serving as a potential confounding factor and an element of bias, it was imperative to focus on either financial or non-financial firms. Considerably, the majority of the listed firms on the stock markets of sub-Saharan African are non-financial firms, and hence, the choice of focusing on non-financial listed firms.

Using purposive sampling method, only non-financial institutions from sub-Saharan African countries with similar corporate governance and internal characteristics were selected for the study. It utilised data from listed firms on the stock exchanges of selected countries in SSA for the period 2012 to 2021. For the estimated period of 10 years, the study employed secondary panel data, which is beneficial in terms of controlling for individual heterogeneity; providing more information; being better able to study the dynamics of adjustment; and identifying parameters that would not be identified with pure cross-section or pure time-series analysis (Gujarati, 2012). The exclusion of all financial firms was necessary, since the measures of sustainability of financial institutions and non-financial institutions are quite different. Furthermore, industry-specific corporate governance is essential to address the unique characteristics of respective industries (Datar, 2004: 328).

1.9.2 Data analysis and estimation techniques

Data was analysed using STATA 14.1. Results were presented using both descriptive and inferential statistical analytical methods. The descriptive measurements were largely measurements of central tendencies, such as minimum, maximum, mean and standard deviation. The developed hypotheses of the study were tested using the generalised moment method (GMM), as this statistical technique is more appropriate for the panel data. Consequently, a series of tests of assumptions were carried out to validate the appropriateness of the regressed models through GMM tests in dynamic data models. Among the series of tests used were the Arellano-Bond test of serial correlation, the Sargan/Hansen test of over-identification restrict, and the Sargan/Hansen test of exogeneity.

1.10 STRUCTURE OF THESIS

The thesis was structured in six chapters. Chapter One introduced the study. The various sections that were discussed included the background to the study; the statement of the problem; the justification for focusing on the

research area; the significance\relevance of the research area; the aim of the study; the study objectives; the scope of the study; a summary of the literature review; and an overview of the research methodology. Chapter Two will review the literature related to the dependent variable and the theoretical foundation of the study; whereas Chapter Three will review the literature related to the numerous independent variables of the study and the theoretical framework guiding the study. Chapter Four will discuss and describe the research methodology guiding the study. The areas of the methodology of the study that will be discussed are the research design; variables; specification of models; sample and data; data analysis and estimation methods; and justification of an estimation method. In addition, the chapter will discuss and provide the justification for the selection of the study area and the institutions. Chapter Five will analyse and discuss the results of the data analysis. Chapter Six will summarise the key findings. It will conclude and make managerial and policy recommendations. The policy, managerial, theoretical and practical implications of the study will also be presented in Chapter Six.

1.11 CONCLUSION

Sustainability reporting is increasingly becoming a key performance indicator in the business world. In the developed world, reports show an increasing trend in sustainability reporting: a steady increase in the rate of sustainability reporting among the N100 companies has been reported in a survey. A KPMG survey showed that the 64% rate of sustainability reporting among the N100 companies ten years ago had increased to 79% by 2022 (KPMG, 2023). It is also reported that nearly all the G250s report on sustainability, with a 2022 KPMG survey reporting a 96% rate of report (KPMG, 2023). Notwithstanding these reports, the level of sustainability reporting among businesses in sub-Saharan Africa is still low. The lingering question is whether the level of sustainability reporting in the region is influenced by the corporate governance practices and ownership structure of businesses in the region. This study, therefore, seeks to investigate whether the existing level

of sustainability reporting among sub-Saharan public listed businesses is influenced by corporate governance, under the premise of the specific ownership structure of the businesses.

CHAPTER 2: CORPORATE GOVERNANCE AND OWNERSHIP STRUCTURE

2.1 INTRODUCTION

The previous chapter presented the introduction; context of the study; the research problem; the research aim; the research questions; the research objectives; the significance of the study; a summary of the literature review; a summary of the research methodology; the structure of thesis, and a conclusion.

This chapter will build upon existing knowledge, develop a strong theoretical foundation, and ensure that the study is meaningful and relevant within the context of the broader academic community. The chapter reviews conceptual, theoretical and empirical literature related to corporate governance and ownership structure. The review discusses corporate governance; the forms of corporate governance; the principles of corporate governance; the benefits of corporate governance; and corporate governance in emerging economies. With regards to ownership structure, the review considers block holder, government, institutional, director, managerial, family, and foreign ownership, due to their predominance in sub-Saharan African countries. The agency, stewardship, stakeholder, resource dependency, social contract, and legitimacy theories are also reviewed.

Additionally, the economic environment, corporate governance and development of capital markets in sub-Saharan Africa are discussed. This involves a literature review of the political and economic environments in sub-Saharan Africa; the development of capital markets in sub-Saharan Africa; early corporate governance in sub-Saharan Africa; reforms in corporate governance in sub-Saharan Africa; corporate governance practices in sub-Saharan Africa; institutional characteristics of corporate governance in sub-Saharan Africa; ownership structures in sub-Saharan Africa; and sustainability reporting in sub-Saharan Africa.

2.2 CORPORATE GOVERNANCE

The Cadbury Committee coined the phrase 'corporate governance' for the first time in England in 1992 (Jones & Pollitt, 2004: 885). It is composed of various parts (systems) that operate in concert to carry out its functions (Crifo, Escrig-Olmedo & Mottis, 2019:1127). The board of directors, the board of commissioners, investor relations, and other stakeholders, are among the large number of participants, procedures, and structures that are highlighted. Process and structure are tools or technological elements required to regulate and manage the numerous business operations of an organization. More specifically, the structure will control how players interact with one another while the process will control the participants' sequence of activities (Weitzner & Peridis, 2011: 33). The corporate governance framework specifies the rights and obligations of a variety of stakeholders, including the board of directors, managers, shareholders, and other parties. The board of directors and other stakeholders are additional stakeholders. This serves as the basis for establishing the company's goals, along with plans for achieving them and a mechanism to monitor a variety of corporate goals.

2.2.1 Definitions of corporate governance

The definition of corporate governance can vary depending on the context. Corporate governance comprises a set of principles that dictate the rights

and obligations of shareholders, company leadership, creditors, government entities, employees, and other stakeholders both internal and external. Corporate governance is often delineated by researchers, investors, and regulators using either the lens of agency theory, which highlights the divergence of interests between managers and shareholders, or a broader stakeholder perspective that encompasses all participants engaged in the company's activities. Corporate governance, according to Cadbury (1992), is the structure that controls how corporations are run. It is based on the perspective of the stakeholders. The Organization for Economic Co-operation and Development (OECD) (1999) broadens this concept by defining corporate governance as the framework for running commercial enterprises. According to Metrick and Ishii (2002), corporate governance is “both the promise to repay a fair return on capital invested and the commitment to operate a firm, efficiently given investment”, from the perspective of the investor. This implies that a company's ability to access the capital market is impacted by corporate governance. Since it promotes business differentiation, firm level governance may be more important in developing economies with weaker institutions, claim Metrick and Ishii. According to Zingales (1998: 497), a governance system is “the complex set of constraints that shape the ex-post bargaining over the quasi rent registered by the firm”. According to Mayer (1997), corporate governance is concerned with methods of balancing the interests of investors and management, and ensuring that enterprises are run for the benefit of investors. Corporate governance is concerned with how society views the level of corporate accountability in connection with the internal governance systems of firms (Deakin & Hughes, 1997). It has also been defined by Keasey, Thompson and Wright (1997) as comprising “the structures, processes, cultures, and systems that engender the successful operation of organizations”. The governance of a company is also described as the entire package of actions taken within the social entity that is an enterprise to encourage economic agents' participation in the productive process, to create some organizational surplus, and to establish an equitable distribution between the partners, taking into account what they

have made available to the organization (Maati, 1999). Different corporate governance systems will, more generally speaking, express what are considered to be suitable lines of accountability by defining the nature of the connection between the company and significant corporate stakeholders. As a result, corporate governance systems can be seen as instruments for figuring out the kind of ownership and control over businesses within a certain economy. Corporate governance practices, in the words of Shleifer and Vishny (1997), are “economic and legal institutions that can be altered through the political process, sometimes for the better”. Current corporate governance systems are shaped by both company law and other types of regulation (such as stock market listing requirements and accounting standards). When regulation affects “how companies are owned, how they are controlled, and how changes in ownership and control are made” (Jenkinson & Mayer, 1992: 231), it has an impact on corporate governance. Ownership is defined by the laws governing companies, outlining the rights to property and sources of income for individuals holding interests in or associated with the corporate entity (Deakin & Slinger, 1997: 124). Corporate governance, according to the Cadbury Committee (1992), describes the direction, management, and control that should be given to a business. It entails keeping an eye on, and holding responsible, those who direct and organize management.

The stakeholder approach is highlighted in this study, and corporate governance is considered as a means of bringing management's interests into line with those of stakeholders. Gillan (2006:381) developed a model of corporate governance from the perspective of the stakeholders, emphasizing factors like laws or regulations, politics, communities, culture, and market. The simplified balance sheet model, developed by Ross, Westerfield and Jaffe (2005), includes boards of directors as one of the internal corporate governance processes. The Board of Directors is in charge of the internal corporate governance structure. Directors are elected by shareholders and are in charge of hiring, counseling, and managing corporate executives.

Managers make operational and investment decisions to determine which assets to invest in and how to fund those investments in order to maximize investment returns. In addition to boards, managers, shareholders, and debtholders, the corporate system also includes employees, suppliers, and clients (Gillan 2006:381). The business environment is composed of these stakeholders, as well as the political environment, laws and regulations, and markets in general. While Jensen and Meckling (1976: 305) describe a firm as a nexus of contracts between the principle (shareholder) and agent (manager), Gillan (2006: 381) sees a firm as a nexus of contracts between a firm and its stakeholders.

In addition to the discussed definitions, corporate governance has also been discussed based on several components, including a government financial model, government model of contracts between participants, a cognitive model of government, decision making and good practices. Based on a government financial model, the corporate governance conceptualization of Zingales (2017) and Andrés-Alonso et al. (2010) emphasized that it should largely center on governance mechanisms that discipline managers and resolve agency conflicts, or on governance mechanisms that induce learning and, for example, that stimulate managers to imagine, perceive and generate new investment opportunities. However, Paz-Ares (2010) conceptualization of corporate governance made a distinction of corporate governance depending on whether it is voluntary or obligation of the company. It refers to internal, or contractual, corporate governance (voluntarily adopted from within by each corporation) and external, or institutional, corporate governance (mandated from outside by the legal system and the network of institutions of a specific country). In a research on the rationale for owning foreign exchange derivatives, Allayannis et al. (2012) draw a similar contrast between corporate governance at the firm and national levels. The conclusion drawn from the updated definitions is that the main goal of a company's good governance is to build its value and make sure that everyone who make direct or indirect contributions to its development may

share in this growth. In this regard, it is important to demonstrate that, given the essential features of the CG system, no unique definition of CG exists; as a result, there is some disagreement and misunderstanding over what exactly constitutes CG (Windsor, 2009). Nonetheless, the Organization for Economic Cooperation and Development's (1999) definition of CG is generally accepted and includes the following information: Corporate governance is the system by which business corporations are directed and controlled (OECD, 2016).

2.3 CATEGORIES/COMPONENTS OF CORPORATE GOVERNANCE

The composition and structure of the board serve as the foundation for the definition of corporate governance. The distribution of outside executives and internal executives among the various board configurations is referred to as 'composition'. A board's composition is determined by a variety of elements, including the size, independence, and diversity of the board. The board structure establishes several committees, such as the audit committee; governance or nomination committee; compensation committee; investment committee; and executive committee. The various board compositions and board structural components are discussed in this section of the review.

2.3.1 Board composition

A board's heterogeneity is reflected in its diverse membership (Bhagat & Black, 2002: 232). Researchers and professionals alike have identified board composition as a proxy for board quality. Board composition, as defined by Uadiale (2010) and Lawal (2012), is the number of non-executive directors as a percentage of the total number of directors. Common measurements of board composition used in this investigation include board size and the proportion of independent non-executive directors (Rashid, 2011). There are several indices of board composition based on age and gender diversity. Board composition is one of the most debated topics among the many facets of a board of directors, according to De Andrés, Azofra and Lopez-Iturriaga

(2005:197). Directors can be classified as insiders (those who are also managers) or outsiders (non-manager directors), depending on whether they are also managers (De Andrés, Azofra & Lopez-Iturriaga, 2005:197). Most national and international corporate governance rules (such as the Sarbanes-Oxley Act in the United States, the Combined Code in the United Kingdom, the Conthe Code in Spain, and the OECD Code) mandate that boards of directors include both inside and outside directors. Corporate governance is defined by the composition and structure of the board of directors. A board's 'composition' refers to how its various configurations allocate outside executives and internal executives. Board characteristics include, but are not limited to, diversity, size, and independence. The board structure determines the roles of the several committees, such as the audit committee, governance or nomination committee, compensation committee, investment committee, and executive committee. Several types of board structures and board membership are discussed here.

2.3.1.1 Board size

Board size refers to the count of directors serving on a company's board (Bansal & Singh, 2022: 34). It signifies the numerical composition of the board of directors within a firm as of the reporting date (Bokpin & Arko, 2009: 246). The optimal board size, which is recommended, displays noteworthy divergence based on different viewpoints. As outlined in Act 179 (1963) for compliance governance, a minimum of two (2) directors is required on a board. In contrast, the Securities and Exchange Commission (SEC) suggests a range of eight to sixteen members for board size. The Cadbury Committee puts forth an optimal board size of eight to ten members, with a well-balanced distribution between executive (internal) and non-executive (external) directors (Cadbury Report, 1992). Subsequently, Jensen proposed an advisable board size of approximately seven to eight directors (Al-matari, Al-swidi & Fadzil, 2014: 34). Brown and Caylor (2006: 409) similarly advocate for an ideal board size spanning from six to fifteen members to maximize advantages.

Lipton and Lorch (1992: 59) assert that a small and limited board size is favorable, considering eight to nine members as optimal for efficient coordination and decision-making. The rationale behind this is that boards exceeding ten directors encounter difficulties in making timely decisions and reaching a consensus. Within the realm of corporate governance literature, a multitude of studies have underscored the merits associated with smaller boards (Wu, 2005: 16). This standpoint is rooted in the notion that compact groups exhibit greater cohesiveness, productivity, and an enhanced capacity for overseeing the company, when juxtaposed with larger assemblies (Pablo, Valentin & Felix, 2005: 197). In contrast, larger assemblies are susceptible to issues such as social "loafing" and elevated coordination expenses, which can diminish their efficacy in terms of surveillance (Rashid, 2011). Lipton and Lorsch (1992: 59) argue that boards comprised of eight or nine members are the most efficient. They posit that surpassing this optimal size restricts the ability of all board members to adequately voice their ideas and viewpoints within the constrained duration of board meetings. Jensen (1993:305) concurs with this stance, asserting that boards exceeding seven- or eight-members function with diminished effectiveness and are more vulnerable to CEO influence compared to smaller boards.

2.3.1.2 Board independence

The ability to think and act independently is a hallmark of professionalism (Comyns, 2016:349; Khong, Hooy & Lye, 2022: 466). It means being unencumbered by bias and free to choose the best course of action without worrying about what others might think (Hu & Loh, 2018:2578). The ability to 'stand apart' from unhelpful influences, and to be free of management demands, is crucial for making the right decision. A board member is classified as independent if they have never been employed by the company or its auditor, are not presently employed by either, and if their current employer does not engage in substantial business dealings with the firm (Bansal & Singh, 2022: 34). The degree of a board's independence is

evaluated by comparing the count of independent directors to the count of managing directors (Bansal, Lopez-Perez & Rodriguez-Ariza, 2018: 33). The percentage of a company's board that consists of independent, non-executive directors is another definition of a really independent board (Mgbame & Onoyase, 2015:203). The term 'significant' has a different meaning for each company. Board independence was defined and outlined by law in the Sarbanes-Oxley Act of 2002. Furthermore, stock exchanges such as the NASDAQ and the New York Stock Exchange have their own rules governing the behavior of listed companies.

A board of directors is made up of both insider directors, who are usually the company's primary management experts and thus not independent, and outside directors, who are more independent but less aware about the company's initiatives and operations (Raheja, 2005:283). The same author claims that MDs often present agendas to the board that are good for them individually, but bad for the company as a whole. In order to make the best decisions for the company's stakeholders, independent directors must be familiar with the inner workings of businesses and the methods used to analyze those decisions. It is well-known that insider directors are more likely to support the CEO, while outside directors are more likely to be unbiased and objective when reviewing the CEO's proposals and actions (Fama & Jensen, 1983:301). Standards for board independence are often more stringent in developed markets than in developing ones, and this trend is likely to continue. At least half of the European markets under consideration mandate that a certain percentage of board members be 'independent directors' (Bansal & Singh, 2022:34). By contrast, most countries in the Asia-Pacific, Latin America, Middle East, and Africa regions have established board independence rules where no more than a third of board members must be independent.

It is possible that the board's heterogeneity is reflected in its diverse membership (Bhagat & Black, 2002:232). Researchers and practitioners alike have identified board composition as a proxy for board quality. Board

composition, as defined by Uadiale (2010) and Lawal (2012), is the number of non-executive directors as a percentage of the total number of directors. Common measurements of board composition used in this investigation include board size and the proportion of independent non-executive directors (Rashid, 2011). There are several indices of board composition based on age and gender diversity. Research shows that board composition is one of many hotly debated topics on the many facets of a board of directors. Studies on board composition classify directors as either insiders (those who are both directors and managers at the same time) or outsiders (non-manager directors), due to the wide range of possible motivations and behaviors among board members (De Andrés, Azofra & Lopez-Iturriaga, 2005:197). Most national and international corporate governance rules (such as the Sarbanes-Oxley Act in the United States, the Combined Code in the United Kingdom, the Conthe Code in Spain, and the OECD Code) mandate that boards of directors include both inside and outside directors. Corporate governance is defined by the composition and structure of the board of directors. The 'composition' of a board refers to how its various configurations divide up the roles of outside executives and inside executives. The composition of a board is defined by a number of criteria, including diversity, board size, and board independence. Audit committees, governance or nomination committees, compensation committees, investment committees, and executive committees are just a few of the many committees established by the board's structure. Several board structures and board compositions are discussed in this part of the review.

2.3.1.3 Board gender diversity

"Variation in the composition of the board of directors" is how Kang, Cheng, and Gray (2007) define board diversity. Rao and Tilt (2016), define board diversity as a collection of directors who are different from one another in ways beneficial for the company. Boards might vary in terms of independence, age, race, gender, and nationality (Al-Shaer & Zaman, 2016:210; Harjoto & Jo, 2015:45; Ibrahim & Hanefah, 2016: 279; Rao & Tilt,

2016; Zhuang, Chang & Lee, 2018:1; Shukeri & Alfordy, 2022). Research has primarily focused on gender diversity. However, demographic diversity (gender, race, etc.) and cognitive diversity (education, experience) are equally important in a diverse board (Erahardt, Werbel & Shrader, 2003:102; Kang, Cheng & Gray, 2007:194). The importance of recruiting from both sexes is stressed repeatedly. Catalyst (2019) suggests using the percentage of women on the board as a proxy for gender diversity. Promoting gender diversity on a board of directors seeks to boost the proportion of women on that board. Improvements in corporate performance and governance have been linked to the presence of more women on corporate boards (Liao, Zhang & Wang 2019:257; OECD, 2019). Numerous countries have implemented diversity representation quotas with the aim of increasing the presence of women on corporate boards. Norway led the way by enacting pioneering legislation that mandated a 40% quota for gender diversity on boards. This initiative was subsequently followed by other countries including Belgium, Italy, Denmark, Greece, France, Spain, the Netherlands, Finland, and Slovenia. Boards that prioritize gender diversity seek to promote gender equality in the workplace and foster new ways of leading; personal development; being open to feedback; accountability; and dedication (Pasaribu, 2017:145; Garcia-Solarte, Garcia-perez de Lema & MadridGuijarro, 2018:499; Usman *et al.* 2019:1171). Evidence suggests that businesses with more women on their boards are safer (Loukil, Yousfi & Yerbanga, 2019:144); improve corporate governance structures (Goyal, Kakabadse & Kakabadse, 2019:113; Ullah, Fang & Jebran, 2019:44), and are more committed to corporate social responsibility (CSR) (Ibrahim & Hanefah, 2016:279; Issa & Fang, 2019:577).

2.3.2 Board structure

The main emphasis on the board structure in this study is on the potentially categorized committees to handle various board responsibilities. Among these committees are the audit, nomination, remuneration and CSR/ESG committees. The establishment of these committees to undertake specific

board responsibilities is perceived as a potential remedy for poor attendance by board directors (Harrison, 1987). The chairman is the highest official in the group. He may be the company's non-executive president; or an executive officer if the CEO is a board member. The implementation of board roles may be strengthened by setting up supervisory board committees to take board decisions efficiently. Group committees perform critical roles in the way boards are structured, by offering unbiased and non-biased supervisory and advisory advice to the business, with a view to protecting shareholder value (Harrison, 1987). In certain countries, the boards of corporations are also expected to have committees conducting those main functions.

2.3.2.1 Board committees

A board committee structure is used by businesses of all sizes to fulfill their governance responsibilities. There has been an increase in the regulation and formality of board committees in recent years (Boone, Field, Karpoff & Raheja, 2007: 66). To ensure that management is acting in the best interests of shareholders, the board of directors is responsible for performing monitoring and supervisory duties (Khan, 2011: 1; Pande & Ansari, 2014; Alhossini et al., 2021). Some of these duties, such as risk management, auditing, and compensation, however, may call for specialized knowledge. Boards began setting up committees to precisely assess these factors within their respective organizations. The SEC first suggested that companies appoint audit committees consisting of independent directors in 1940 (Birkett, 1986). In the 1970s, the SEC implemented regulations mandating that companies reveal the make-up of their audit committees (Reeb & Upadhyay, 2010:469). Companies were required to establish remuneration and nomination/governance committees after the Sarbanes-Oxley Act (SOX) was implemented in 2002 (Brickley & Zimmerman, 2010:235). In addition, SOX mandated that only independent directors serve on audit, remuneration, and governance committees (Brickley, Coles & Jarrell 1997:189). The corporate social responsibility and environmental committee, the investment committee, and the executive committee were also constituted. Committees of the board

should have no more than four members to ensure successful operation (Agyemang, 2020:22). More than half of the audit committee should be comprised of independent directors (Al-Hadrami, Rafiki & Sarea, 2020:297; Saeed, Qasim & Khan, 2022:108; Moats, Parker & Brown, 2022).

2.3.2.2 Board meetings

The board of directors of a corporation gathers at regular intervals to deliberate on significant issues, such as the company's history, current state, and future plans (Jizi, Salama, Dixon & Stratling, 2014:601). Accordingly, the number of scheduled board meetings during a given fiscal year is the board meeting frequency. Effective and efficient boards hold regular meetings where ideas may be discussed and perspectives can be shared. Additionally, board meetings aid in keeping directors, especially independent directors, abreast of company happenings (Eluyela *et al.*, 2018). Directors are expected to show up to board meetings for a few reasons: so that everyone is on the same page about what is happening at the company; so that the board can make all of its decisions in consensus (Takagi, 2009); and, in some cases, so that they can keep their jobs or improve their chances of being reappointed (Eluyela *et al.*, 2018). The importance of the prearranged gathering of directors is obvious, as it serves as a venue for discussion; the transfer of insider information to outside directors; and for the making of collective decisions. Therefore, a greater frequency of board meetings would allow for more opportunities to discuss diverse concerns, including sustainability matters, perhaps leading to board-wide consensus on the significance of sustainability and SRQ.

2.3.2.3 Board remuneration

The remuneration of the board members might be seen as a proxy for the price of good corporate governance. It can also be seen as the shareholders' long-term financial commitment to good corporate governance (Müller, 2014). Shareholders incur this cost, or make this expenditure, to protect their own interests and grow the value of their investment in the company. Board

remuneration, as defined by Shukeri and Alfordy (2022) includes remuneration for directors of a corporation in the form of fees, wages, use of corporate property, and other incentives. Board remuneration sometimes includes in-kind prizes and privileges provided by the company. The three most common components of remuneration packages are a base salary, an annual bonus programme, and executive stock option plans. Executive salary packages may also include retirement plans, limited stocks, and other benefits. Executives' base salaries are the main part of their compensation, which is guaranteed to increase every year. Executive contracts often include a base salary that is reviewed annually and is not contingent on the performance of the executive. Murphy, Orley and David (1999) state that salary is a factor in a number of other types of compensation, including bonus targets, stock option grants, pension plans, and severance packages. Given this situation, changes to base pay will have far-reaching effects on various other forms of payment. Generally speaking, utility and financial companies use sector-specific surveys and in-depth analysis of market competitors to determine executive base pay, but most other companies use competitive benchmarking based on the relative industry compensation survey to determine executive base pay. Most successful companies also provide senior executives with annual bonus schemes that are tied to the company's overall success, on top of their base salaries. Prior research (Finkelstein & Hambrick, 1989:121) has found that bonuses had a higher link to performance than other components of CEO compensation. In recent years, stock options have become increasingly important as a means of remuneration for chief executive officers. Executives are often offered stock options, which are contracts that entitle the holder to acquire shares of common stock at a future date and a predetermined exercise (strike) price. Compensation plans vary widely between industries, firms, and countries.

2.4 PRINCIPLES OF CORPORATE GOVERNANCE

In response to the Asian financial crisis of 1997, the OECD council meeting at the ministerial level proposed that the OECD work with national

governments, other relevant international organizations, and the private sector, to develop a set of norms and principles for corporate governance. The OECD was asked to draft these rules after a business newspaper first proposed the idea. After some revisions, the OECD members finally settled on the final version of the principles in 1999. Since then, the principles have been widely adopted as the model for responsible leadership in the business world. The primary objective of the principles is to assist governments in both OECD and non-OECD nations in evaluating and improving their own institutional and regulatory frameworks for corporate governance. Policymakers can draw from them to inform the development of, and improvements to, economic, social, legal, and culturally relevant regulatory frameworks for corporate governance. Furthermore, they could provide guidance and recommendations to stock markets, investors, firms, and other stakeholders in the development of superior corporate governance. Therefore, the major role of the principles is to serve as a benchmark. The principles place a premium on 'outcomes', suggesting that functional parity is a central concept. The latter alludes to the reality that the principles' 'outcomes' can be realized through various institutional frameworks, legislative frameworks, and other ways. The principles' preamble, as a result, recognizes the need for the implementation to be adapted to local circumstances. The principles' emphasis on "outcomes" has made them a global standard. The principles mostly focus on companies that are publicly traded on stock exchanges, whether they are financial or not. The principles are not binding. This quality highlights the need to adapt the ideas to new social, economic, and legal contexts.

2.4.1 Corporate governance principles

The following are the main tenets of corporate governance, as stated in the Business Roundtable of the Malaysian Institute of Accountants 2016 report: (1) The board selects a chief executive officer (CEO); supervises the CEO and senior management in operating the company's business, including allocating capital for long-term growth and assessing and managing risks;

and establishes the 'tone at the top' for ethical conduct. The board also approves corporate strategies intended to build sustainable long-term value.(2) Under the direction of the board, management creates and executes corporate strategy and manages the company's operations with the aim of generating long-term, sustainable value development. (3) Under the supervision of the board and its audit committee, management prepares financial statements that depict fairly the company's financial condition and operating results and makes the timely disclosures required by investors to evaluate the company's risks and financial and business stability. (4) The board's audit committee is responsible for the company's risk management and compliance procedures, as well as for hiring and managing the outside auditor, overseeing the annual financial statement audit and internal controls over financial reporting. (5) The nominating/corporate governance committee of the board actively engages in board succession planning; works to create an engaged and diverse board whose composition is appropriate in light of the needs and strategy of the company; and plays a leadership role in shaping corporate governance of the company: (6) The board's compensation committee creates an executive compensation philosophy; adopts and oversees the implementation of compensation policies that are consistent with the philosophy; designs compensation packages for the CEO and senior management to encourage the creation of long-term value; and creates meaningful performance-based compensation goals that support the company's long-term value creation strategy. (7) The board and management shall consult with long-term shareholders on matters and topics that are of general interest to them and affect the generation of long-term value for the business. (8) When making decisions, the board may take into account the interests of all the company's constituents, including stakeholders like employees, clients, suppliers, and the local community where the company conducts business, provided that doing so directly and significantly advances the company's business.

2.4.2 The 2004 review of the corporate governance principles

In 2002, the member nations of the Organization for Economic Co-operation and Development (OECD) formally requested an evaluation and examination of their corporate governance principles. This assessment led to the drafting of a new set of principles, which were subsequently approved by the OECD Council in May 2004. While the assessment acknowledged the principles' strong foundational basis, it also recognized the need for updates to accommodate emerging developments and concerns, all while maintaining the principles' non-binding nature. The OECD steering group on corporate governance assessment focused on integrating improvements and promising new approaches identified in the Survey of Corporate Governance Developments in OECD Member Countries (2004). Notably, prominent international institutions such as the Bank for International Settlements (BIS), International Monetary Fund (IMF), World Bank, European Union (EU), Financial Stability Forum, International Organisation of Securities Commissions, and the Basel Committee were actively engaged in the assessment process (Tricker, 2015; Osemeke & Adegbite, 2016: 431). Private sector, labour, and civil society participants participated in the discussions. During a public discussion session hosted on internet platforms, several useful ideas were made about the proposed principles.

Extensive consultations were carried out with non-member countries, primarily facilitated by convening five regional corporate governance roundtables. These roundtables served as avenues for the OECD to foster corporate governance reform in partnership with the World Bank Group. Additional insights were garnered through a special meeting held towards the end of 2003, which saw the participation of 43 non-member countries. The consultation process underscored a notable concern shared by policymakers worldwide: the insufficient implementation of the corporate governance policy framework. This issue primarily stems from a lack of adequate institutional and human resources. Furthermore, the matter of enforcement poses a significant challenge. Specifically, the lack of membership of certain countries, as well as the ambiguous nature of corporate governance codes

that rely on the 'comply-or-explain' principle (which is predominantly implemented on a voluntary basis without clear enforcement mechanisms), both in OECD countries and non-member countries, contribute to the lack of clarity surrounding these codes (Adegbite & Okike, 2012:262; OECD, 2017). Additionally, the unclear distinction between legally binding regulations and non-binding guidelines further complicates the hierarchy of governance provisions (Majumdar, 2017).

2.4.3 The revised general principles of corporate governance

The updated principles include a sizeable section outlining general principles for efficient enforcement and implementation, which is an important selection criterion for policies. The revised principles aim to tighten the board's supervision over management, while increasing its shareholder responsibility. By giving shareholders more sway over the board and lowering the costs involved in doing so, the principles encourage shareholders to exercise informed ownership. The recommendations include prioritizing the management of conflicts of interest through more transparency and disclosure. Institutional investors, auditors, brokers, and analysts are all affected by the requirement to declare and handle conflicts of interest, as are management and controlling shareholders. The principles set out numerous key components necessary for a successful and generally acknowledged corporate governance structure. These considerations are discussed in six chapters: (I) Establishing a Solid Foundation for Corporate Governance; (II) Key Ownership Functions and Shareholder Rights; (III) Fair Treatment of Shareholders; (IV) The Role of Stakeholders in Corporate Governance; (V) Disclosure and Transparency; and (VI) The Board's Responsibilities (Bouchez 2007:109).

Regarding the idea of securing the foundation for an efficient corporate governance framework, it is necessary for the framework to support open and effective markets; to uphold the rule of law; and to clearly define the

roles and responsibilities of various supervisory, regulatory, and enforcement authorities.

The third CG principle calls for the just treatment of shareholders. The corporate governance framework must guarantee that all shareholders, including minorities and international investors, are treated equitably. Legal recourse should be available to all shareholders when their rights are breached. The objective of this approach is to uphold the equity of capital markets by safeguarding minority shareholders from potential exploitation by boards of directors, management, and controlling shareholders. It is imperative that shareholders have faith that their money is safe with the board of directors, controlling shareholders, and company management. Increases in stock value, lower capital expenditures, and a lower risk premium demanded by investors are all the results of such assurance. As stated in the principle's text, separating *ex ante* and *ex post* shareholder rights can provide further protection for investors. Pre-emptive rights and qualified majorities for certain judgments are two types of *ex-ante* rights. To what extent shareholders can seek restitution after their rights have been infringed, and at what cost, is a question of *ex-post* rights. This post-hoc application of the concept should not give rise to too much litigation. As a result, administrative hearings and arbitration processes overseen by securities regulators and other regulatory agencies have been created in many jurisdictions and may serve as an efficient alternative adjudication mechanism for resolving disputes. Among other things, the principles encourage corporations to treat their foreign and domestic shareholders equally. That is why it is crucial to make voting accessible to everyone, everywhere. Considerable effort is put into safeguarding the interests of minority shareholders. Members of the board have a responsibility of loyalty to the firm and all shareholders, and this obligation must be clearly stated in order to safeguard non-controlling owners. In reality, countries with weak legal and regulatory frameworks in this area are the most typical places where non-controlling shareholders are abused. In legal systems where

conglomerates or groups of companies are prevalent, the obligation of loyalty held by a board member of a particular subsidiary company might become unclear. This can result in a scenario where the loyalty of the board member is perceived to be directed more towards the entire group of companies rather than solely to the individual subsidiary company.

The fourth principle, the role of stakeholders in corporate governance, stressed the importance of upholding the legal or mutually agreed-upon rights of stakeholders and encouraging active collaboration between corporations and stakeholders for the creation of wealth, the maintenance of jobs, and the sustainability of financially sound businesses. Given that they provide the business with resources, stakeholders in terms of this principle include creditors, suppliers, employees, and investors. Relationships between stakeholders and the organization will be shaped by the legal system, but this principle recognizes that many of these links have a contractual basis.

The firm must promptly and accurately publish all relevant information about it, including its financial situation, operational results, ownership structure, and governing structure, according to the fifth principle of disclosure and transparency. The desired outcome, according to this principle, is transparency. Transparency is essential for the informed exercise of ownership rights by shareholders, for market integrity, and for shareholder responsibility of the company.

In order to ensure that the firm is led strategically, that the board successfully controls management, and that the board is accountable to the company and its shareholders, it is vital to follow the sixth principle, which outlines the board's responsibilities. The principles that govern the structure, functioning, and responsibilities of the board encompass crucial aspects such as corporate ethics, adherence to legal and regulatory frameworks, supervision of internal controls, and oversight of financial reporting systems. The intended result is for companies to be under professional management, while

remaining subject to vigilant board oversight. This oversight serves to mitigate conflicts of interest and guarantee that the concerns of the company and its shareholders are duly accounted for by both the board and management.

2.5 BENEFITS OF CORPORATE GOVERNANCE

The first seeds of good corporate governance were planted in both the east and the west as early as the 18th century (Masons, 2013), which is a long time ago. Corporate governance has become a major priority for many governments as a result of the recent failure of companies like Enron and WorldCom, as well as the global financial crisis. This is because governments wish to prevent a repeat of these events. Best-practice corporate governance has been linked directly to better performance, according to studies in the body of literature on corporate governance (Masud, Nurunnabi & Bae, 2018:1). Successful results are now more broadly covered by the principles of effective corporate governance. Companies today have a responsibility to their stakeholders, who may include the local community, their workers, and even their suppliers. Research shows that businesses with a strong focus on corporate governance code compliance outperform their peers. (Braam & Peeters, 2018:164). Better performance and a culture of good compliance are similarly connected, according Moldavska and Welo (2019:53). A corporation with good corporate governance may borrow money at a cheaper interest rate than a company with bad corporate governance, since the former is seen as more stable, reliable, and less of a risk. New research from the London Business School found that good corporate governance is a significant factor in determining an organization's performance and growth. The study found that companies whose boards of directors strictly enforced the UK Corporate Governance Code outperformed those whose boards did not. The separation of the CEO and Chairman of the Board roles, the appointment of an acceptable number of non-executive directors, and the tightening of internal controls with an

emphasis on cybersecurity, all contributed to a more rapid growth rate (Montiel & Delgado-Ceballos, 2014:113).

Boards of directors can gain a lot from best-practice corporate governance with the help of a strong compliance culture. Positive behaviour encouragement; cost-of-capital reduction; improved top-level decision-making; internal control assurance; facilitation of appropriate strategic planning; and attraction of talented directors are some of the frequently cited advantages of good corporate governance practices (Ukko, Nasiri, Saunila & Rantala, 2019: 236). Maintaining investor confidence enables a company to raise capital effectively and efficiently, which has a positive impact on share price. Additionally, good corporate governance practices are said to minimize waste, corruption, risks, and mismanagement. They also help build brands and provide the right incentives for owners and managers to achieve goals that are in the best interests of shareholders and the organization. The study by Sial, Shrivastava, and Mishra (2018:342) also highlighted how good corporate governance practices enhanced reputation and perception; increased transparency; decreased run-ins with the law; decreased conflicts; and reduced fraud. It also highlighted how clear roles; decisiveness; employee retention; improved relationships with banks; and higher profit margins for businesses in India were additional benefits. The impact on share value, liquidity, and investor portfolio composition is the advantage of good governance that is most frequently mentioned for companies that are listed on a stock exchange. These advantages served as the primary driving forces for Companies Circle members as they started down the path of improving governance policy and practice (Vukeyi, 2012:147). Enhanced results are intrinsically linked to the presence of well-defined corporate governance policies and protocols, in conjunction with a board of directors and executive leaders who actively uphold a culture of compliance (Aziz & Rosmiza, 2017:1). This compliance culture should be collectively endorsed by all board members, fostering transparent communication channels with both management and the wider organization. Additionally, swift action must be

taken if there are any indications of non-compliance among employees who are not actively participating in the compliance culture.

Embracing effective governance practices can lead to a reduction in a company's cost of capital, a crucial advantage in today's volatile business landscape (Gazzola, Pezzetti, Amelio & Grechi, 2020: 1). Companies perceived as stable, reliable, and adept at risk mitigation often secure loans at lower interest rates compared to those with weaker corporate governance structures (Radebe, 2017:271). Entities with debt or equity investors might find that these stakeholders are willing to pay a premium to associate with a company that demonstrates good governance. Tafara and Peterson (2016) assert that implementing robust global corporate governance measures is in the best interest of all parties, as they instill investor confidence, curtail costs related to investor due diligence, and consequently reduce expenses associated with less universally favorable corporate governance measures. Kompanek's (2016) study in Latin America highlights that a Peruvian company, through enhanced corporate governance, managed to achieve a 20% increase in market valuation, while also attracting and retaining shareholders due to improved investor perception. In a separate case, Credit Suisse upgraded Brasil Telecom's valuation from 'grip' to 'outdo' after recognizing the positive impact of improved governance practices.

In recent research, the Corporate Governance Institute states that there is a substantial and clear association between the governance of a company and the speedy decision-making that is associated with higher performance (Sial, Shrivastava & Mishra, 2018: 342). Inadequate governance has also been directly connected to a variety of performance concerns (Aliyu, 2019:2). According to Kompanek (2016), efficient governance promotes rapid access to information and effective communication between stakeholders, both of which contribute to improved outcomes. There is no doubt about this: When there is a strong administration, it is easier to determine the precise order of importance for various actions (Haidar, Sohail & Qurashi, 2021:2697). This

contributes to the sustainability of the organization and may prove to be of incalculable value when it comes to assisting the organization in weathering severe economic storms (Sun, 2016). In addition, the board may feel confidence that an appropriate and effective control environment is in place, together with the level of assurance associated with each important component of governance, provided corporate governance is effectively implemented across a business unit (Kompanek, 2016). This allows the board to feel confident in the degree of assurance associated with each significant component of governance. In addition, the board of directors or a board committee is in a stronger position to take corrective action if the controls point to a breach of compliance. More stakeholders will be willing to engage with a firm if that company openly discloses its corporate governance rules and outlines how they operate (Ashe-Edmund, 2018). This will boost the company's reputation inside the corporate governance programme. When most companies begin to increase the wealth of their shareholders, they come to the realization that their contributions to the economy go far beyond simply making money for themselves. As a consequence of this, these companies are in a position to pay taxes; foster innovation; generate new employment opportunities; make purchases of products and services; and take part in a wide variety of social and charity projects. There are currently a greater number of concerns than there have ever been about the exercise of power because of the disproportionate impact that organizations have in society. As a direct consequence of this, there is a growing demand for boards of directors to manage integrity as a means of gaining the support of suppliers, customers, and workers, in addition to investors. Integrity can only be communicated by the board when there is continual reporting on both the internal and external levels (Greggory & Austin, 2014).

When boards have timely access to information and open lines of communication with management, they are better equipped to develop effective plans (Ashe-Edmunds, 2018). One aspect of this is the improved distribution of funds and materials. It is believed that the board can better

understand the regulatory environment in which the business operates, and maximize production, distribution and communication, by leveraging technology when a solid governance framework is in place (Radebe, 2017:271). Each of these is essential to a successful strategy. Directors with experience and skill are more likely to apply if the company has a strong culture of corporate governance. The evaluation of the organization's long-term viability, including its level of compliance with applicable legislation, is aided by the inclusion of strong non-executive directors with overlapping skill sets. The infusion of such new and innovative talent is pivotal for the company's enduring success, given the pressing need to swiftly adapt to the dynamic requirements of the market. Providing such an atmosphere for the candidate for a non-executive position is of equal importance.

2.6 CORPORATE GOVERNANCE IN EMERGING ECONOMIES

When compared to the assumptions underpinning the leading international norms, developing market corporate governance institutions and practices have, historically and still now, continued to deviate substantially. Although Berle and Means (1933) praised the split between ownership and management, agency theorists turned it into a problem when they argued that managers with a lower financial stake in the firm were more likely to be in conflict with more anonymous outside shareholders (Jensen & Meckling, 1976:305). A global survey, however, has shown that the split between ownership and management is more the exception than the rule (Claessens, Djankov & Lang, 2000:81; Fazio, 2008: 105; Eurosif, 2010; Aguilera *et al.*, 2012:319). Relationship-based modes of governance are more common in places like Africa, Asia, Europe, and South America than in the Anglo-American economies (Hall & Soskice, 2001; Guyot, 2011:24; Kogut, 2012; Seki & Clarke, 2014:717). There are serious consequences associated with the substantial concentration of ownership in emerging economies. La Porta *et al.* (2000) reached the conclusion that: "restraining the expropriation of minority shareholders by the controlling shareholders is the main agency problem in large corporations around the world", after studying 27 different

nations. Claessens *et al.* (1999) analyzed the firm ownership arrangements in nine east Asian countries and found that expropriation of minority shareholders by dominant shareholders is the most pressing issue in corporate governance. Lins (2003:159), researching 22 emerging economies, found a correlation between corporate ownership and valuation. This study employed a pyramidal shareholding structure (Gibson, 1999) to track down a company's true owners. According to La Porta *et al.* (1998: 1113), countries with weak legal protections for shareholders are more likely to have highly concentrated ownership. There will be further repercussions as a result of a lack of developed institutions in the areas of law, regulation, and the market. Companies in developed economies are subject to both internal and external checks and balances. The board of directors is accountable for implementing and maintaining effective internal financial controls. This duty is bolstered by a third-party audit of the financial statements once a year. Organizational law is enforced externally by regulatory bodies. The capital market provides a final source of commercial discipline for firms. Although such institutions may have existed in the past in developing countries, they often did not operate effectively. Market participants and regulators have less experience, information asymmetry is greater, contracting costs are higher due to a lack of standard practices, and contract enforcement is more difficult due to underdeveloped courts. Additionally, the economy is likely to be changing more rapidly than in developed nations. The weaker competitive environment and poorer market performance, compared to developed nations, scarcely comes as a surprise under such conditions. Accounting standards, financial disclosures, and stock market listing regulations all benefit from detailed rule-making and non-legal administrative enforcement, but developing nations typically lack the administrative bodies capable of handling these issues (Prowse, 1998). When institutional and regulatory processes are inadequate, investors in emerging economies place a greater emphasis on corporate governance at the business level (Francis *et al.*, 2013:57).

2.6.1 The African corporate governance model

According to Okike and Adegbite (2012:262) and Nakpodia, Adegbite, Amaeshi and Owolabi (2018: 391), the majority of African nations use variations of Anglo-American corporate governance frameworks. Their corporate governance laws frequently use a unitary system where the board takes decisions. However, many of the organizations in these nations are populated by politically connected individuals, sometimes known as strongmen or strongwomen (Adegbite, Amaeshi & Nakajima, 2013: 524). Alliances with government figures, according to Adegbite (2012: 257), are a major factor in determining a company's success. Additionally, most companies have significant shareholders, and most of these companies are either family-owned or -influenced (Adegbite, Amaeshi & Nakajima, 2013:524). This presents problems for the independence of the board.

African nations' corporate governance regulators frequently adopt international best practices from more advanced nations and impose them on businesses operating in those sectors (Osemeke & Adegbite, 2016:431). However, the strategy's success has been hampered by the poor institutional framework that prevails in these nations. The impact of corporate governance is severely limited by the flaws in their institutional environments. Despite the many difficulties businesses in these regions face, there is a growing acceptance of the guiding principles of corporate governance. This conviction has driven continual advances in achieving respectable corporate governance standards.

The corporate governance methods used in Africa and other developing economies have also been influenced by the Anglo-American model, which is why boards are given credence (Okike *et al.*, 2015:165). The principal-principal agency problem, in particular, plagues the African and other developing countries' model (Nakpodia *et al.*, 2018), in large part because of the institutions' failure to rein in the excesses of key players (Adegbite *et al.*, 2013). When there are influential family or individual shareholders, it creates a situation where certain shareholders have access to information, to the

detriment of minority shareholders. This practice is possible because the majority of the time, the dominant shareholders or their family members serve on the board of directors (Claessens & Yurtoglu, 2013: 1). All governance models have a dominant shareholder and dominant shareholder-related director relationship, but the Anglo-American model has much less of it because the financial market is both sophisticated and capable of policing corporate infractions between shareholders and directors (Anderson & Reeb, 2004:209; Adegbite & Nakajima, 2013:524) In Africa, the board of directors becomes not only crucial, but also helps to improve the reputation of businesses that are struggling with a lack of institutional support, corruption, and inconsistent law enforcement, among other issues.

2.7 THEORETICAL PERSPECTIVE OF CORPORATE GOVERNANCE

Several theories in the existing literature have attempted to explain the relationship between corporate governance and sustainability reporting. This study is largely underpinned by the agency theory; the stewardship theory; the stakeholder theory; the resource dependency theory; the social contract theory; and the legitimacy theory.

2.7.1 Agency theory

Owners (shareholders), according to agency theory (Jensen & Meckling, 1976:305; Hillman & Dalziel, 2003:383; Harjoto & Jo, 2011:45), select the management that will best represent their interests. Managers tend to influence corporate policy and strategy in favor of their own short-term interests rather than making choices with the company's long-term success in mind, which creates tension between the owner's and agent's goals. A board is accountable for overseeing senior management's sustainability policy, strategy, investments, and reporting, as stated by de Villiers *et al.* (2011), who describe agency theory in terms of monitoring and incentives. Therefore, the sustainability reporting strategy of a firm is profoundly affected by the long-term decisions and investments made by top management in environmental projects. It is possible that this management is unwilling to

invest in areas like R&D unless they see a clear path to profit. Instead, management tends to prioritize short-term investments that have a positive impact on both financial and nonfinancial performance, as stated by Hillman & Dalziel (2003). The information gap between property owners and their agents can be closed by the implementation of policies that mandate sustainability reporting. Stakeholder advocacy and sustainability reporting initiatives can help reduce agency disputes over environmental choices (Cespa & Cestone, 2007:741). Therefore, when corporate governance is solid, managers are more likely to take part in ESRP. In contrast to previous studies (Desender & Epure, 2015; Ioannou & Serafeim, 2012), which found that owners of large shares in a company are more likely to devote time to evaluating the performance of their managers, a non-executive director on a board can represent a variety of stakeholders by closely observing the company's sustainability strategy, rules, and performance. Due to the importance of sustainability reporting, the board of directors may oversee, monitor, and regulate management's short- and long-term goals and objectives (Ntim *et al.*, 2013; Hillman & Dalziel, 2003). Therefore, the agency problem is mitigated.

Sustainability reporting is essential for enhancing public accountability, and the agency theory provides a comprehensive framework to support this concept (Stefanescu *et al.*, 2016). Voluntary disclosure is one method that may be used to improve and expand sustainability reporting. Information asymmetry and the agency problem can be mitigated by voluntary disclosure of sustainability to customers, according to Sehar and Tufail (2013). It is an indication of superior operations and increases productivity in the marketplace. This is done because the usual financial statements only provide a limited picture of performance, and agency theory argues that this is inadequate (Ruiz-Lozano & Tirado-Valencia, 2016:252). Companies may find that their value creation process helps them more than anything else to address issues of lack of openness, information asymmetry, and stockholder demands. A new development in sustainable reporting is an emphasis on

how data is shared (Ruiz-Lozano & Tirado-Valencia, 2016:252; International Integrated Reporting Council, 2019). Researchers Pavlopoulos, Magnis and Iatridis (2017) found that firms with better disclosure also had reduced agency costs. Using an integrated report as a disclosure tool to inform enterprises' sustainability practices may aid in the resolution of agency issues, the facilitation of firm decision-making, and the improvement of information quality among shareholders, as stated by Garca-Sánchez and Noguera-Gómez (2018).

The agency theory suggests that corporate governance can reduce the principal-agent problem, which in turn could lead to improved firm performance. A corporate governance structure with the appropriate board size, appropriate representation of non-executive members, female representation, and properly established committees with proper representation would enhance their functions and roles in promoting and adhering to international regulations. For instance, a well-established sustainability board committee with effective membership size, independence, and female gender representation could make them more effective in the development of sustainability strategies and monitor implementation to ensure sustainability practices and disclosure. However, the level of functionality and drive of organizations towards sustainability disclosure is also dependent on the type of ownership structure, since the existing ownership structure could influence the practiced corporate governance of the firms, which could limit the agency problems and enhance or limit the reporting of sustainability information.

2.7.2 Stewardship theory

As an alternative to agency theory, the stewardship theory is a component of corporate governance. According to the steward theory, a steward's job is to safeguard and grow the wealth of shareholders through improved business

operations. Executives and managers at a corporation who put the interests of their shareholders first are called 'stewards'. When the organization succeeds, the guardians feel rewarded and encouraged. The importance of employees or executives exercising discretion in pursuit of shareholder value maximization is emphasized. The workers are committed to their task and do a good job. Donaldson and Davis (1989:65) first proposed this concept. Good stewards collaborate, rather than compete, and are not driven by self-interest; unlike agency theorists. According to stewardship theory, putting in effort for the good of the group is the best way to achieve personal, career, and other goals. Therefore, according to stewardship theory, company leaders and management work to increase organizational success, which may include more sustainability reporting, in the interest of shareholders. Trust; reputational enhancement; reciprocity; discretion and autonomy; amount of responsibility; job satisfaction; stability and tenure; and purpose alignment are all intrinsic benefits that motivate stewards (Davis, Schoorman & Donaldson, 1997:20). Principal- and trustee-first trust disposal is crucial to stewardship theory. According to stewardship theory, the level of corporate governance practice is based on the degree to which the principal trusts the steward and, by extension, the degree to which the steward understands the principal's interests. The stewards, board and management have enormous responsibility of ensuring that shareholders' funds are protected and also ensure that the organization adheres to international regulations in order to protect the whole society. Therefore, it is the responsibility of the stewards to balance their role of optimizing the financial investment of shareholders and also protect the whole society. The effectiveness of these roles of the stewards, particularly the board is dependent on the existing corporate governance practices of the firms. Thus, whether the stewards could promote higher level of sustainability practices and disclosure is dependent on the effectiveness of the corporate governance of the firms. Nonetheless, the defined roles and effectiveness of their functionality is highly dependent on the ownership structure. For instance, institutionally and state-owned firms are reported to be more sustainability oriented relative to family and

managerially owned firms. It is therefore evident, the level of sustainability information disclosure by businesses is not just dependent on the corporate governance, but also dependent on the ownership structure. Therefore, the stewardship theory can shed light on how ownership structure influences the correlation between corporate governance and sustainability reporting.

2.7.3 Stakeholder theory

Another prominent paradigm that promotes sustainability reporting is the stakeholder hypothesis. According to Freeman (1984), a stakeholder is anyone directly or indirectly involved in, or influenced by, the activities of a firm. Beasley and Salterio (2001:539) define stakeholders as "any individual or group of individuals or organizations that has the potential to have a positive or negative effect on the firm." The goal of stakeholder theory is to "maximize benefits to stakeholders while minimizing harm to other stakeholders" (Ngatia, 2014:32). Stakeholder theory posits that firms can strengthen their relationships with stakeholders by helping them reach their goals. This, in turn, can boost the company's reputation and productivity. Sustainability reporting and a competitive edge might result from meeting the needs of stakeholders (Needles *et al.*, 2016:41). According to this idea, meeting shareholder expectations and demands is critical to a company's long-term viability and profitable growth (Ferri, Pedrini & Pilato, 2016: 226). According to Oshika and Saka (2017: 625), one of the key reasons Japanese companies are viewed as more sustainable is because their management has adopted the approach of 'providing satisfaction to stakeholders' for economic success, which they disclose in their sustainability reports. The long-term viability and sustainability of companies has been scrutinized by shareholders, regulators, and other stakeholders since the 2008 financial crisis (Adams & Simnett, 2011:292). As a result, investors have increased their requests for information that is not strictly financial in nature, such as details about the company's governance, social issues, environmental challenges, and sustainability (Needles *et al.*, 2016:41; Velte & Stawinoga, 2017:257; Camilleri, 2018:567).

The purpose of integrated reporting (IR) is to provide stakeholders with high-quality, comprehensive, and easily digestible information (Naynar, Ram & Maroun, 2018:241). Thus, investors and other stakeholders rely on integrated reports as an accurate depiction of a company's social, environmental, and ethical operations (Flower, 2014:1). Although the integrated report is primarily intended for financial capital providers, the IR framework states that it is in the best interest of the company to provide this information to all parties interested in the company's long-term value creation. Customers; vendors; employees; business partners; lawmakers; regulators; local communities; and decision-makers are some of these parties. For the benefit of the firm's stakeholders, IR should provide an explanation for, and disclosure of, the distribution of value creation (Oshika & Saka, 2017:625). This premium can be utilized as an effective reporting tool to keep stakeholders interested (Haller & van Stade, 2014:1190); while IR's engagement of stakeholders reflects rational value maximization (Parrot & Tierney, 2012:27). Consequently, numerous companies globally embrace Integrated Reporting (IR) adoption by either generating an integrated report or incorporating elements of an IR framework within their annual reports. This approach is taken to fulfill stakeholder expectations and cultivate value accumulation over the long term. Central to the stakeholder theory is the recognition that all stakeholders interact with the corporation, with the anticipation that the company will deliver the desired or expected value. This value can encompass dividends, compensation, bonuses, increased orders, job creation, tax contributions, and sustainability initiatives. This implies that the extent of control and influence exerted by any of the stakeholders defines the achievement of their interests (Vargas-Hernandez & Gonzalez, 2018:55).

Based on the stakeholder theory, the main stakeholders of corporate units are established boards and management, since these are the two main bodies that dictate and influence business performance through policy decisions. Thus, proper constitution of these administrative bodies,

particularly the board is crucial to their effective functioning. A good corporate governance in the form of efficient board size, independent board, board diversity and established committees could enhance the role of the board in designing and implementing sustainability policies to stimulate higher level of sustainable information disclosure. Notwithstanding the critical role of stakeholders like the board and management in promoting sustainability disclosure, the level of their functionality in promoting sustainability disclosure is highly dependent on the ownership structure of the business. Comparatively, state and foreign institutionally owned businesses are more inclined to promote sustainability disclosure relative to family and managerial owned businesses in SSA. Thus, the extent of stakeholder control is defined by the ownership structure of businesses. It is therefore anticipated that ownership structure could play a boundary conditional role in the importance of stakeholders to promoting sustainability disclosure through corporate governance. It is therefore evident that the developed stakeholder theory is crucial to explaining the linkages between corporate governance, ownership structure and sustainability disclosure of businesses in SSA.

2.7.4 Resource dependency theory

Resource dependence theory is another influential framework that examines corporate governance and the board of directors, specifically. Pfeffer and Salancik's (1978) resource dependence theory is now widely recognized as a seminal concept in the study of effective corporate governance. Hillman, Withers and Collins (2009:1404) concluded, from a survey of the literature on resource dependence theory, that it is a more useful lens for understanding boards than agency theory, which is more typically employed to research boards. According to resource dependency theory, businesses resemble open systems that are affected by random factors from the outside world (Pfeffer & Salancik, 1978). One of the five things that companies may do to reduce their environmental impact is to have a meeting of the board of directors, as noted by Pfeffer and Salancik (1978).

When deciding on the short- and long-term environmental plans and the day-to-day operations of a company, a board must take into account a wide range of policies and regulations. Therefore, the board needs more seasoned members who can offer guidance; make proposals; communicate with outsiders; advise employees; and tap into external resources (Hillman, Withers & Collins, 2009:1404; Villiers, Naiker & van Stade, 2011:1636). Expertise and specialization in business and technology are two areas where a board might benefit from having experienced directors. Firms' reliance on external resources is explained by Pfeffer and Salancik's (1978) resource dependence theory. In addition, research by Frooman (1999) and Hillman, Withers and Collins (2009:1404) suggests that prominent stakeholders have access to external resources and may attempt to sway management choices. Ntim and Soobaroyen (2013) argue that a corporation that discloses relevant risks can obtain a competitive edge due to the breadth of its available resources. Resource-based directors have been shown in the literature to have this trait (Hillman, Withers & Collins, 2009:1404). Board members who are well-versed in stakeholder relations are able to address their issues and earn the confidence of those they serve. Therefore, the expertise, range of experience, and breadth of perspective of the board of directors are crucial to the success of a company's sustainability reporting standards (Hillman, Withers & Collins, 2009:1404). However, the capacity of board of directors' sway resources in favour of sustainability practices and reporting is not a straightforward dynamic, but crucially dependent on the ownership type of a particular business. The ownership dictates the flow of resources within the business unit, and hence, influence the degree to which the practiced corporate governance will stimulate sustainability practices and disclosure. Thus, the resource dependency theory defines the capacity of the board to establish a strong corporate governance structure as a vital resource to stimulate corporate performance outcomes, including sustainability disclosure.

2.7.5 The social contract theory

The social contract theory originated from the contributions of philosophers during the 17th and 18th centuries, including notable figures like John Locke, Jacques Rousseau, and Thomas Hobbes (Conry 1995:187). Wempe (2008: 697) highlights that social contract theory, before being applied in the business context, was primarily developed and employed by political theorists. It served as a framework to understand concepts like political authority, notably explored by political thinkers such as Hobbes, Locke, and Rousseau. Additionally, social contract theory was also employed as a perspective on social justice, as examined by political theorists like Gauthier (1986), Nozick (1974), and Rawls (1971). Donaldson, in 1982, made the first attempt to extrapolate the notion of a social contract into a business context by exceeding the agreement between citizen and state (Dunfee & Donaldson, 1995:85). In other words, the particular obligations and rights that citizens hold towards the state, and conversely, were extended to the realm of business. This implies that corporations, as representatives of the business sphere, bear responsibilities to individual members of a given society (Dunfee & Donaldson, 1995:85), and correspondingly, society as a whole is also bound by analogous responsibilities towards corporations, essentially treating them as corporate citizens. Donaldson argues that a corporate social contract encompasses the shared expectations of the parties involved in the contract. Both parties are presumed to have a vested interest in optimizing advantages (such as specialization, stable production and distribution, responsible resource utilization, augmented wages) while concurrently mitigating disadvantages (including pollution, depletion of natural resources, erosion of personal responsibility, and employee estrangement) associated with productive entities (Dunfee & Donaldson, 1995:85). In the redefinition of the corporate social contract in 1989 by Donaldson, it was emphasized that there is a minimum level of responsibility that companies, which operate on a global level, owe to society. These obligations encompass safeguarding the welfare of a company's employees and customers, demonstrated through care for their well-being, acknowledgment of fundamental human rights, and adherence to basic

standards of justice (Dunfee & Donaldson, 1995:85). The two classes of organizational obligations defined by Donaldson (1982) were explicit (those to which companies are obliged by laws and regulations to abide) and implicit (implied norms, but not always voiced). The call of the social contract is largely seen as explaining the implicit organizational obligations (Conry, 1995:187). Thus, the social contract illuminates such obligations as the scope of employees' implicit rights, regulation goals, and consumers' unwritten rights. The implicit obligations of businesses were extended by Donaldson (1989) beyond consumers and employees, to all those affected by the activities of a business unit. Unlike the many earlier scholars who viewed business units as monolithic structures pursuing an overarching goal, Keeley (1988) characterized business units as an intricate network of contracts formed among participants within an organization. In essence, an organization is comprised of rational, self-interested individuals who possess the ability to identify and pursue their individual interests, accomplish objectives, and fulfill needs. As a result, Keeley (1988) argues that a social contract is not established between an organization and an individual or stakeholder, but rather among individuals who hold distinct roles within the organization (e.g., managers, employees, customers, activists). Put differently, a social contract emerges between individuals with varying, and sometimes conflicting, interests and expectations of each other.

This study is, therefore, built on the premise of an organization balancing the different interests of the board, managers and society, or customers, through an established social contract. The corporate social contract, in essence, constitutes a formal or implicit agreement that governs the interactions between a company and the community, thereby balancing the shared advantages accessible to both entities. Usually, a corporate social contract asserts that companies have willingly agreed, either overtly or indirectly, to allocate a portion of their profits to the community as a response to the adverse consequences of their actions within the community. Moreover, the notion of a corporate social contract implies that the community has

voluntarily agreed, whether explicitly or implicitly, to offer its resources to the company in exchange for compensation. The concept of the social contract doctrine posits that the involved parties have entered into this agreement, either explicitly or implicitly, to safeguard and promote their self-interests in the face of each other's intentions. The foundation of the social contract concept rests on two fundamental principles: 'consent' (O'Brien, Hayward & Berkes, 2009:123) and 'obligation' (Enuoh, 2017). On one hand, it assumes that firms cannot operate on or exploit community resources without the community's agreement. On the other hand, it presupposes a set of obligations that should delineate the interactions between the firm and the community. This consent is established through explicit or implied understanding (O'Brien, Hayward & Berkes, 2009:123) between the firm and the community, defining their obligations (Gauthier, 1986; Barry, 1995; O'Brien, Hayward & Berkes, 2009:123).

Furthermore, a social contract fulfills two pivotal roles: it justifies the moral rationale for the firm's acceptance by the community, and it illustrates the incentives for implementing corporate social responsibility (CSR) initiatives within a community (Sacconi, 2006:259). In essence, the presence of a social contract furnishes both the firm and the community with grounds to trust and exhibit optimism in each other's behavior. The intricate interdependency fostered by the contract fosters trust and engenders confidence, thereby alleviating concerns of opportunistic behavior by the firm or the community (Mahoney, Huff & Huff, 1994:153). A social contract thrives on cooperation. For instance, while the community's interest is socioeconomic advancement, the firm's interest is profit generation. However, maximal fulfillment of each interest can be achieved by each party relinquishing certain rights to the other – the community offering a portion of its resources to the firm, and in return, the firm allocating a portion of its profits to the community. It is, therefore, imperative that a business unit builds a corporate governance structure that has the appropriate policies to keep itself on an ethical and legal path. In today's competitive business world, firms are continually

developing interests and adhering to their agreed-upon obligations to society by reporting annually on sustainability practices in order to gain the favour consumers.

2.7.6 Legitimacy theory

The legitimacy hypothesis stands as a highly utilized theory within the realm of management science research. As described by Suchman (1995:571), 'legitimacy' refers to the foundational assumptions and prevailing perceptions that guide an entity's behavior within a constructed social framework that encompasses values, norms, and beliefs. Businesses commonly strive to establish and uphold their credibility by disclosing their social and environmental data (Deegan, 2002:282; Milne & Patten, 2002:372; Patten & Zhao, 2014:132; Kilian & Hennigs, 2014:79). Consequently, certain organizations advocate for sustainability reporting with the lens of organizational legitimacy (Kolk & Perego, 2010:189; Faisal, Tower & Rusmin, 2012:19). Yet, legitimacy is subject to fluctuations (Suchman, 1995:571). Corporate entities, like any other entities, are founded on the trust society places in them (O'Dwyer, Owen & Unerman, 2011:31). They aim to establish their legitimacy to ensure their continued existence. The endeavor of sustainability reporting, as outlined by Maroun, Coldwell, and Segal (2014:206), is a component of an intricate process of legitimization, aiming to showcase how corporate reporting and governance frameworks align with stakeholders' expectations within the context of sustainability reporting. Corporate legitimacy remains a strategic approach to engaging institutional investors and stakeholders (Maroun, Coldwell & Segal, 2014:206). This is the case, despite the fact that the required legislation has been put in place to ensure compliance with sustainability reporting methodologies. Even if the information shared in sustainability reports is seen merely as a routine procedure, companies still adhere to various regulations and provide significant disclosures within their sustainability reports. This is done with the intention of establishing legitimacy and enhancing credibility. According to this point of view, the purpose of corporate disclosure regulations is to defend

the activities of the firm to various stakeholders, while also taking into account a variety of expectations. Businesses maintain their legitimacy by reassuring various stakeholders that their actions are both desirable and acceptable (Suchman, 1995:571).

With the absence of regulations to promote sustainability disclosure, particularly environmental sustainability disclosure, the desire for businesses to establish legitimacy in SSA becomes crucial theory to explain the degree of sustainability disclosure in SSA. Although the legitimacy theory is vital to explain the degree of sustainability disclosure in SSA, the ownership type of the businesses is also important, since state owned businesses differ from family-owned businesses in terms of sustainability goals and practices. With state owned businesses seeking to establish strong legitimacy and internationally, their level of sustainability disclosure is relatively higher than family-owned businesses with profitability as their primary aim. It is therefore evident that the role of legitimacy in promoting sustainability disclosure is also dependent on the ownership structure of businesses in SSA. The legitimacy theory therefore provides a fervent ground to explain the linkages between corporate governance, ownership structure and sustainability disclosure in SSA.

2.8 OWNERSHIP STRUCTURE

According to Pujiningsih (2011), the ownership structure is a way for shareholders to pledge to managers a particular amount of influence. The ownership of businesses has evolved over time, to become increasingly complex for a variety of reasons, including the growing need for cash. Every company has an owner, which is common knowledge. The ownership of a company has become more intricate, ranging from having a single owner to having numerous people or organisations own it collectively. These days, shares of large corporations are traded on stock exchanges; each share equals a portion of the corporation. It is typical for large shareholders to utilize the voting system to decide on crucial issues, such as the firm's

management, goals and plans, in order to organize this ownership and to ensure the interests of all shareholders. Any publicly traded company, a joint venture, a closely held company, and outside investors are a few examples of entities that use this type of structure. A shareholder is said to be a majority shareholder when they hold 50% or more of the company's shares. This gives them absolute control over other shareholders because only a majority shareholder can pass special resolutions; exercise their right of veto against decisions; appoint or remove directors; or vote to approve operations. This indicates that holding a majority stake in a company carries with it a great deal of power to direct and influence business choices (Eqvista, 2021).

To be clear, it is not usually 50% or more, because the percentage of shares varies between nations and is determined by local laws. According to Barca and Becht (2002), the concentration of control (dominant shareholder) typically holds more than 50% of the company's shares in numerous European nations. According to Midjaya and Widagdo (2019:231), a block holder may own no more than 10% of a public company in the United Kingdom and no more than 6% in the majority of US corporations. Additionally, a relationship between ownership structure and regulations is created by the impact that a country's regulations have on the control concentration of shareholders for a particular company. The idea of control concentration, which states that when control is concentrated in a single block holder or shareholder, this shareholder gains power to influence the company's larger strategy, underlies the significance of ownership structure. This is one idea that makes it intriguing to investigate whether various ownership structures in sub-Saharan African nations result in various sustainability reporting outcomes. Due to their prominence in sub-Saharan African nations, attention is also put on government, institutional, and foreign ownership types, in addition to block holder concentration, the study's main focus.

2.8.1 Block holder ownership

Block holder ownership is the first type of ownership; it is founded on the premise that businesses and corporations can control a majority stake in another company by acting as a block holder. Corporations' primary motivations for holding shares in other businesses can be attributed to a variety of factors, including the desire to maximize profits through the development of new technologies and capabilities, as well as the need for a reliable supply of goods. According to Thomsen and Pedersen (2000:689) firms participating in such actions may be attempting to gain a competitive edge by utilizing the resources of the other firm. Previous studies, such as that of Tetrault, Sirsly and Sur (2013:541), theorized that block holder ownership works as a first mover when it comes to undertaking sustainable projects; and that corporate ownership is favorably associated with sustainable performance. They contend that organizations often launch new projects with uncertain outcomes when they anticipate a favorable conclusion.

2.8.2 Institutional ownership

Institutional ownership, as defined by Ismail et al. (2020:319), pertains to the proportion of a company's accessible shares that are held by entities such as mutual or pension funds, insurance companies, investment firms, private foundations, endowments, or other significant organizations engaged in managing funds on behalf of external parties. Many academics have regarded the function of institutional investors as corporate monitors. Due to the high expense of monitoring, only substantial shareholders, such institutional investors, can reap rewards great enough to warrant monitoring (Grossman & Hart, 1980:42). Compared to board members who may have little to no capital involved in the company, large shareholders may have greater incentives to oversee managers. Large institutional investors also have the chance, means, and power to observe, control, and influence management (Shleifer & Vishny, 1986:461). According to McConnell and Servaes (1990:27); Nesbitt (1994:75); Smith (1996:227) and Del Guercio and

Hawkins (1999:293), firm monitoring by institutional investors can cause managers to place a greater emphasis on the performance of the company and less on opportunistic or self-interested behavior. The power of institutions to affect business decisions, on the other hand, is dependent on the magnitude of their shareholdings, according to Maug (1998:65). There is more incentive to keep an eye on a company's management when institutional investors own a large percentage of the company's shares, since they are less liquid and held for longer periods of time. There is less motivation for monitoring, however, when institutional investors only own a small number of shares in a company, because they may readily sell their holdings if the company performs poorly.

According to the sustainability reporting hypothesis proposed by Tetrault, Sirsly and Sur (2013), institutional ownership frequently executes sustainable projects last. Before initiating similar operations, institutions frequently observe what other companies do and the results of their decisions. They contend that institutional owners, despite frequently being late adopters, are essential participants because they have the most funding available for long-term initiatives. Contrastingly, these perspectives are contradicted by certain other research endeavors, such as those undertaken by Aksoy et al. (2020:124) and Graves and Waddock (1994:1034), which revealed a positive correlation between institutional ownership and sustainability performance. They argue that, as institutional owners are frequently long-term investors, sustainability is important to their investment.

2.8.3 Government ownership

According to Rudyanto (2017), government ownership occurs when the government holds the majority of the ownership concentration, or the majority of the company's shares. Given that governments are typically the most dependable and well-known institutions in a nation, this ownership arrangement is delicate. In order to live up to the expectations of the many stakeholders, they must perform well (Muttakin & Subramaniam, 2015:138) in

order to be a role model for others in society. The objectives of governments and corporate social organizations are similar, in that both are concerned with the equitable distribution of resources to the public (Liston-Heyes & Ceton,2007:95). In addition, government ownership was found to be positively correlated with sustainability reporting in earlier studies by Rudyanto (2017:15), Muttakin and Subramaniam (2015:138), and Liston-Heyes and Ceton (2007: 95). This research did, however, concentrate on Asian and European nations – a geographical context with different governmental characteristics than sub-Saharan African nations. Compared to their counterparts in the affluent and developing nations of Asia, Europe, and America, the governments of sub-Saharan African countries, and the vast majority of corporate corporations, pay little attention to social and environmental issues.

2.8.4 Foreign ownership

Mutual funds or other institutional investors are frequently foreign investors (Dahlquist & Robertson 2001:413). Previous studies have shown that foreign investors can increase corporate value by spreading favorable spillover effects; lowering capital costs for businesses (Bekaert & Harvey, 2000:565); encouraging appropriate Rand-Dollar investments (David *et al.*, 2006:591); and enacting changes in local companies' corporate governance practices (Gillan & Starks, 2003:4). Ho, Wu, and Xu (2010:595) also noted that a higher percentage of foreign shareholders in small enterprises has a favorable effect on the correlation between information technology investment and public performance. This conclusion agrees with Ferreira and Matos' (2008:499) findings. In comparison to domestic investors, foreign financial institutions may be more motivated to monitor business management in order to secure a higher return on their investments. Furthermore, domestic financial institutions in emerging economies could lack more effective tools for managing managers than do international financial organizations (Khanna & Palepu, 2000:132). As a result of fewer

agency issues due to foreign ownership investors, information disclosure is more transparent (Firth, Fung & Rui, 2007:776).

Foreign ownership provides new capital and technologies necessary for local businesses to become world-class; therefore, attracting foreign investments is crucial, particularly in emerging nations like the sub-Saharan countries. According to Resource Dependence Theory, as discussed by Pfeffer and Salancik (2003) and Benfratello and Sembenelli (2002:493), foreign ownership is regarded as one of the main resources that markets, particularly those in developing countries, rely on because it provides new capital and technology. According to ownership structures, foreign ownership is significant in many African nations (Bokpin, 2011:241). The majority of the biggest corporations in these nations are subsidiaries of international corporations. According to research (Nelson & Mohamed-Rusdi, 2015:457; Pronobis & Schaeuble, 2020:1), foreign ownership has some influence on the degree of adherence to international norms. Globally, developing and growing economies are the primary recipients of foreign investment from the developed world. There is a tendency for growing foreign ownership to be connected to higher levels of corporate governance and sustainability reporting, as a result of the principles of corporate governance and reporting being adhered to, to a greater extent. However, the complicated business environments and business cultural dynamics of sub-Saharan African nations could act as barriers. Due to the complexity of the relationship between corporate governance and sustainability reporting in sub-Saharan African countries, including this ownership structure offers a platform to shed light on the subject and gather trustworthy, empirical data.

2.9 ECONOMIC ENVIRONMENT, CORPORATE GOVERNANCE AND DEVELOPMENT OF CAPITAL MARKETS IN SUB-SAHARAN AFRICA

The corporate governance practices observed in sub-Saharan African countries diverge significantly from those in developed nations, primarily due to disparities in culture, politics, and institutional robustness. The pervasive

political landscape has impeded the advancement and growth of capital markets, corporate governance norms, and the broader economic climate. This segment of the chapter systematically reviews the existing literature covering a range of topics, including the political and economic contexts within sub-Saharan Africa, the progression of capital markets in the region, the early stages of corporate governance in sub-Saharan Africa, subsequent reforms in corporate governance, the specific corporate governance practices prevalent in sub-Saharan Africa, the distinctive institutional characteristics characterizing corporate governance in the region, ownership structures peculiar to sub-Saharan Africa, and research pertaining to sustainability in this context.

2.9.1 Overview of political and economic environments in sub-Saharan Africa

In terms of the political environment, economic trends toward globalization, and structural characteristics, sub-Saharan African countries' corporate governance arrangements are different from those of developed nations (Rabelo & Vasconcelos, 2002:321; Rossouw, 2005:94; West, 2006:433). The corporate governance model in sub-Saharan African nations differs from that in the European or North American context due to the region's underdeveloped capital markets and government interventionism. Due to the political and economic characteristics of these economies, such as state ownership of businesses, inadequate legal and judicial systems, and limited skilled human resource capacity, the majority of sub-Saharan African countries are also ill-equipped to implement the type of corporate governance found in developed countries (Mensah, 2002; Dahawy, 2009:194). Even after privatization, state-owned enterprises or closely held family businesses still control a major share of the economy. By contrast, businesses run by hired management, and publicly traded companies, account for a very small portion of GDP (Mensah, 2002).

Countries in sub-Saharan Africa frequently struggle with a wide range of issues, including underdeveloped and unstable stock markets; unstable economies; lax legal protection for investors; and frequent government involvement (Tsamenyi, Enninful-Adu & Onumah, 2007:319). Additionally, most sub-Saharan African nations tend to have concentrated shareholding and controlling ownership (La Porta *et al.*, 2000:3; Rahman & Ali, 2006:783). As a result, it is clear that corporate structures in sub-Saharan African nations are characterized by the majority shareholder's desire to maintain control over the business; a reliance on debt financing; sluggish financial markets; and a dysfunctional legal system (Rabelo & Vasconcelos, 2002:321; Uddin & Choudhury, 2008:1026; Ndiweni, 2008:335).

2.9.2 Development of capital markets in sub-Saharan Africa

Because many countries in sub-Saharan Africa still have underdeveloped financial systems (Allen *et al.*, 2014:614; Beck & Cull, 2013), it is difficult for individuals and enterprises, especially small and medium-sized businesses, to obtain credit. As a result, investment rates are low. The sub-Saharan African financial sector is dominated by commercial banks, whereas there is a dearth of investment banking institutions. With the exception of the African Development Bank and the Development Bank of South Africa, the ability of development banks and specialized banks to obtain sufficient outside capital to meet the financing needs of businesses is very constricted. This is the case, even if these two institutions are considered development banks. As a consequence of this, it has been concluded that financial limits are the biggest hindrance to firm innovation and starting new businesses in sub-Saharan African nations (Ayyagari, Demirguc-Kunt & Maksimovic, 2011:1545; Gorodnichenko & Schnitzer, 2013:1115). This is because financial limitations are the largest barrier to doing business in sub-Saharan African nations. According to Afolabi (2016), this is the reason why investment rates in Africa are significantly lower than those in other growing economies, such as China (40%); south Asia (28%); east Asia and the Pacific (32%). Africa's rate of investment is only 24%.

Capital markets, however, are a crucial component of the subregion's financing mix. For instance, governments and private companies in Africa have raised more than US\$560 billion through bonds since 1997 (Mensah *et al.*, 2003). Over the past twenty years, sub-Saharan Africa's capital market growth has increased: today, there are 28 stock exchanges with listed shares and bonds and more than \$1 trillion has been raised (Hopsoro & Fadhilla, 2017). However, compared to other frontier markets, exchanges in Africa are smaller. According to Soumaré (2020), the capitalization of African stock markets expanded tenfold from 1992 to 2018, from \$113 billion to more than \$1,130 billion. Despite these developments in the bond and stock markets, the financial markets in Africa are still in their infancy. Mauritius had the highest stock market capitalization in Africa in 2018 (69% of GDP), surpassing South Africa (235% of GDP) (The GlobalEconomy.com, 2021). According to The GlobalEconomy.com (2021), the capitalization of the Mauritius stock exchange was significantly lower than the average market capitalization in the east Asian and Pacific area (83% of GDP) and in high income countries (119% of GDP). Many factors, such as the small size of the domestic economies, the macroeconomic and business environment, the quality of institutions, and financial infrastructures, may contribute to the underdevelopment of capital markets. In terms of the capacity and structure of the local corporations, the listing and issuance requirements in the majority of African stock exchanges are legally obligatory restrictions. For instance, the development of many African capital markets has been severely hampered by the protracted administrative procedures for listing; the high transaction costs; the lack of training and knowledge about capital markets; and the lack of transparency in some of these markets (Soumaré, 2020).

2.9.3 Early corporate governance in sub-Saharan Africa

Adegbite and Amaeshi (2010) noted that the early development of corporate governance in sub-Saharan African countries was affected by outside forces. For example, problems with corporate governance in Ghana and Nigeria,

which are covered by company law, have their roots in the countries' colonial past (Okike, 2007:173). In Ghana and Nigeria, the systems and practices of corporate governance have been built on a framework used in Britain. During the colonial era, most of the biggest companies in Nigeria were owned by Britons, including private businessmen, institutions, and the British government. Since the legal system is a big part of how a company is set up and how it acts (Morrison, 2004:121), the rules that govern how listed companies in Ghana and Nigeria act are written in Anglo-Saxon. Ghanaian and Nigerian law is based on what the British called 'common law', 'case law', and 'local statute'. In the end, the British method of corporate governance was passed to Ghana and Nigeria. But after the countries got their independence, people started talking about the need to set up a corporate governance system that fit the local business setting (Ahunwan, 2002:269). In fact, many things changed the direction of the Anglo-Saxon corporate governance system in many sub-Saharan African countries after they got their freedom. One main reason was the strong desire to have both political and economic freedom, which led to the repeal of many laws left by colonial governments (Ahunwan, 2002:269; Okike, 2007:173). Even though company law in western countries and sub-Saharan African countries has changed over the years, the legal basis for corporate governance in sub-Saharan Africa is still based on the Anglo-British model. Because of this, shareholders in former British colonies have, at least in theory, had many of the same legal rights as shareholders in the big Anglo-Saxon economies (Ahunwan, 2002:269). Because this Anglo-Saxon system of corporate governance does not work well in terms of economics and politics, the corporate governance system in the regions has never been able to deal with local problems. In fact, sub-Saharan African countries do not have a good legal system that can uphold these Anglo-Saxon rights. This has made contracts more expensive and business activities much riskier (La Porta, 1998:1113; Ahunwan, 2002: 269). It would be wrong, therefore, to think that the colonies in sub-Saharan Africa follow the same legal framework as the

UK; even though the legal foundations are a reflection of that framework (Okike, 2007:173).

2.9.4 Corporate governance reforms in sub-Saharan Africa

Industrialized economies have more corporate governance, which has been practised for centuries, compared to emerging nations. However, African economies began to pay close attention to the fundamentals of good governance at the beginning of the 1980s. According to Soyibo, Olayiwola, and Alayande (2002), although many donor organizations have been pursuing it since the 1990s, the term 'good governance' was first used in a World Bank report on sub-Saharan Africa in 1989. The corporate governance structures of sub-Saharan African countries, however, differ greatly from those of the industrialized world, due to their unique political and economic systems. Sub-Saharan African countries lack the necessary infrastructure to implement the kind of corporate governance found in developed market economies, including state-owned enterprises; financial and legal systems that are intertwined; weak legal and judicial systems; and limited human resources (Sullivan, 2000). However, since the 1980s, efforts have been made to implement excellent corporate governance standards.

Due to the numerous problems that face corporate governance practice, many practitioners and academics in the public and private sectors of sub-Saharan African nations have expressed interest in changes to corporate governance (Adegbite, Amaeshi & Nakajima, 2013:524). The most popular method for ensuring excellent corporate governance changes in the majority of countries is to use corporate governance standards to improve current company laws. The rules and procedures for managing and operating businesses are outlined in written documents called corporate governance codes (Aliyu, 2019:2). In many sub-Saharan African countries, including Kenya, Ghana, Nigeria, and South Africa, corporate governance legislation has undergone extensive reforms (Nakpodia *et al.*, 2018:391). In 2003, the Security and Exchange Commission (SEC) introduced a code of best practices for corporate governance in Nigeria (SEC, 2011). Three years later,

in 2006, the Central Bank of Nigeria (CBN) released a second code of corporate governance for Nigerian banks in the wake of bank consolidation (CBN, 2012). The Company and Allied Matters Decree (now an Act) of 1990, which was issued by a military government and governed all business activities in Nigeria, was applied in addition to these regulations. According to Jarboui, Hlima and Bouaziz (2023:628), both codes aimed to advance the ideals of good corporate governance, which include transparency, accountability, responsibility, and independence in companies that operate in the private sector. The Act continues to serve as the primary statute regulating all commercial activities in Nigeria. Despite all of these legal and regulatory frameworks, shocking scandals have shaken Nigeria's organized private sector since the mid-1990s. These scandals span the late 1990s crisis involving failed and distressed banks; the directors of Cadbury Nigeria Plc fabricating financial statements (Husted & Sousa-Filho, 2019); and the more recent removal of the board of directors of eight banks for flagrant insider abuse and mismanagement of their banks' funds (Jiang & Liu, 2021). These scandals demonstrate the challenges facing Nigeria in its efforts to reform corporate governance.

South Africa has undergone substantial transformations in its corporate governance landscape, marked notably by the introduction of the King Report I, II, and III, as well as the Code of Corporate Governance (SEC, 2011). Pertinent legal measures include the 1998 Insider Trading Act and the JSE Reform. Nevertheless, the Companies Code Act of 1963, Act 179, has not notably impacted corporate governance practices. South Africa gained global recognition by being at the forefront of publishing corporate governance rules and codes of practice through the King I Report (1994), King II Report (2002), King III Report (2009), and King IV Report (2016), effectively sparking unparalleled worldwide interest in corporate governance in the African context. The King IV report places significant emphasis on enhancing accountability through the disclosure of executive compensation in three financial report sections: the remuneration policy overview, the background

statement, and the implementation report. Despite considerable advancements in corporate governance driven by comprehensive legislation, South Africa has recently encountered prominent instances of corporate governance failures. Macmed, the Regal Treasury Bank, and Leisurenet stand out as three noteworthy examples of corporate collapses (Sara, 2004). To ameliorate and address unique corporate governance challenges in South Africa, Armstrong, Segal, and Davis (2005) propose addressing issues such as board independence, addressing a weak, ineffective, and dysfunctional board structure, and ending the stifling impact of regulations and bureaucracy on small and medium-sized businesses.

Ghana's corporate governance laws and rules originated during the colonial era. Ghana adopted many of the laws and restrictions that the colonial authority had left behind when it won independence, much like the majority of other former British colonies. Ghana's legal system and corporate governance practices adopted the UK model as a result of the adoption of British company legislation during the colonial era (Okike, 2007:173). Many of the country's former colonies were governed by foreigners, particularly Britons, who took their economic interests and (British) laws with them prior to the country's independence. In a nutshell, the English Companies Act of 1948 had a significant influence on the Ghanaian Companies Code, 1963 (Act 179) (Adda & Hinson, 2006). This historical assessment corroborates the notion that the Ghanaian corporate governance system predominantly aligns with the 'Anglo-Saxon' or 'outsider control system' (Franks & Meyer, 1994), a characteristic that is reflective of its colonial legacy. Despite some minor alterations since its inception, the Code has remained relatively consistent over time, with most revision efforts largely focusing on editorial adjustments. Ghana SEC (2011) defined a few key components of sound corporate governance, and these components are currently the cornerstones upon which governance systems are growing and changing. In particular, these are: (1) shareholder rights; (2) treating shareholders fairly; (3) stakeholder roles; (4) disclosing information; and (5) board responsibilities.

These pillars are specifically mentioned in the Ghana Securities and Exchange Commission's 2002 code of best practices. Due to numerous important institutional and political issues, there are still gaps in practice despite the many rules and regulations governing corporate governance standards in sub-Saharan African countries, including South Africa, Nigeria, Ghana, and many others.

2.9.5 Corporate governance practices in sub-Saharan Africa

Across many sub-Saharan African nations, a pronounced emphasis is placed on enacting economic reforms that foster sustainable economic growth. A pivotal facet of these reforms' centers on the revitalization of financial and capital markets. Part of this endeavor involves the establishment of frameworks and mechanisms that bolster effective corporate governance. This legal structure typically entails safeguarding shareholders' interests, augmenting corporate transparency, and broadening the scope of disclosing both financial and non-financial information. To cultivate robust corporate governance practices, often communicated through codes or analogous soft laws, initiatives are directed toward enhancing board recruitment, optimizing board efficacy, and aligning incentives for top management. Importantly, the significant economic shifts observed in numerous sub-Saharan African countries are primarily attributed to economic globalization, as emphasized by Reed et al. (2002:38), Asiedu (2004:41), and Berry (2009:1370). Nonetheless, according to international investors, these reforms are still perceived as lacking (Asiedu, 2002:107; Asiedu, 2004:41). At the national and corporate levels, the adoption of effective corporate governance practices is widely recognized as crucial for stimulating domestic investment and facilitating higher volumes of foreign direct investment (Claessens, 2006:91). To entice investors, companies are consistently encouraged to establish and implement robust corporate governance protocols. In essence, investment decisions ought to consider a company's commitment to

exemplary corporate governance practices, as emphasized by the OECD (2004).

In response to the aforementioned rationale, numerous sub-Saharan African countries have enacted corporate governance regulations equivalent to those adopted in industrialized nations (Nganga, Jain & Artivor, 2003). These recommendations, often labeled as 'best practices,' draw inspiration from analogous suggestions offered by various entities, including other organizations (OECD, 2004; South Africa IOD, 2009), independent researchers (Shleifer & Vishny, 1997:461), and practitioners (Cadbury, 1992; Greenbury, 1995). As an illustration, the corporate governance laws in sub-Saharan African nations such as Nigeria, Kenya, and Ghana, advocate for the establishment of audit committees comprising independent members, the segregation of chair and CEO roles, and the appointment of non-executive directors. Consequently, many of the corporate governance principles promoted in sub-Saharan Africa are influenced by practices from developed countries (Hearn, 2011:130). Nonetheless, industrialized nations have constructed and enforced legal and regulatory frameworks that govern stock markets and other economic activities over the long term (La Porta, Lopez-De-Silanes & Shleifer, 2008:285). According to North (1990), these systems delineate the 'rules of the game' within the market and facilitate communication among diverse stakeholders.

In spite of substantial reforms, stock markets in sub-Saharan African countries continue to be underdeveloped. The majority of these markets commenced trading in the 1990s, except for Kenya and Nigeria, which initiated their stock markets in 1954 and 1960, respectively. Prior to recent economic reforms that opened up the market for private ownership, the allocation of earnings to owners (often governments) wasn't a predominant concern. Executives had minimal incentives to ensure profitability and dividend payments, making the implementation of robust corporate governance principles of limited significance to both executives and owners.

The enactment of rules and regulations constitutes a critical facet of sound corporate governance, as highlighted by La Porta et al. (2000) and Berglöf and Claessens (2006). Effective law enforcement diminishes the cost of external funding by bridging the information gap between company insiders and outsiders, according to Hillier et al. (2011: 76). In many developing countries, especially within sub-Saharan Africa, weak legal and regulatory frameworks prevail (Rossouw, 2005:94). Some of these countries lack the requisite laws and regulations to safeguard the interests of diverse stakeholders. Moreover, even when sound laws and regulations exist, enforcement often falls short (Okpara, 2011:10). Many of these nations are characterized by significant bureaucracy and corruption (Kaufmann, Herrmann & Auken, 2009:91). According to the Transparency International Indices (Transparency International, 2009), numerous sub-Saharan African countries rank among the most corrupt globally. Even in countries with robust legal systems, bureaucracy and corruption diminish their effectiveness, particularly in upholding the law. The inefficiency of market operations is largely attributed to inadequate legal systems (Lambsdorff, 2003:457), resulting in diminished productivity.

The inadequacy of legal systems and the resulting impact on economic activities have a profound influence on the viability of effective corporate governance strategies in sub-Saharan Africa. Considering the existing state of legal frameworks and their efficacy in these countries, it's logical to surmise that the efficacy of corporate governance measures could be compromised. Nonetheless, the deficiency in robust legal safeguards offers companies an opportunity to differentiate themselves from their competitors. By voluntarily adopting effective corporate governance practices, companies can send signals that resonate with investors and distinguish them in the market (Klapper & Love, 2004:703; Garay & González, 2008:194).

Empirical evidence indicates that private enforcement mechanisms often yield better outcomes compared to public alternatives (Berglöf & Claessens, 2006:123). Consequently, self-regulatory systems could act as a mechanism for investors to mitigate the limitations of the lenient legal environment within which these businesses operate (Bebchuk, Cohen & Ferrell, 2009:783). Notably, at the level of individual firms, corporate governance practices hold particular significance in countries with less stringent legal systems (Klapper & Love, 2004:703). As highlighted by Okpara (2011:10), inadequate corporate governance practices in enterprises within developing economies might impede their capacity to secure funding and attract foreign investors. This underscores the importance for companies in developing countries, including those in sub-Saharan Africa, to prioritize enhancing their commitment to effective corporate governance practices.

2.9.6 Institutional characteristics of corporate governance in sub-Saharan African

Doidge, Karolyi and Stulz (2007:86) focussed on the legal framework, enforcement, disclosure, and transparency when examining the institutional characteristics of corporate governance in sub-Saharan Africa. The fundamental tenet of corporate governance is that actions are subject to regulations and guidelines that can affect how they are carried out. This also includes the commitments made by the government agencies in charge of enforcing the rules and regulations governing the choice of auditors. Listed companies adhering to corporate governance standards; laws protecting investors that may have an impact on dividend policies; and shareholder rights, particularly minority rights; are some of the topics covered. As a result, the dominant shareholder cannot exploit the minority. In addition, disclosure and responsibility policies, as well as the election and nomination procedures for the board, are governed by laws and regulations. Any given country's financial market for businesses will develop in a manner that is significantly influenced by the level of legal protection offered to investors in that country. Undoubtedly, how each country's economy develops will be influenced by the

systemic differences in legal systems and methods of enforcement between various nations, as well as the level of corruption in those legal systems.

The Companies Code Act of 1963, Act 179, which emphasizes the role of the government in bolstering the institutional foundations of sub-Saharan African countries, serves as the framework for Ghana's corporate governance regulations. Nigerian corporate governance is primarily guided by the Companies Allied Matters Act (CAMA) of 1990, which has undergone significant revisions over time. South African corporate governance is built upon the Companies Act of 1973, with numerous amendments. In Ghana, the institutional entities responsible for overseeing corporate governance include the Securities Exchange Commission (SEC), Bank of Ghana, Ghana Stock Exchange (GSE), Registrar General Department (GRD), and the Private Enterprises Foundation. Similarly, in Nigeria, the corporate governance governing bodies include the Securities Exchange Commission (SEC), Nigeria Stock Exchange (NSE), Corporate Affairs Commission (CAC), Central Bank of Nigeria (CBN), National Insurance Commission (NAICOM), and the Private Enterprises Foundation. In South Africa, corporate governance institutions encompass the Johannesburg Stock Exchange (JSE), Financial Services Board (FSB), and the South African Reserve Bank. In addition to these institutional organizations, professional groups play a significant role. These include the Institute of Directors (IoD), Ghana Institute of Chartered Accountants (GIA), and Africa Capital Market Forum in Ghana; Institute of Directors (IoD), Association of Corporate Governance, Institute of Chartered Accountants of Nigeria (ICAN), and Association of Shareholders of Nigeria (ASN) in Nigeria; and the Institute of Directors (IoD) and South African Institute of Chartered Accountants (SAICA) in South Africa. While South Africa adheres to the King I, II, and III Reports on Corporate Governance, both Ghana and Nigeria follow corporate governance rules set by their respective Securities Exchange Commissions (SEC). Both Ghana and Nigeria have similar regulations that govern boards, but Ghana emphasizes corporate governance standards, while Nigeria focuses on

codes of best practices. The SEC in both countries publishes these documents, and the information concerning the obligations and responsibilities of boards of directors is consistent between the two. It's worth noting that all three countries share a common law legal system due to their historical origin in British common law.

Despite these legal requirements, sub-Saharan African nations still fall far short of the developed world in terms of corporate governance enforcement (Munisi, 2019). Sub-Saharan African countries have poor corporate governance as a result of inefficient corporate governance structures (OECD, 2004). According to Tsamenyi, Enninful-Adu and Onumah (2007:319), the region is distinguished by a weak institutional, legal, and regulatory framework' due to the lack of adequate investor protection, widespread corruption, poor law enforcement, and heavy government involvement (Arun & Turner, 2004; Tsamenyi, Enninful-Adu & Onumah, 2007:319). This implies that these countries lack strong and high-quality legal frameworks, which results in weak corporate governance. Okeahalam and Akinboade (2003) assert that Nigeria has legal and administrative frameworks in place to safeguard shareholders' rights and obligations, as well as guidelines for conducting business, and penalties for transgressing these standards. However, a fundamental obstacle to the effective implementation of corporate governance remains the problem of monitoring and enforcing such rules and procedures. According to La Port, Lopez-De-Silanes and Shleifer (2008:285), improved shareholder protection may increase the level of stock market development. The investments of shareholders are not well protected in sub-Saharan African countries because of their weak legal systems (Shleifer & Vishny, 1997:737). The importance of supervisory, enforcing, and legal regulatory bodies for a business unit's corporate governance system was emphasized by the OECD in 2004. Additionally, according to Rossouw (2005:94), the lack of an effective legal and regulatory framework weakens good corporate governance and prevents businesses from going public because doing so would subject them to greater scrutiny and disclosure

requirements. Weak legal frameworks in sub-Saharan African countries obstruct effective corporate governance and limit disclosures and transparency in corporate governance (OECD, 2004; Okpara, 2010:110). The guidelines for good corporate governance in South Africa are laid out in the King Report (1994, 2002, 2009) (Max, 2009:31). A number of business failures and financial irregularities have occurred in South Africa (SA), according to the World Bank (2003), including those involving Fidentia; JCI-Randgold; Masterbond; Macmend; and Regal Treasury. The majority of these failures have been attributed to weak corporate governance frameworks (Sarraf, 2004; Mangena & Chamisa, 2008:28). On the other hand, the Capital Markets Authority (CMA) (CMA, x 2002) is responsible for establishing Kenya's corporate governance laws. Kenya, like SA, is not immune to the corporate governance issues that exist in other countries.

2.9.7 Ownership structures in sub-Saharan Africa

According to Munisi (2019), countries of sub-Saharan Africa have a concentrated ownership structure. State-owned firms with a high concentration control the majority of the sub-Saharan African nations' business environments (Ajao & Ejokehuma, 2021:187). In addition to state-run concentrated business units, institutional investors are present in nations like Nigeria and South Africa in large numbers. Limited institutional investors do, however, exist in Ghana. Most sub-Saharan African nations have a prevalence of concentrated shareholding and controlling ownership (Rahman & Ali, 2006:783; La Porta, Lopez-de-Silanes & Shleifer, 1999:471). According to Rabelo and Vasconcelos (2002:321); Uddin and Choudhury (2008:1026); Ndiweni (2008:335); and Munisi, Hermes and Randy (2014), corporate structures in developing countries are characterized by the majority shareholder's desire to maintain control over the business; a reliance on debt financing; sluggish financial markets; and a dysfunctional legal system. There is a significant amount of government intervention in the corporate governance processes of the majority of enterprises in sub-Saharan African nations as a result of the high level of government concentrated ownership. Poor corporate governance procedures in sub-Saharan African nations are

partially explained by government's predominating participation in corporate institutions (Munisi, 2019). The governments of the nations in the sub-Saharan African region play a dual function in creating legislation and serving as a watchdog to ensure that it is implemented (Kaufmann, Herrmann & Auken, 2010:91). Due to government's unwillingness to assume responsibility for passing rules and regulations that are effective, and to ensure their enforcement, weak institutional environments are created.

2.9.8 Sustainability reporting in sub-Saharan Africa

The majority of the study on sustainability reporting in sub-Saharan Africa has been produced by one of the biggest developing countries in the region, South Africa. This situation could stem from the necessity for all listed companies to adhere to the King III standards and produce integrated reports in order to be eligible for trading on the Johannesburg Stock Exchange (JSE) (Setia et al., 2015:397; Haji & Anifowose, 2016:915). However, comprehensive information regarding other sub-Saharan African nations is limited, and there is scant evidence suggesting that South Africa's adoption of Integrated Reporting (IR) has influenced other countries in the region. Only a handful of nations have accumulated empirical data on this matter, including Nigeria, Kenya, Botswana, Ghana, Tanzania, Uganda, and Zambia (Nyuur, Ofori & Debrah, 2014:93; Kühn, Stiglbauer & Fifka, 2015:437; Xinwu He, 2022). However, the connection to reporting remains relatively underexplored.

Based on the available evidence, corporate social responsibility (CSR) within the region predominantly focuses on community-based initiatives. These endeavors illustrate how CSR can contribute to poverty reduction and underscore the significance of community development projects in fostering positive interactions between multinational corporations and local communities. Notably, findings from Johnson-Rokosu and Olanrewaju (2016:148) and Lauwo, Otusanya, and Bakre (2016:1038) indicate that listed firms in Nigeria are less inclined to disclose environmental concerns

compared to social and governance issues. Similar trends have been observed in Tanzania. Furthermore, a case study in Nigeria highlighted that companies allocated a mere 0.08% of their revenue to CSR (Adewuyi & Olowookere, 2010:522). Similarly, findings from Muthuri and Gilbert's study (2011:467) revealed that only 61% of local enterprises in Kenya explicitly stated their engagement in CSR efforts.

According to Tilt *et al.* (2020: 2040), who examined 48 sub-Saharan African nations' reporting practices from the standpoint of 'new institutional economics', sustainability reporting is still relatively new in many of these nations, even though it is undoubtedly expanding. The study by Tilt *et al.* (2020: 2040) discovered a minor increase in the number of companies using GRI in their integrated reports, but the rate of growth was not keeping up with the considerable increase in the number of integrated reports, overall. For instance, it is asserted that, while the quantity of integrated reports citing the GRI framework was generally consistent between 2015 and 2016, the output of integrated reports apparently increased dramatically during that time, causing the adoption rate drop to below 50% (Tilt *et al.*, 2020). GRI (GRI, 2016) recommends that integrated reporting includes rigorous sustainability metrics. The organization's function in IR promotion appears to require more research, notwithstanding GRI's leadership and recent efforts. However, these adjustments show how corporate practices in sub-Saharan Africa are increasingly incorporating social and environmental concerns.

2.9.9 Internal Drivers for CSR Initiatives in sub-Saharan Africa

The institutional environment plays a significant role in shaping Corporate Social Responsibility (CSR) initiatives and reporting practices in sub-Saharan African countries (Wachira & Mathuva, 2022:159). Internal drivers for CSR initiatives include factors like executive management commitment, effective monitoring and evaluation, strong project management capabilities, alignment of CSR policies, dedicated staff commitment, and the availability of funding. Business-oriented motivations also come into play, such as seeking

competitive advantage, managing public relations, achieving business success, and responding to community expectations and pressure from multinational corporations. However, external factors such as community expectations and the influence of multinational corporations also impact CSR initiatives. In Nigeria, community expectations and the influence of multinational corporations are pivotal drivers for CSR initiatives (Osemeke, et al., 2016). In Kenya, companies are motivated to disclose CSR engagements to maintain legitimacy with stakeholders and enhance financial performance. In Ghana, CSR is often perceived as philanthropy, with foreign businesses engaging in CSR activities due to legal mandates and the anticipation of economic benefits (Ali et al., 2022). Ghanaian banks also view CSR as a strategic tool.

Barriers to CSR initiatives often stem from institutional factors, including inadequate regulation, corruption, and prevailing macro-economic conditions. Similar barriers have been observed in various sub-Saharan African countries such as South Sudan, Zimbabwe, Uganda, Botswana, and Malawi (Ali et al., 2022). These institutional constraints present significant challenges to the implementation and disclosure of CSR initiatives. While business-case drivers motivate CSR efforts, institutional constraints represent significant hurdles. Multinational corporations (MNCs) in the region do not substantially differ from non-MNCs, particularly in adhering to Global Reporting Initiative (GRI) guidelines. An analysis of reporting practices in 48 sub-Saharan African countries, applying the perspective of new institutional economics, revealed that sustainability reporting in the region is driven by a combination of business benefits, regulatory pressures, and growing stakeholder expectations. This underscores the multifaceted nature of CSR motivations and the importance of considering both internal and external factors in shaping CSR practices and disclosures.

2.10 SUMMARY AND CONCLUSION

Corporate governance entails a collection of principles that regulate the rights and duties of shareholders, corporate management, creditors, government entities, employees, and various internal and external stakeholders. Researchers, investors, and regulators frequently define corporate governance from the perspective of either agency theory, which emphasizes the conflicts of interest between managers and shareholders; or through a more comprehensive stakeholder approach, which includes all parties involved in the firm's operations. The stakeholder approach is highlighted in this study, and corporate governance is considered as a means of bringing management's interests into line with those of stakeholders. The definition of corporate governance is fundamentally rooted in the composition and structure of the board. This study emphasizes the importance of board independence and board size when discussing board composition. Regarding the configuration of the board, this research centered on the characteristics of board committees, which encompassed elements such as board gatherings, gender representation on the board, and board member remuneration.

The current body of literature emphasizes that the degree to which established corporate governance norms are adhered to depends on how popular the ownership structure is. Owing to the prevalence of concentrated state ownership, corporate governance approaches in sub-Saharan Africa diverge from those observed in developed nations. Government participation in corporate institutions is disproportionately high in sub-Saharan African countries, which helps to explain their poor corporate governance practices (Munisi, 2019). The governments of the countries in the sub-Saharan African region perform a dual role, acting as both legislators and enforcers of the law (Kaufmann, Herrmann & Auken, 2010: 91). Weak institutional environments are produced as a result of government's inability to enact rules and regulations that are effective, or to guarantee their enforcement. Sub-Saharan African countries have poor corporate governance as a result of inefficient corporate governance arrangements (OECD, 2004). According to

Tsamenyi, Enninful-Adu and Onumah (2007:319), the region is distinguished by a weak institutional, legal, and regulatory framework. Because of this, there is a lack of adequate investor protection, high levels of corruption, poor law enforcement, and a tendency for government interference (Arun & Turner, 2004:371; Tsamenyi, Enninful-Adu, & Onumah, 2007:319).

Due to a number of emphasized institutional and political problems, there are still flaws in corporate governance in practice, despite the many advances that have been made in this area. Although corporate rules and regulations have undergone several reforms, stock markets in sub-Saharan African nations are still comparatively immature. The sub-Saharan African region's weak adherence to best practices in corporate governance is demonstrated by the lack of corporate institutional interest in sustainability reporting. Sustainability reporting is definitely growing, but is still in its infancy in many of these countries, according to Tilt *et al.* (2020:2040), The examination of reporting methodologies across 48 sub-Saharan African countries using the perspective of 'new institutional economics' was conducted by Tilt *et al.*

In conclusion, the main independent variable of this study is corporate governance. Corporate governance defines the way in which companies are governed and to what purpose. It identifies who has power and accountability, and who makes decisions. Corporate governance is defined by both structure and composition. Board composition is perceived to constitute board independence, board size and board diversity. The board remuneration committee, the audit committee, the CSR and environmental committee, board gender diversity, and board meetings all define board structure.

The moderating variable of the study is the ownership structure of firms in the corporate world, which is perceived to influence the governance of firms. For instance, the governance of firms differs by ownership types like institutional; government; managerial; director; block holder; family; and foreign

ownership. The corporate governance practices and the ownership of firms have both been extensively reported in the extant literature as affecting several outcome variables. In the context of this study, corporate governance is perceived to, potentially, predict the level of sustainability reporting of firms; and ownership structure moderates the relationship between corporate governance and sustainability reporting. Thus, the next chapter in this study reviews the literature on sustainability and the association between corporate governance, ownership structure and sustainability reporting.

CHAPTER 3: SUSTAINABILITY REPORTING

3.1 INTRODUCTION

The previous chapter reviewed conceptual, theoretical and empirical literature related to corporate governance and ownership structure. The review discussed corporate governance: the forms of corporate governance; the principles of corporate governance; the benefits of corporate governance; and corporate governance in emerging economies. The review considered block holder concentration, and government, institutional, family, and foreign ownership. The agency, stewardship, stakeholder, resource dependency, social contract and legitimacy theories were reviewed. Finally, the review focussed on economic environment, corporate governance and development of capital markets in sub-Saharan Africa.

This chapter informs the study's design, justifies the choice of variables, and helps build upon existing knowledge to contribute meaningfully to the field.

The chapter reviews the literature related to sustainability reporting. Themes discussed in the chapter include the concept of sustainability, sustainability reporting, and the period and events that shape sustainability reporting. Because sustainability reporting is undertaken by firms, the literature on firm characteristics such as firm size; firm age; market capitalization; market-to-book value; and industry is reviewed in this chapter. The review also examines the nature of sustainability information (financial and non-financial information); and the development of global sustainability reporting (environmental reporting, corporate social responsibility, triple bottom line reporting, connected reporting, integrated reporting). The public and private sectors' motivations for sustainability information reporting, the benefits of sustainability reporting to businesses, and sustainability reporting frameworks (The Global Reporting Initiative; The Sustainability Accounting Standards Board; The Carbon/Climate Disclosure Project; The Task Force on Climate-Related Financial Disclosures; and Streamlined Energy and Carbon Reporting) have also been reviewed and discussed.

3.2 CONCEPT OF SUSTAINABILITY

The concept of sustainability was initially conceived as a means to conserve energy and limit environmental damage (Przychodzen & Przychodzen, 2013:474). It is now recognized as a watershed moment in the history of business (Przychodzen & Przychodzen, 2013:474; Herbohn, Walker & Loo, 2014:422). The triple bottom-line (TBL) discussion of economic viability, social duty, and environmental responsibility is the most frequently acknowledged concept of sustainability (Yu & Zhao, 2015:289). The World Commission on Environment and Development was the first to define sustainability, in 1987 (World Commission on Environment and Development, 1987), as actions that do not sacrifice future generations for the benefit of the present. Sustainable development is defined as "the process of creating a society in which environmental, social, and economic objectives are balanced" (Zborkova & Dvorakova, 2011:1465). It also shows how organizations of any kind might save scarce resources for future generations even as they create and maintain value for today's consumers (James,

2014:93). To that end, sustainability in business is defined as "the extent to which a company's operations have a positive impact on ecosystems (by enhancing natural resources, reducing pollution levels, etc.), society (by supporting local populations and providing employment opportunities), and economic development" (Gokten, Ozerhan & Gokten, 2020:1). It is viewed as a way for businesses to generate profits for their investors, while also reducing their negative impact on the environment, society, and the economy (Accenture, Chartered Institute of Management Accountants, 2011). Businesses should regularly report on their progress regarding more ambitious and quantifiable sustainability goals because of the interest of all stakeholders in this area. (Jensen & Berg, 2012:299).

3.3 SUSTAINABILITY REPORTING

The idea of sustainability reporting (SR) became popular after the United Nations General Assembly (UNGA) in 1987 (Deegan, 2013; Ong, 2016), when concerns for long-term growth came to the forefront of current affairs. Companies have a duty to "maximize the wealth of shareholders and, at the same time, create value for society as a whole" (Gherghina & Simionescu, 2015:23). Officially, "development that meets the needs of the present without destroying the ability of future generations to meet their own needs" (World Commission on Environment and Development 2, 1987:383) is what is meant by sustainable development. The United Nations General Assembly and the World Conference on Environment and Development both contributed to the spread of sustainability reporting (Guenther *et al.*, 2006:6; Guthrie & Abeysekera, 2006:114; Ong, 2016). In response, the Global Reporting Initiative (GRI) developed an exhaustive framework for reporting on environmental performance. The GRI reporting methodology is widely

recognized as the industry standard for sustainability reporting, as stated by Mahoney *et al.* (2013:350). According to the Global Reporting Initiative (GRI), “reporting on how an organization contributes or wants to contribute in the future to the improvement or worsening of economic, environmental, and social conditions, developments, and trends at the local, regional, or global level” (Global Reporting Initiative (GRI) 2015:17). In Boston, in 1997 (GRI 2019), the Coalition for Environmentally Responsible Economies (CERES) and the Tellus Institute established GRI standards. The Global Reporting Initiative (GRI) is a globally recognized standard for reporting on sustainability (Patrick and Ronald, 2001:1). This method of reporting emerged as a result of divergent understandings of sustainability and its measurement. According to the GRI standard, reports should be broken down along the ‘triple bottom line’. Therefore, the economic, environmental, and social success can be measured and reported, thanks to the GRI’s guidelines, principles, and indicators (Milne & Gray, 2013:13). Customers can learn how a company performs in terms of sustainability through SR (Schaltegger & Wagner, 2006:1; Hernández-Perlines & Ibarra Cisneros, 2017; Gnanaweera Kunori & Ntim, 2018:1).

The purpose of sustainability reporting practice (SRP) is to “satisfy the needs of stakeholders for knowledge about the economic, environmental, and social (EES) effects of a company’s business operations” (World Commission on Environment and Development (WCED), 1987:383). According to KPMG (2015), communicating your company’s positive impact on the world is central to successful SR strategies. Information on how well an organization is doing in terms of being environmentally friendly is included in sustainability reports. These reports are an effort to communicate the environmental, governance, and social impacts of the company’s operations to its various stakeholder groups. The goal is to improve communication between the firm and those who have a stake in its success (Brammer, 2006:1168). Companies that only report on their successes and conceal their failures in the area of sustainability make it difficult for stakeholders to assess the company’s performance (Gray, 1995:47). The purpose of sustainability

reporting (SR) is to “provide information about a company's activities, strategies, and reputation with respect to environmental and social issues” (Kilic & Kuzey, 2018:305). It allows businesses to publicize their beliefs, results, and initiatives in pursuit of long-term success (Brusca, Labrador & Larran, 2018:347). Some businesses have made a concerted effort to issue a report detailing their CSR initiatives. However, some businesses only devote a paragraph or two to sustainability each year (Abdullah *et al.*, 2018).

Many modern organizations use the term ‘sustainability’ to characterize their operations (Güler & Crowther, 2009). The Brundtland Report, released by Oxford University Press in 1987, serves as the basis for the use of the term ‘sustainability’ and the study's overarching definition of the concept. According to the report in question, sustainability is defined as progress that satisfies the requirements of the present without compromising the potential of future generations to do the same. The report highlighted the urgency of taking steps towards environmentally and resource-friendly economic growth. Environmental preservation, economic expansion, and universal human rights were all discussed in the study as crucial components of sustainable development. According to the ACCA's (2005) principles, sustainability reporting encompasses not just social reporting, but also environmental reporting and economic reporting. In environmental reporting, the effects of resources and products on ecosystems and human health are examined. Health and safety on the job; retaining employees; labour rights; human rights; wages; and working conditions at outsourced operations are all topics frequently covered by social reporters (Janggu, Darus, Zain & Sawani, 2014:138). Payroll expenses; new jobs created; employee productivity; R&D; training expenditures, and other forms of human capital receive considerable attention in economic reporting.

3.4 NATURE OF SUSTAINABILITY INFORMATION

It is imperative to emphasize that information reported on sustainability is quite different from reported financial information. Sustainability reported

information has a future orientation, and focusses on the wider sustainability impact, intangibles, non-financials, and any information significant to readers and stakeholders who are the users. Traditionally, sustainability information is either in the form of financial or non-financial information (Gazzola *et al.*, 2020:1).

3.4.1 Financial sustainability information

According to Rodriguez Bolavar (2016: 1), 'financial sustainability' is defined as "the ability of public administrations to continue current policies now and in the future without causing the debt to rise continuously". Financial sustainability is maintained, and development impact is maximized through risk management and efficient use of financial resources (Rodríguez Bolvar, 2016:1). When a company's revenue is sufficient to cover its costs and generate a profit, it is said to be financially sustainable (Checherita-Westphal, Hallet & Rother, 2014:638). To achieve this, businesses need a strategy that details how they will achieve both short- and long-term objectives within their current resource constraints. The Global Reporting Initiative (GRI), (2013:) states that "adequate financial information is required in the achievement of financial sustainability". Information about sustainability that can be measured and presented in monetary terms is called 'financial sustainability information' (GRI, 2013). There is a one-to-one relationship between the financial accounting system and the monetary units used to express financial data (Afonso & Jalles, 2015:925). Sustainable financial data typically includes things like transportation or heating costs, waste disposal fees, water bills or product prices (Guthrie & Farneti, 2008; NIVRA, 2009).

3.4.2 Non-Financial sustainability information

Data and knowledge about sustainability that does not pertain to finances is 'non-financial sustainability information': data that has nothing to do with money, is not presented in monetary terms, and is not governed by any specific accounting principle. Quantitative or qualitative methods can be used to describe non-financial data. Greenhouse gas emissions in tonnes, water

use in cubic metres, and the percentage of sales of eco-labeled and fair-trade goods are all examples of quantifiable data. The management style, public standing, and impact on biodiversity are all examples of qualitative data (Guthrie & Farneti, 2008; NIVRA, 2009). Since there aren't any universally accepted norms for reporting non-financial information and it can be presented in a wide variety of formats, it is typically more difficult to work with than financial data. Qualitative data is notoriously elusive and difficult to quantify. Non-financial information can be very beneficial to information users, including voters, investors, and society as a whole. Thus these issues should not discourage its usage (Gazzola et al., 2020:1).

3.5 GLOBAL DEVELOPMENT OF SUSTAINABILITY REPORTING

After Rio+20, the Commission on Sustainable Development was replaced by the High-Level Political Forum (HLPF) on Sustainable Development to provide international political leadership and guidance on sustainable development issues (Meutia, Yaacob & Kartasari, 2019:23). The United Nations' Global Sustainable Development Report (GSDR) was written to improve communication between the scientific community and policymakers at the High-Level Political Forum (HLPF).

The UN member states adopted the 2030 Agenda for Sustainable Development in September 2015, and the GSDR was tasked with assisting in the evaluation and implementation of this new agenda, according to paragraph 83. Information for the high-level political forum can also be found in the Global Sustainable Development Report. In order to promote sustainable development and the elimination of poverty, it seeks to strengthen lines of communication between the scientific community and policymakers. According to UN plans for global sustainable development (Reiff & Kvilhaug, 2021), environmental, CSR, triple bottom line, connected, and integrated reporting of sustainable information are all valued highly.

3.5.1 Environmental reporting

Environmental sustainability reporting can be defined as a crucial mechanism aimed at promoting transparency in communicating information to stakeholders about an organization's strategies for preserving the natural environment (Comyns, 2016:349; Perrault & Clark, 2016). This practice holds significant importance as it contributes to gaining a competitive advantage, improving economic performance, and reinforcing an organization's legitimacy and reputation (de Villiers, Naiker & Stade, 2011:1636). According to the Global Reporting Initiatives (2011), environmental sustainability reporting is a component of broader sustainability reporting that examines an organization's impact on both living and non-living natural systems, encompassing ecosystems, land, air, and water. Environmental sustainability reporting can be defined as a crucial mechanism aimed at promoting transparency in communicating information to stakeholders about an organization's strategies for preserving the natural environment (Comyns, 2016:349; Perrault & Clark, 2016). This practice holds significant importance as it contributes to gaining a competitive advantage, improving economic performance, and reinforcing an organization's legitimacy and reputation (de Villiers, Naiker & Stade, 2011:1636). According to the Global Reporting Initiatives (2011), environmental sustainability reporting is a component of broader sustainability reporting that examines an organization's impact on both living and non-living natural systems, encompassing ecosystems, land, air, and water. This reporting practice is also perceived as the dissemination of information about a corporation's commitment to environmental stewardship through rigorous adherence to regulatory standards and investments in environmental conservation (Ofoegbu & Megbuluba 2016:208). The Global Reporting Initiative (GRI) classifies environmental performance indicators into twelve sub-categories: materials, energy, water, biodiversity, emissions, waste management, products and services, compliance, transport, overall expenditure on environmental protection, supplier environmental assessment, and environmental grievance mechanisms.

The business-society association was first mooted in the work of Friedman in 1970 (Rahman *et al.*, 2010). Today, his study has led to the recognition of sustainability reporting as opposed to reports being restricted only to the financial performance of businesses. Sustainability reporting is aimed at forcing organizations to take responsibility for their actions. Environmental reporting concerns the presentation of financial and nonfinancial environmental information (Firoz & Ansari, 2010:105). In social and environmental reporting, companies are expected to disclose, not only financial, but also non-financial, information regarding the effects of their operations on the immediate society. From a wider standpoint encompassing corporate social and environmental information, environmental reporting encompasses details concerning a company's operations, ambitions, and public perception within the community (Haider, 2010:3). In this context, environmental reporting aims to convey the socioeconomic impacts of an organization's activities on both society and the environment (Gray, 2001; Ismail & Ibrahim, 2009:198). The purpose of social disclosure is to communicate to stakeholders the initiatives undertaken to address environmental concerns, influencing a firm's relationship with its stakeholders. With the growing shift of investors from fossil fuels to green investments, environmental reporting plays a crucial role in attracting foreign investments. These efforts collectively aid firms in defining their responsibilities toward the community and assist management in conducting comprehensive environmental impact assessments. Assessing the level of environmental disclosure involves emphasizing the quality of a firm's environmental disclosures and avoiding excessive reliance on vague and limited information. The Wiseman scale, developed by Wiseman in 1982, serves as a measure for this purpose. This scale has been previously employed in environmental disclosure-related research, wherein a list of environmental aspects is identified and assigned scores through content analysis (Karim, Lacina & Rutledge, 2006). The environmental disclosure index comprises 19 environmental items drawn from the Global Reporting

Initiatives (GRI) 4 guidelines, reflecting the extent of disclosure within each category.

3.5.2 Corporate social responsibility

According to the World Business Council for sustainable progress (WBCSD), 'Corporate Social Responsibility' (CSR) is "a company's ongoing commitment to act ethically and contribute to economic development while improving the quality of life for its workforce and their families, the local community, and society at large". This form of reporting was first used in environmental disclosures at the turn of the twentieth century (Kannekanti & Muddu, 2008:149). Because of the positive impact that CSR reports have on society, many governments now mandate CSR disclosures in this area (O'Rourke, 2004). The economic, legal, ethical, and philanthropic obligations of businesses to society at large, and to their various stakeholder groups, are all examples of this type of data (Carroll, 1999:268). CSR, sustainability, corporate responsibility, and triple bottom line reports are some of the terms used to describe documents that contain this data.

3.5.3 Triple bottom line reporting

Triple bottom line (TBL) reporting, which includes the three aspects of social, economic, and environmental, or people, planet, and profit, is one example of the evolution of sustainability reporting (Elkington, 1997:1). Instead of focusing exclusively on creating profit, or the traditional bottom line, the TBL suggests that businesses instead commit to monitoring their social and environmental impact alongside their financial performance. Ecological (or environmental) and social initiatives, which might be hard to measure, set this apart from conventional reporting frameworks. 'People, planet, and profits' are alternative names for the TBL dimensions. TBL was first used in 1994 by John Elkington (1949) and his colleagues at the strategy consultant business Sustainability. In the Brundtland Report, 'Our Common Future', it

was proposed that the pursuit of financial gain be constrained by the need to maintain social and natural systems at levels sufficient for the needs of future generations. This is an example of the historical progression that led to the development of the concept of sustainable development.

According to TBL reporting, businesses have an impact on the economic, social, and environmental systems, all of which are essential to the long-term existence of humanity (Kumar & Firoz, 2019:47). The word suggests the extension of responsibility for a company's success beyond the standard financial metrics included in annual reports (Aker, 2021). The term suggests that companies should account for the non-financial consequences of their actions, as well as the financial ones. The TBL is now widely used as a standard against which company results can be evaluated and reported (Roxas, 2021:2194). The Global Reporting Initiative has institutionalized and formalized TBL reporting by outlining the dimensions for measurement and reporting in the environmental, social, and economic domains (Haidar, Sohail & Qurashi, 2021:2697). Today, TBL reports are posted on the websites of even the largest international corporations. Anheuser-Busch, Dow Chemical, Microsoft, and Weyerhaeuser are just a few examples of companies that use TBL reporting measurements.

Stockholders who want to engage in socially responsible investing, employees who want to work for a company with exemplary performance in all three dimensions, and customers who want to buy from companies they identify as having a social and environmental conscience, are all interested in seeing triple bottom-line reports (Meutia, Yaacob & Kartasari, 2019:23). Now it is possible to invest in mutual funds that prioritize TBL returns (Zborkova & Dvorakova, 2011:1465). Corporate performance on the TBL is also evaluated by the Dow Jones Sustainability Indices and the FTSE4 Good Index, with only the best companies being included in their respective lists (Matisoff, Noonan & O'Brien, 2013:285). Investors looking for companies that meet TBL standards can use these rankings as a guide.

3.5.4 Connected reporting

The objectives of this country-specific sustainability reporting project were to improve annual reports and accounts and take a fresh approach to corporate reporting (European Commission, 2011). Wollmert (2018) claims that connected reporting is a technique for enhancing an organization's current reporting and closing the information gap between the varied information requirements of internal and external audiences. In order to simplify the reporting process, it enables enterprises to communicate their financial and non-financial information utilizing standardized data, simplified IT architecture, and procedures (Wollmert, 2018). Many companies wish to transition to connected reporting, as they are aware that doing this would improve the reporting process and reporting quality. Relationships with investors, connectivity with regulators, decision-making, and the company's reputation would all benefit as a result (Rodríguez Bolívar, 2016:1). However, many people have trouble putting connected reporting into practice. The most critical steps are to increase the data's availability, consistency, and accuracy, and to invest in IT infrastructure (Wollmert, 2018).

3.5.5 Integrated reporting

While the GRI guidelines serve as the established standard for sustainability reporting, a fresh global initiative known as integrated reporting suggests amalgamating sustainability concerns with annual financial matters within a single report (Camodeca, Almici & Sagliaschi, 2018:1). Large companies and their reporting requirements are the subject of this research (Pistoni, Songini & Bavagnoli, 2018:489). From the government's perspective, though, it is interesting, since it may foreshadow certain future events, at least in terms of the reporting of enterprises held by the government (Haji & Hossain, 2016:415).

The Global Reporting Initiative (GRI) is one of the organizations that came together to form the International Integrated Reporting Committee (IIRC). Its objective is to provide a framework for the comprehensive reporting of financial, environmental, social, and governance information (Fras-Aceituno, Rodriguez-Ariza & Garca-Sánchez, 2013). The IIRC was founded in 2010 to alleviate the confusion caused by the presence of various organizations (IIRC, 2013). One of the main motivating factors behind the development of integrated reporting are the deficiencies of conventional private sector financial reporting. According to the IIRC, traditional reporting was tailored for the business domain, driven by compliance, and heavily focused on historical financial outcomes. This approach often overlooks various forms of capital beyond financial and manufacturing, such as natural, intellectual, human, and social capital (IIRC, 2019). While corporate responsibility and environmental reports might touch on these aspects, they usually remain separate from financial statements and are not fully integrated into business strategy decisions. The primary objective of the International Integrated Reporting Committee (IIRC) is to establish a globally unified standard for integrated reporting that transcends national borders. In 2011, the IIRC released a white paper outlining integrated reporting and its rationale, presenting a compilation of government-centered reasons in favor of integrated reporting. These reasons include heightened transparency and the provision of enhanced information to policymakers. By integrating reports, internal decision-making can be improved, contributing to more stable economic and market conditions over the long term.

With the support of the integrated reporting system, businesses may share more data with their stakeholders and investors in a standardized format. Integrated reporting requires re-evaluating the necessary information to offer a clear, concise picture of performance, impacts, and interdependencies. The IIRC suggests better reporting in a single report rather than greater reporting in general, because of this. Unlike integrated reporting, sustainability reporting centers on a company's environmental, social, and governance

(ESG) practices, aiming to communicate effectively with all pertinent stakeholders. The latter is directed to financial capital providers and how they can optimize their capital allocation with the use of more integrated information (International Integrated Reporting Council, 2019). A company's integrated report, as defined by the 2021 Integrated Reporting Framework, should be a concise representation of the company's strategy, governance, performance, and prospects in terms of the development of sustainable value. Information that is expected to be meaningful and helpful for the production of sustainable value over the short, medium, and long terms is what the principles-based approach to integrated reporting is all about (International Integrated Reporting Council, 2019). The veracity, usefulness, and comparability of sustainability reports that stand on their own have been called into question. Although the concept of integrated reporting was conceived with investors in mind, its implementation seeks to address all stakeholders and encourage integrated thinking within an organization by breaking down siloes of responsibility (Haller & van Stade, 2014). The practical impact of integrated decision-making and actions becomes tangible when coupled with integrated thinking and a management strategy that considers multiple capitals and stakeholders (International Integrated Reporting Council, 2019). Integrated reporting has garnered increasing attention since the release of its initial framework in 2013. Only South Africa, which allows integrated reports to remain a voluntary option, has so far mandated them for corporations registered on the Johannesburg Stock Exchange. The pervasive corporate mismanagement that followed South Africa's apartheid era is to blame for the country's leading role in this transformation (West, 2006). Strong advocacy for high corporate governance requirements led to the creation of the King Code. After realizing that financial reports alone weren't meeting the information needs of stakeholders, King Code III mandated that companies start submitting integrated reports instead (Barth et al., 2017:43). KPMG (2017) indicates that a majority of large companies globally provide both financial and non-financial information in their annual reports, demonstrating that the transition

to Integrated Reporting (IR) is already underway in numerous nations. The International Integrated Reporting Council's database (IIRC, 2019) reveals that over 1,600 organizations worldwide have adopted the International Integrated Reporting Framework (IIRF) to shape their strategies and reporting practices.

3.6 MOTIVATIONS FOR SUSTAINABILITY REPORTING

There are both internal and external pressures on businesses to disclose their sustainability metrics. Some internal incentives for sustainability reporting include improving knowledge; risk management; performance; resource conservation; financial savings; and employee satisfaction (Roxas, 2021:2194). Additional external drivers for sustainability reporting include, as stated by Nazari, Herremans and Warsame (2015: 375), improved stakeholder communication; greater accountability; greater openness; the promotion of a trustworthy image; and the development of trust in the public sector. Adopters of sustainability reporting frameworks are motivated, according to Finch's 2005 research, by a desire to communicate to stakeholders the extent to which management is achieving long-term corporate benefits, such as enhanced financial performance; a competitive advantage; profit maximization; and the company's ultimate success. Dobbs and van Stade's research (2016:449) suggests that shareholder rights and community concerns are the most influential factors in a company's decision to report on sustainability. Qian, Tilt, Dissanayake and Kuruppu (2020:3370) found that, for larger and more globally active companies, normative and regulatory stakeholder pressures are more important than economic considerations when it comes to corporate sustainability reporting in the Indo-Pacific region. Reputation and brand value; CSR knowledge among employees; stakeholder communication; management systems; management culture; market share; and government openness are some of the primary motivators for CSR reporting (Kuo, Kremer, Phuong & Hsu, 2016:184). Sustainability reporting is important for many reasons, including, but not limited to, improving public perception and brand image; gaining a

competitive advantage; enhancing processes, systems, and efficiency; and keeping up with best practices and benchmarking in sustainability management (Haidar, Sohail & Qurashi, 2021:2697).

Both Clarkson (2012) and Surroca, Tribó, and Waddock (2010) emphasize the significance of stakeholders as a major driving force behind sustainability reporting (SR) in numerous businesses. The stakeholder theory suggests that many organizations align their financial, economic, environmental, and social performance disclosures with sustainability reporting standards to meet the expectations of stakeholders. Stakeholders, such as shareholders and investors; customers; and business partners exert pressure on firms to produce value and achieve a competitive edge, as stated by Buhr and Gray (2012:425), Clarkson (2012:11), and Jose and Lee (2007:307). Companies prioritise SR, not simply to meet legal requirements, but also to boost profits, earn 'green goodwill', and gain competitive advantage. Another driving factor for businesses is the desire to improve their brand image by demonstrating to their stakeholders that they are environmentally conscious and sympathetic to the issues of broader society. Buhr and Gray (2012) and Jose and Lee (2007:11) both claim that the demand from stakeholders has increased the likelihood that enterprises will voluntarily adopt SR practices.

Jansson *et al.* (2015:69), and Hörisch, Freeman and Schaltegger (2014:328), argue that sustainable requirements motivate modern businesses to participate in SR. Compliance with local and international SR regulations has impacted SR methods. However, the most essential motivator for SR is not compliance with SR rules but rather the organization's own ideas and values (Dupina & Min, 2014; Williams & Schaefer, 2012:173). An organization with a strong culture of social responsibility does it on its own accord, rather than because it feels compelled to by regulations or other pressures from the outside world.

Several studies (Jones & Ratnatunga, 2012:11; Rinaldi, Unerman & Tilt, 2014:86; Jeffrey, Cohen & Simnett, 2015:59) have found that businesses place a premium on being ranked favorably in comparison to competitors, by groups that mandate sustainability reports. The global recognition and reputation for grading firms based on commitment to SR and sustainable development are expected to provide companies with a far greater incentive to publicize sustainability practices. Jeffrey, Cohen, and Simnett (2015:59), and Peters and Romi (2015:163), argue that modern businesses are motivated by value-enhancing proposals, ranging from rankings to global attention and accreditation. Organizations are engaging in voluntary SR to boost their reputation and attract shareholders and investors who are concerned about sustainability, in an effort to raise capital and growth resources, as stated by Zorio, Garcia-Benau and Sierra (2013:484), and Rinaldi, Unerman and Tilt (2014:86). These factors can be broken down further into business and public sector motives for reporting on sustainability.

3.6.1 Private sector motivation

Gokten, Ozerhan and Gokten (2020) state that the primary external motivations for sharing sustainability information in the private sector are to provide transparency regarding risks, opportunities, and performance; and to create stakeholder confidence. Reputation management is another important motivator. It should come as no surprise, then, that most correspondents are employed by corporations or groups that have a harmful impact on the environment. Oil and gas, IT, chemical, pharmaceutical and transportation companies, and utilities, have all been cited as sources of active reports in the past (GRI, 2011; Kolk, 2011). An indicator highlighting the investment angle is the emergence of socially conscious investment tools such as the Dow Jones Sustainability Index. This index assesses companies' stock performance by considering economic, environmental, and social factors (Nazari, Herremans & Warsame, 2015:375).

Most businesses that adopt sustainability reporting do so for reasons around improving internal operations. Information quality can be improved by reporting processes, which can generate new data and increase the quality of existing data (Qian *et al.*, 2020:3370). Hadidar, Sohail and Qurashi (2021:2697) argue that sustainability reporting helps to improve management systems and the quality of management information by facilitating the collecting and organization of such data. Sustainable growth, innovation, and product development, are all supported by an emphasis on sustainability (Meutia, Yaacob & Kartasari, 2019:23). Thus, it may be a highly useful internal exercise for businesses to create a sustainability report.

Sustainability reporting, as stated by Gazzola *et al.* (2020:1), can assist businesses in recognizing and responding to sustainability-related risks and in adapting to changing public perceptions. For instance, natural resource management affects current performance, and failing to plan for the future might be detrimental to one's chances of success (Barkemeyer, Lutz & Lee, 2015:312). Reporting can also be used as a management tool, increasing morale, and making a company more attractive to potential new employees (Mauro *et al.*, 2020). Sustainability reporting can also help employees have a deeper appreciation for the company's efforts to address internal sustainability concerns (Ortas & Moneva, 2011:16). All of this helps businesses make better decisions and can boost their bottom line in the long run (Amran, Lee & Devi, 2014:217). Sustainability reporting can be a way to cut costs, since it encourages businesses to make better use of recoverable resources, boost process efficiency, and minimize waste of natural resources (Aziz & Rosmiza, 2017:1). One approach to save money is by reducing energy expenditure, so it is a good idea to keep tabs on energy consumption and look for ways to cut back. Indirect cost reductions may result from, for instance, reduced insurance premiums or the avoidance of applicable environmental taxes (Defra, 2006).

3.6.2 Public sector motivation

Although most common in the private sector, the motivations for reporting are just as relevant for government agencies (Ball, Grubnic & Birchall, 2014:176). One of an auditor's key concerns is whether or not resources are being managed and reported on effectively (Stefanescu, Oprisor & Sintejudéanu, 2016:503). Ukko, Nasiri, Saunila and Rantala (2019:117) argue that public sector organizations should participate in sustainability reporting to improve efficiency and openness and to better manage risks related to sustainability and public resources. Transparency in the management of public funds may be improved by the use of sustainability reporting. Sustainability reporting helps the state better understand its responsibilities (Biondi & Cracci, 2018:311). Reputation management in the public sector is inextricably linked through sustainability reporting and the public's faith in government institutions (Guthrie & Farneti 2008:361). Reducing reputational risk and increasing positive press coverage are top priorities in the business world. Moral and ethical considerations are more obvious in the public sector because of its duty to protect the public benefit or interest (Braam & Peeters, 2018:164). Sustainability reporting can help achieve goals like accountability and good governance, especially in the public sector (Ukko, Nasiri Saunila & Rantala, 2019:117).

As key actors and contributors to sustainability, public entities are required by law to report on a wide range of environmental sustainability indicators (Stefanescu, Oprisor & Sintejudéanu, 2016:503). They control large amounts of natural resources, how those resources are used, and the economy as a whole (Guthrie & Farneti, 2008:361). Sustainability can also be affected by the processes and procedures adopted by public sector bodies when making procurement decisions. In many countries, local governments play a pivotal role in the provision of services and the management of land use. As a result, several government agencies play a role as major employers and major corporations. Therefore, their purchasing practices and corporate operations may have a major impact on sustainability issues. Transparency and accountability are improved and employees are made more aware of

sustainability issues when companies report on their impacts, sustainability goals, and progress (or regress) (Biondi & Cracci, 2018:311).

Ukko, Nasiri, Saunila and Rantala (2019:117) note that the public sector has a unique set of duties because it has the power to require public and private businesses to disclose their sustainability performance. In addition, governments may take on the role of investors, requiring sustainable practices in development projects (Wensen *et al.*, 2011). Wensen *et al.* (2011) note that governments are often considered to have an important role in encouraging sustainability reporting.

3.7 BENEFITS OF SUSTAINABLE REPORTING FOR BUSINESSES

Users of sustainability reporting might gain both internal and external advantages by using the GRI framework. Gray, Adams and Owen (2014); Utile (2016); and Munshia and Duttab (2016:245) agree that the GRI guidelines have helped improve companies' understanding of opportunities and threats. The criteria have laid out what needs to be done to account for environmental risks, economic threats, and social risks that could threaten their survival. There are many who claim that the GRI standards and recommendations put too much emphasis on the link between non-financial and financial performance, including Adams and Whelan (2009:118); van Bommel (2014:1157) and Gray (2006). This dynamic has allowed businesses to develop methods of allocating resources that improve their success in areas other than finance. GRI standards have been useful in streamlining processes, boosting productivity, and cutting expenses (Montiel, 2008:245; Hahn & Kühnen, 2013:5; Chabrak, 2015:280).

In fact, businesses have been able to save money by complying with GRI regulations, which have sped up the production process to meet environmental needs and protected them from costly lawsuits filed by social-interest groups or customers alleging social or environmental negligence. Organizations have profited from the GRI standards because they help them

avoid being linked to high-profile cases of poor governance, social, or environmental performance. Furthermore, the works of van Bommel (2014:1157), Dhaliwal et al. (2011:59), and Gray (2006) illustrate that GRI frameworks provide global guidelines that allow socially responsible organizations to achieve comparability and assess their performance through voluntary initiatives, regulations, performance standards, codes, and norms. These international standards, as highlighted by Dhaliwal et al. (2011:59) and Munshia and Duttab (2016:245), enhance the credibility of sustainability reporting, instilling investor and capital market trust.

Businesses have profited from a variety of external aids, as noted by Peters and Romi (2015:163) and Jones and Ratnatunga (2012:11). Organizations can now plan for, and implement, measures to reverse or limit their positive effects on governance, society, and the environment. In order to mitigate their impact on governance, society, and the environment, businesses now have at least the bare minimum of controls in place, thanks to the GRI guidelines. Adams and Whelan (2009:118) and Chabrak (2015:280) all claim that GRI standards have helped businesses learn more about the results of sustainable development and the way in which SR expectations affect daily operations. Companies have found a happy medium between the two extremes of stakeholder expectations. Hahn and Kühnen (2013:5) and Montiel (2008:245) show that the GRI guidelines have provided businesses with a foundation on which to build customer loyalty and positive public perception. Companies who manage their SR practices in accordance with GRI principles are increasingly being recognized internationally. Importantly, numerous GRI criteria tend to increase compliance costs, posing a threat to the ability of small and medium-sized enterprises (SMEs) and newly created organizations to comply (Montiel, 2008:245; Munshia & Duttab, 2016: 245).

3.8 SUSTAINABILITY REPORTING FRAMEWORKS

In recent times, environmental, social, and governance (ESG) matters have risen to the forefront of business priorities, driven by increasing scrutiny from the public, investors, and governments. Depending on factors such as

industry, geographical region, and specific issues, there are potentially over 500 diverse formal and informal standards and frameworks for sustainability reporting. Notably, several prominent reporting frameworks have gained traction among companies, especially larger ones, for disseminating sustainability information. These include the Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC), and the Sustainability Accounting Standards Board (SASB), which have merged to form the Value Reporting Foundation (VRF). Additionally, the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) have also gained prominence in the realm of sustainability reporting.

3.8.1 The global reporting initiative

In 1997, as a response to public concern triggered by the environmental catastrophe caused by the Exxon Valdez oil spill, the Global Reporting Initiative (GRI) was founded. Scaltegger and Burritt (2010) cite the aftermath of environmental disaster and market instability as the driving force behind the growing awareness of sustainability reporting in annual reports. The Coalition for Environmentally Responsible Economics (CERES) of Boston, Massachusetts, established GRI in 1997 with the intention of creating a universal sustainability reporting framework (GRI, 2010). Sustainability actions in the economic, environmental, and social spheres of an organization's operations are reported using the GRI reporting framework. In 1999, after co-operation with the UN Environment Programme (UNEP), a pilot set of rules for sustainability reporting was made available to just 20 organizations. The Global Reporting Initiative (GRI) produced its first set of formal rules in 2000; and in 2002, the organization relocated its headquarters to Amsterdam, the Netherlands, where it remains today. The latest generation of guidelines (G3) was launched in 2006 with a set of sector supplements that steadily develop in sector specificity. This was done after taking into account extensive feedback from the industry and professionals. In order to facilitate both broad and in-depth comparisons, the metrics in which businesses report sustainability activity have been broken down into

two categories: core indicators and sector-specific indicators. In other words, the sector specific indicators provide a more in-depth means of comparison within certain industries, whereas the core indicators are designed to provide a method of generically comparing sustainability operations worldwide (GRI, 2010).

Materiality, stakeholder inclusion, sustainable context, and completeness are the four pillars on which the G3 guidelines' definition of report content rests (GRI, 2006). As businesses' approaches to sustainability develop at different rates, the GRI guidelines are designed to be applied in stages. The G3 guidelines use letters (A to C) to denote escalating degrees of implementation. When it comes to the G3 guidelines, level A application is the gold standard, followed by levels B and C. Organizations can add an additional plus sign (+) to their application level if they undergo external assurance. If a company followed the G3 guidelines exactly and sought third-party verification, for instance, it would be given an A+ for its application level (GRI, 2006). Nearly 1800 sustainability reports were issued in 2010 (GRI, 2010), marking a dramatic rise in reporting on environmental and social impacts since the GRI's founding. According to KPMG (2008), 69% of the N100 and 77% of the G250 companies used the GRI framework in 2008 to create their sustainability reports. The Global Reporting Initiative (GRI) has become the *de facto* standard for reporting sustainability and conducting future research, thanks to its dedication to materiality and constant guideline improvement.

With funding from UNEP, CERES and the Tellus Institute launched a project unit called the Global Reporting Initiative (GRI) in 1997 to create an environmental reporting framework. This action was crucial in the journey to institutionalize sustainability reporting (White, 1999:3). In 1998, the GRI convened a steering committee made up of representatives from many sectors. Their primary responsibility was to identify the guidelines' scope. According to the GRI's mission statement, the committee considered more

than only environmental factors. It suggested extending the scope of the proposed re-reporting system beyond environmental concerns to include social and economic consequences. As a result of this advice, the GRI is now seen as a framework for sustainability reporting in general, not simply environmental reporting. Sustainability reporting (accounting) evolved from environmental reporting (accounting) in 1998.

The Global Reporting Initiative (GRI) steering group was established in 1999 after Ceres began work on a disclosure framework for sustainability information in 1997-1998 (Willis, 2003). The United Nations Environment Programme (UNEP) joined this initiative in 1999 (Adams, 2004:731; Isaksson & Steimle, 2009:168), giving the GRI and its disclosure framework (Fet & Michelsen, 2003:95) a global reach. In 2000, the GRI issued its first set of sustainability reporting principles, which were used as a basis for the creation of sustainability reports by fifty different organizations. In 2001, the GRI steering committee recommended that GRI become its own entity (GRI, 2013). The independent GRI was launched at the UN in New York City in 2002, but it has since moved to Amsterdam and been incorporated as a foundation there. The Global Reporting Initiative (GRI) published its second set of rules in 2002. In 2006, the Global Reporting Initiative (GRI) produced G3, the third version of its rules. After receiving feedback from more than 3,000 participants and being evaluated by GRI's governing authorities, G3 was issued.

Sector supplements, which GRI has been issuing since 2003, and described as 'unique indicators for industry sectors' (GRI, 2013), were also introduced. National annexes, which GRI describes as addressing "unique country and regional sustainability issues" (GRI, 2013), are scheduled for publication. Since 1999, a growing number of businesses have adopted the GRI sustainability reporting requirements and have begun publishing sustainability reports: from 11 in 1999 to 1031 in 2008. There are 425 organizations implementing GRI's G3 principles for reporting, as indicated by

the 2009 GRI reports list on the GRI website (GRI, 2013). Ceres provides a concise summary of the widespread acceptance of the GRI sustainability reporting requirements (Adams, 2004:731; Isaksson & Steimle, 2009:168). Over 1300 corporations adopt GRI criteria as the *de facto* international standard for reporting on environmental, social, and economic performance (Ceres, 2009:195).

3.8.2 The sustainability accounting standards board

In 2011, the United States established the Sustainability Accounting Standards Board (SASB) with the aim of "helping businesses and investors develop a common language about the financial impacts of sustainability" (Sustainability Accounting Standards Board, 2021). It took SASB several years to release its final set of standards, which was accomplished in November 2018. Notably tailored for investors, this set of sustainability guidelines stands out due to its strong focus on financial materiality and its explicit consideration of industry-specific differences. SASB has developed a comprehensive collection of industry-specific standards that address the environmental, social, and governance (ESG) issues most relevant to the financial performance of 77 different types of businesses (Sustainability Accounting Standards Board, 2021). Numerous companies, including major players like Adidas and Apple, have embraced SASB standards, and a significant portion of these adopters operate outside of the United States (Sustainability Accounting Standards Board, 2021). While the Global Reporting Initiative (GRI) seeks to educate a wide range of stakeholders, SASB's primary target is investors, making the two sets of standards complementary in their approach. These standards also hold the potential to facilitate the implementation of principle-based frameworks such as those developed by the Task Force on Climate-related Financial Disclosures (TCFD) and the International Integrated Reporting Council (IIRC).

3.8.3 Carbon disclosure project

Concern about climate change has increased the popularity of carbon reporting, which builds on the trend towards more comprehensive reporting on social and environmental issues. The Carbon Disclosure Project (CDP) is one initiative that has inspired communities and businesses all over the world to track and report on their carbon footprint, climate change risks, and water management plans (Matsumura, Prakash & Vera-Muoz, 2014:695). The CDP, formerly known as the Carbon Disclosure Project, is a nonprofit organization that operates across various countries, including the United Kingdom, Japan, India, China, Germany, and the United States of America. The organization's mission revolves around mitigating greenhouse gas emissions, preserving water resources, and conserving forests. It achieves this by urging businesses and municipalities to openly disclose their environmental footprint and impact. It seeks to mainstream environmental reporting and risk management by encouraging transparency, understanding, and action for a more sustainable economic future (Kim & Lyon, 2011:1682). Only 35 investors signed CDP's request for climate information in 2002, and only 245 companies responded (Matisoff, Noonan & O'Brien, 2013:285). More than 9,600 corporations revealed their climate change activities in 2020, using CDP, an increase of 14% from the previous year, and 70% from the time the Paris Agreement was signed (Kumar, Mittal & Firoz, 2020:111). Over 800 institutional investors, with roughly US\$100 trillion in assets, back the collecting of self-reported data from the corporations (Kumar & Firoz, 2019:47). As a matter of fact, CDP accounts for almost 20% of all worldwide greenhouse gas emissions (Harmes, 2011:98). With this data, investors, corporations, and regulators can assess the potential impact of their actions on climate change, deforestation, and water security, and take corrective measures as needed (Kolk, Levy & Pinkse, 2008:719; Reid & Toffel, 2009:1157).

CDP has collected information on environmental initiatives from more than 9,600 corporations throughout the world (Kumar, Mittal & Firoz, 2020:111). The insights provided by CDP are essential for creating incentives and

overseeing worldwide advancements toward achieving a zero-carbon footprint, ensuring water security, and preventing deforestation (Saka & Oshika, 2014:22). CDP employs three distinct corporate questionnaires that pertain to climate change, water security, and forests. Companies have the opportunity to submit relevant information through these questionnaires. This aids businesses in communicating their environmental policies, goals, and plans to shareholders, clients, and other interested parties (Gasbarro, Rizzi & Frey, 2016:54). Through CDP, both investors and consumers can request access to a company's environmental data, which is then used to inform choices and motivate change.

CDP projected that in 2021, approximately 590 investors holding assets exceeding US\$110 trillion and more than 150 major purchasers with a procurement spend surpassing US\$4 trillion would request numerous enterprises to disclose their environmental data (Reiff & Kvilhaug, 2021). However, numerous businesses encounter challenges in delivering the high-quality ESG (environmental, social, and governance) data that investors and stakeholders anticipate, largely due to the proliferation of reporting platforms, standards, and regulations. This lack of standardized reporting results in disparities where organizations in the same industry may report varying data points. Moreover, ESG information is only partially tracked and integrated, and companies often report different data from one year to the next (Doda et al., 2016:257). CDP endorses and promotes the use of a reporting system that facilitates openness, foresight, and the management of risks. Organizations can standardize data, boost their brand's reputation, boost operational efficiency, and cut expenses, by adhering to new benchmarks and sustainability standards made possible by these reporting methods (Misani & Pogutz, 2015:150). In the end, the information required to expedite reporting and support a sustainable economy is being provided through this unified reporting system and comprehensive data.

Several advantages are linked to submitting a CDP report. To evaluate the economic value achieved from addressing risks and opportunities, as well as to identify whether sustainability policies are effective, reporting environmental data is essential (Kumar & Firoz, 2018). Stakeholders, investors, customers, and peers in the same industry can all benefit from meaningful, standardized comparisons, thanks to the competitive benchmarking process. Credible reporting and demonstrable positive outcomes enhance the appeal of companies to investors and bolster stakeholder trust. Robust, data-supported reporting and effective communication contribute to elevated employee morale, a sense of pride, and notably improved employee retention rates. Staying compliant becomes an incidental advantage stemming from addressing stakeholder demands for data and transparency, among other benefits. CDP reporting also helps companies anticipate future restrictions by ensuring they are in line with the recommendations of the Taskforce on Climate-Related Financial Disclosures (TCFD) (Kumar & Firoz, 2019:47). In order to reduce climate risk, speed up ecologically responsible governance, and facilitate a smooth transition to a low-carbon operation, the Financial Stability Board developed TCFD (Kumar, Mittal & Firoz, 2020:111). All these long-term advantages also guarantee a profit. According to GBI research, sustainable assets attracted \$288 billion from mutual fund and ETF investors around the world in 2020, up 96% from 2019 as a whole (Charumathi & Rahman, 2019:5). CDP's ultimate purpose is to assist the environment, going beyond reporting, data standardization, and legislation. Businesses can learn more about their environmental impact and take preventative measures, thanks to the climate change, water security, and forest-related questionnaires. These efforts are eliminating deforestation and reducing negative consequences on biodiversity, which in turn are helping to establish a future that is both climate-safe and water-secure.

3.8.4 The task force on climate-related financial disclosures

With the intention of creating a set of voluntary climate-related financial risk disclosures for use by companies, banks, and investors to provide

information to stakeholders (Aberdeen Standard, 2020), the Financial Stability Board (FSB) established the Task Force on Climate-Related Financial Disclosures (TCFD) in December 2015. There are 32 people on the TCFD, all of whom were handpicked by the FSB. Users and creators of disclosures from throughout the G20 countries, and a wide range of businesses, are among the group's members (Aker, 2021). Organizational governance, strategy, risk management, and measurements and targets are the four themes around which the disclosure suggestions are organized (Aldy & Gianfrate, 2019).

In 2017, the TCFD, led by Michael Bloomberg, started giving suggestions to businesses to help them disclose relevant information about the financial risks associated with climate change (Blanco, Felipe & Corbett, 2017; The Alliance, 2020). The Task Force on Climate-Related Financial Disclosures (TCFD) made its proposals to give businesses a framework and motivation for making such disclosures (BASF, 2020). These guidelines are meant to help companies become more aware of, and prepared for, the dangers and possibilities posed by climate change (BHP, 2020). As a result, market participants, including investors, lenders, insurers, and others, will have a clearer picture to use for evaluating the value and risks of businesses. The TCFD aims to foster sustainable investment in order to create an economy that can withstand the effects of climate-related risks (ERAFFP, 2020). The TCFD is an industry-led initiative to standardize climate-related disclosures. Despite the involvement of many non-governmental organizations (NGOs), the TCFD has the ability to bring about widespread, game-changing improvements in the sector.

In June 2017, the TCFD published three documents outlining follow-up efforts for the task force's recommendations (BASF, 2020). The final report was written for a broad readership and provides context for financial disclosures related to climate-based risks (European Commission, 2020). The annexure provides information on how to execute suggestions for

disclosures and is designed for businesses facing climate-related risk. Disclosure-making businesses might find helpful tools for scenario analysis in the technical supplement paper (Financial Conduct Authority. 2021). The Task Force on Climate-Related Financial Disclosures (TCFD) recommends that businesses report governance of climate-related risks and opportunities; strategies for addressing such variables; risk management considerations; and measurable targets and benchmarks.

The Task Force on Climate-Related Financial Disclosures issues an annual status report updating its 2017 recommendations to reflect new information and events. The organization claims that more than 1,500 organizations across the globe have expressed support for the TCFD in the fifteen months since the release of the 2019 and 2020 status reports (Reiff & Kvilhaug, 2021). This includes more than 1,340 companies with a combined market capitalization of \$12.6 trillion, and financial institutions responsible for assets worth \$150 trillion. The governments of Belgium; Canada; Chile; France; Japan; New Zealand; Sweden, and the United Kingdom are among the “over 110 regulators and governmental entities from around the world that support the TCFD”, as stated in the current report. However, there is a still great deal of development potential. Companies' disclosure of the possible financial impact of climate change on their operations and plans is minimal, according to the 2020 TCFD report, despite the fact that “disclosure of TCFD-aligned information increased by six percentage points, on average, between 2017 and 2019” (Reiff & Kvilhaug, 2021). Additionally, the TCFD has requested more specificity in talks of the possible financial implications of climate-based challenges for businesses. In most cases, the outcomes of scenario analyses used by businesses to gauge the robustness of their strategy in the face of climate threats are not made public.

3.8.5 Streamlined energy and carbon reporting

The Carbon Reduction Commitment (CRC) Scheme has been replaced by the Streamlined Energy and Carbon Reporting (SECR) Act of 2019

(Chabrak, 2015:280). Companies that are subject to SECR must provide information about their energy use and greenhouse gas emissions in their financial filings with Companies House (Chang et al., 2019:632). Businesses must also detail their efforts to reduce energy consumption and disclose their total emissions using an intensity meter. With SECR, more companies will be able to reap the rewards of carbon and energy reporting (Dintimala & Amril, 2018:70). Supporting businesses in their efforts to reduce costs and boost productivity, while cutting carbon emissions, the reporting framework aims to encourage the use of energy efficient solutions that have both economic and environmental benefits (Ferri, 2017:24). The recommendations of the G20 Financial Stability Board's Taskforce on Climate-related Financial Disclosures support the idea that requiring companies to make energy and carbon disclosures will help investors and financial actors make informed decisions as the world moves toward a low-carbon economy (Jansson *et al.*, 2015:69). Mandatory greenhouse gas (GHG) reporting, which was in effect for quoted firms previously, is quite comparable to these new regulations (Laskar, 2018:571). However, even for publicly traded corporations, there are shifts in the data that is made public. If a limited liability partnership or a UK-incorporated quoted company meets two or more of the following conditions, it is regarded as substantial, and must comply with the legislation (Sections 465 and 466 of the Companies Act, 2006): having three of the following criteria in place: (1) £36 million in annual revenue (gross income); (2) £18 million in total assets; and (3) 250 employees (Masud, Nurunnabi & Bae, 2018). Under the SECR, the following items must be disclosed in the director's report within the company accounts for unquoted companies, or in an energy and carbon report for limited liability partnerships (LLPs): (1) UK energy use: electricity, gas, and transportation (at a minimum); (2) associated GHG emissions; (3) at least one emissions intensity metric (e.g., tCO₂e / £turnover); (4) emissions over time; with the exception of the first mandatory reporting year, emission data.

Companies that are publicly traded, privately held, or not publicly traded, have varying reporting requirements. According to Moldavska and Welo (2019:53), publicly traded companies must continually report their global Scope 1 and 2 GHG emissions in tons of carbon dioxide equivalent (including all seven gases included under the Kyoto Protocol), and a chosen emissions intensity ratio in their director's reports. In addition, businesses must disclose their total worldwide energy consumption in the reporting year. The SECR also requires a breakdown of offshore energy consumption by country, including both the United Kingdom and other countries, as well as a comparison to the previous year's data, following the first year of reporting (Montiel & Delgado-Ceballos, 2014:113). However, material emission sources are highly encouraged to report using Scope 3 (Moratis & Cochius, 2017).

While publicly traded corporations are only required to publish their GHG emissions, intensity metrics are mandatory for large LLPs and unquoted large companies (Munoz, Zhao & Yang, 2017:64). Business trips, where the firm foots the bill for the petrol, count against the transportation energy total: whereas personal trips do not (Mousa & Hassan, 2015:41). Company cars, fleet cars, private/hire cars, and on-site vehicles (when employees are reimbursed for business travel) all count (Munshia & Duttab, 2016:245). However, this does not include the cost of fuel for the delivery of goods contracted to a third party, or for flights, trains, or taxis that the company does not run (Laskar, 2018:571). Companies, whether publicly traded or privately held, are required to report energy consumption, greenhouse gas emissions, and at least one emissions intensity index for both the current and prior fiscal years (Masud, Nurunnabi & Bae, 2018). A narrated explanation of the steps taken that year to increase the company's energy efficiency must be included in the required report. No specific approach has to be employed, but it should be rigorous, clear, and widely acknowledged (Mio, 2016). While reporting on Scope 3 emissions is mandated, companies are encouraged to go above and beyond the bare minimum and add any other material source

of energy usage or GHG emissions outside these boundaries (Moldavska & Welo, 2019:53). Adopting the reporting recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD), and using emission reduction goals based on future scientific findings, are also advocated (Moratis & Cochius, 2017).

3.9 THEORETICAL PERSPECTIVE ON CORPORATE GOVERNANCE, OWNERSHIP AND SUSTAINABILITY REPORTING

The interrelationship between the corporate governance, ownership structure and sustainability reporting of firms is perceived in the extant literature to be firmly grounded in the legitimacy and the socioemotional theories; the agency theory; the stakeholder theory; and the stewardship theory. These theories, therefore, provide an adequate theoretical foundation to support this study. But for the socio-emotional theory, all the other theories have already been discussed in the previous chapter. Therefore, this section will focus on socio-emotional theory. Before that, however, a quick summary of the other theories follows:

3.9.1 Summary of theoretical frameworks discussed in chapter 2

Agency theory lends itself to the duties that officers or directors owe to the corporation. Nonetheless, the extent of separation of ownership and control of businesses, which eventually defines the agent-principal problem, is perceived to influence the corporate governance practices of businesses. The agency-principal problem, which is defined by the level of conflict of interest between the board and managers of businesses is defined by the corporate governance practices of the firms. Thus, the level of the agency-principal problem depends on the functionality and effectiveness of the board, which is influenced board composition and committee characteristics. Optimal board composition in the form of board size, board independence, board meetings, and board diversity could limit the level of conflict between the board and managers, and consequently lead to higher level of sustainability information disclosure. Similarly, optimal committee

characteristics in the form of size, meeting, independence and diversity could also enhance their functionality and effectiveness in promoting higher level of sustainability information disclosure. Notwithstanding the significant role of corporate governance in limiting the level of principal-agency problem in order to stimulate higher level of sustainability information disclosure, the general ethical orientation of businesses is defined by their ownership structure. Whiles state and foreign ownership are more ethically oriented, institutional and managerial owners are more profit-oriented with limited emphasis on ethics. This, therefore, implies that the ownership structure of businesses plays a significant role in the corporate governance practices of firms (Homayoun & Homayoun, 2015:805). This suggests that the moderating role of ownership structure in the relationship between corporate governance and sustainability reporting can be explained by the agency theory.

Whiles the agency theory emphasizes on the dependence of the corporate governance on existing level of conflicting interest between the principal and the stewards, the stewardship theory largely emphasizes on the level of trust between the principal and the agent. Nonetheless, both the agency theory and the stewardship theory emphasizes on the role of the principal and the agent. The stewardship theory perceives the level of corporate governance practices to be determined by the level of trust between the principal and the steward; and hence, the interest of the principal defined to the steward. High level of trust between the principal and the stewards suggests that stewards are more inclined to carry out the interest of the principal. Thus, if the principal is effectively structured in terms of composition and structure, then there is likelihood of higher level of sustainability information disclosure. However, businesses ethical orientation is largely dependent on their ownership structure. State and foreign owned businesses that are more ethically oriented are more likely promote sustainability practices and disclosure relative to managerial and institutional owned businesses that are more profit-oriented. This therefore suggests that the shareholders and their

interests are highly dependent on the ownership of businesses. Thus, the stewardship theory is also well-placed to provide an insight into the moderating role of ownership structure in the relationship between corporate governance and the sustainability reporting of firms.

While the agency theory and the stewardship theory largely emphasize on the relationship between the board and managers, the stakeholder theory further emphasizes on the role of other stakeholders like government, customers and society. The effectiveness of the corporate governance is dependent on the extent of the conflict of interest among these stakeholders. While government and society generally seek to prevent any form of externalities and demand businesses to be more ethical, managers are more driven by profit. The board is therefore required to develop policies and strategies to meet and fulfil the interest of these stakeholders. Effectively composed board and committees of businesses are therefore more positioned to manage conflicting interests to ensure satisfaction among all stakeholders. This therefore implies that effective management of the interests of all stakeholders could lead to a higher level of sustainability practices and information disclosure to suffice the interests of the general public and the state. However, ethical orientation of businesses is dependent on the ownership structure of the business. State owners are more ethically oriented than managerial owners. From the discussions, it is evident that the stakeholder theory can provide a firm ground to explain the moderating role of ownership structure in the linkage between corporate governance and sustainability reporting of businesses. This, therefore, implies that the exerted control of particular stakeholders, which defines ownership structure, affects corporate governance and sustainability reporting (Kochan & Rubinstein, 2000:367).

While, the agency theory and the stewardship theory emphasize on the relationship between the board and managers, and stakeholder theory on all stakeholders of the business, the legitimacy theory largely emphasizes on

motive of the business unit to enhance its appeal to customers in its place of location. The legitimacy theory provides a framework for understanding corporate social responsibility (CSR) and its reporting based on the idea that a company should align its actions with society's accepted norms and values, and effectively communicate these actions. With the desire of a business to enhance its appeal to customers, it is more likely to adhere to the request of society through transparency. Thus, businesses seeking to enhance their legitimacy are more likely to disclose sustainability information to the general public. Numerous studies adopting the legitimacy theory perspective examine how reputation influences sustainability reporting (Branco & Rodrigues, 2008:685; Bebbington et al., 2008; Branco & Rodrigues, 2008:685; Michelon, 2011:79). Branco and Rodrigues (2008:685) posit that reputation and legitimacy are closely interconnected concepts, as the latter necessitates a well-maintained reputation. The capacity of a business unit to effectively manage its reputation is highly dependent on the role of the board. Thus, well composed board with effective characterized committees are more like to implement the necessary strategies and policies to stimulate higher level of sustainability information disclosure to enhance their appeal to society.

Like the legitimacy theory, the social contract theory emphasizes on a relationship between a business unit and society. The social contract theory emphasizes on an unwritten contract between business units and society. Adherence of the contract by the business unit enhance their legitimacy in society. Nonetheless, the capacity of the business unit to understand the societal needs, and developed the required policies and strategies to meet the needs is dependent on the corporate governance of the business unit. Thus, a well composed board with the effective and functional committees are better placed to meet the societal needs, which is often in the form of corporate social responsibility practices and sustainability disclosure. Thus, like the other discussed theories, the social contract theory also holds an important place among scholarly attempts to explain the relationship between corporate governance and sustainability reporting in sub-Saharan

Africa. Thus, the extent of business adherence to the agreed-upon implicit and explicit obligations is dependent on the defined ownership structure, which dictates the stakeholders and the various forms of interests held within the business unit.

3.9.2 Socioemotional Wealth

This component of the theoretical foundation concerns the socioemotional wealth theory (Marques *et al.*, 2014), which is gaining interest in understanding the sustainability reporting of corporations. The legitimacy theory underscores the significance of non-economic values as drivers of human behavior. This perspective stands in contrast to analyses that portray individuals as solely motivated by economic factors and suggests that those with authority and superior information may exploit others. The primary goal of the socioemotional wealth theory's development was to provide an explanation for why some enterprises operate for reasons other than profit (Prencipe, Bar-Yosef & Dekker, 2014:361). For instance, Deephouse and Jaskiewicz (2013:337) consider the concept of socioemotional wealth in the emotive value acquired by a family from a firm in the context of family companies. The definition of 'family goals', according to Deephouse and Jaskiewicz (2013:337), is "the intention to pass the business on to the descendants, the provision of employment to family members, and social status in the community". Socioemotional wealth, as stressed by Lamb and Butler (2016), are the intangible benefits that business owners derive from operating their companies. Fulfilling the need for belonging, affect, and intimacy; exercising authority and maintaining influence and control within the firm; carrying on family values through the firm; protecting family firm social capital and the family dynasty; fulfilling familial obligations; and being able to act altruistically to family members, while using firm resources, are all socioemotional goals (Lamb and Butler 2016).

3.10 DEVELOPMENT OF THE CONCEPTUAL FRAMEWORK FOR THIS STUDY

The theories of agency, stakeholders, and stewardship serve as the study's theoretical underpinnings. Conflict in the business world can be traced back to the many different interests held by different parties, including directors, managers, shareholders, customers, and others. One of the key ideas in agency theory is the 'agency problem', which is a particular kind of conflict of interest between management and shareholders. To control the potential conflicts of interest between the management team and the shareholders, good corporate governance policies are essential. Corporate governance is defined based on the composition and structure of boards of companies. Effective corporate governance is facilitated by independent board members, and a sizable and diverse board. Structure, board meetings, gender diversity on the board, and board committees (such as the audit, remuneration, CSR, and environmental committees) all contribute to what we mean when we speak about corporate governance. According to the existing literature, board composition and board structure play a crucial role in determining the extent to which a company discloses information about its sustainability efforts (Katmon *et al.*, 2017:447; Arumona *et al.*, 2019:1; Bakar *et al.*, 2019:34; Tilt *et al.*, 2021:267; Kumar *et al.*, 2022:1077; Bansal & Singh, 2022:34). The composition of boards, in the form of board size, board independence and board diversity have been reported to play significantly role in the level of sustainability disclosure. Although most studies emphasize that larger board size, higher board independence and higher board diversity enhances sustainability disclosure as discussed in the subsequent empirical section, there is some level of inconsistencies in the findings of previous studies. For instance, some studies perceive larger board size to limit the effectiveness of the role of the board, which could consequently limit information disclosure. Also, the characteristics of the established audit committee, remuneration committee, and sustainability committee are believed to also influence the role of the members of the committees, and hence, affect the level of information disclosure. Thus, the committee characteristics in the form of membership size, independence, meetings and diversity are reported

influence board committee functions and effectiveness, and hence, sustainability practices and disclosure.

Although the existing literature emphasizes on the significance of both board composition and board committee characteristics in sustainability reporting; in practice, corporations are often defined by the scope of the agency problem, which in turn depends heavily on the composition of their ownership. The ethical practices of businesses and adherence social contract is partly dependent on their ownership structure since stakeholders are differently motivated. Whiles foreign owners, and the states are more ethically inclined, managerial and institutional owners are more motivated by profit, and hence less ethically oriented. This therefore suggests that the level of concentration of these forms of ownership could also dictate the level of sustainability motives of the firms. This suggests that organizations' ownership structures determine the intensity of conflicts between various stakeholder groups and management. This highlights the possible moderating function of ownership structure in the connection between corporate governance and sustainability reporting, as shown in Figure 3.1, which also indicates the interconnections between the concepts and sub-concepts that make up these themes. Besides the discussed interrelationships between the main variables of the study, some firm specific characteristics such as industry type, market to book value, debt to asset ratio and firms size could significantly influence their motivation to disclosure information.

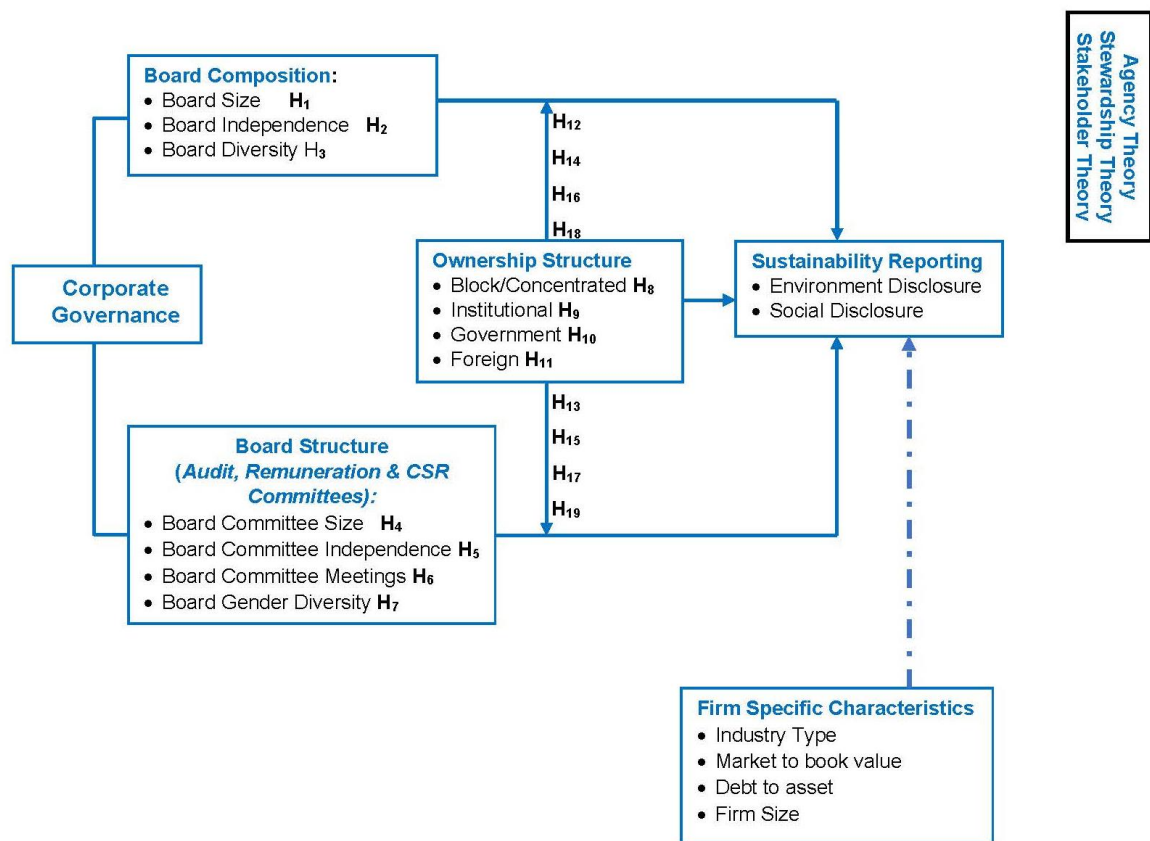


Figure 3.1: Conceptual framework of the study

3.11 EMPIRICAL LITERATURE ON THE STUDY CONCEPTS AND HYPOTHESES DEVELOPMENT

This part of the study reviewed empirical literature on the concept of corporate governance, ownership structure and sustainability. In the extant literature, the effect of the sub-concepts of corporate governance, such as board structure (audit committees; board remuneration committee; CSR; and environmental committees) and board composition (board independence; board diversity; and board size) on sustainability reporting (social and environmental disclosure) are moderated by ownership structure (concentrated; institutional; government; and foreign ownership). Based on the reviewed empirical literature on the main concepts of the study, and the theoretical foundation of the study, several hypotheses have been developed for testing in the study.

3.12 CONTROL VARIABLES AND SUSTAINABILITY REPORTING

In this section of the review, the importance of control variables in sustainability reporting, as reported in the existing literature, has been discussed. Thus, the implication of control variables such as industry type; firm size; firms' market capitalization; market-to-book; firm growth; and firm listing age to sustainability reporting are discussed.

3.12.1 Industry types of firms and sustainability reporting

The existing literature reports that the characteristics of businesses influence the level of sustainability reporting (Sinaga & Fachrurrozie, 2017; Chung, Pyo & Guiral, 2019; Nugrahani, Atiqoh & Pertiwi, 2022:45). For instance, firms operate in different industries, such as aerospace; transport; computers; telecommunication; agriculture; construction; education; pharmaceutical; and manufacturing. It is generally reported that the industry within which firms operate significantly affects the level of sustainability reporting (Welbeck *et al.*, 2017; Chung, Pyo & Guiral, 2019; Nugrahani, Atiqoh & Pertiwi, 2022:45). The study by Welbeck *et al.* (2017) which involved 17 firms listed on the Ghana Stock Exchange (GSE), from 2003 to 2012, reported industry type as a significant influential control variable of firms' environmental disclosure. The study by Chung, Pyo and Guiral (2019), involving 52 firms and 312 firm-year observations from the Korea Economic Justice Institute database, reported that firms in the manufacturing sector are more likely to undertake sustainability reporting. During the observation period of 2014 to 2016, 20 companies participated in the study by Karlina, Mulyati and Putri (2019:36), which demonstrated how industry type and leverage variables affect sustainability reporting. The study by Dhanajaya and Nadeesha (2018) further highlighted how industry type in Sri Lanka's has a positive and significant impact on sustainability reporting. The type of industry has a strong positive impact on the publication of sustainability reports, according to Nugrahani, Atiqoh, and Pertiwi (2022:45), who studied 41 businesses listed on the Indonesia Stock Exchange (IDX) from 2017 to 2020, and involving 164 company-years. According to the study findings by Sinaga and Fachrurrozie (2017), the type of industry has a considerable favorable impact

on the disclosure of sustainability reports. According to Girón *et al.* (2021:1741) an examination of 366 major African and Asian enterprises that addressed SDGs in their 2017 sustainability reports, manufacturing activity is positively correlated with the adoption of sustainability reporting.

On the other hand, there are studies that have also reported no significant relationship between industry type and sustainability reporting (Mapparessa *et al.*, 2017; Syakirli, Cheisviyanny & Halmawati, 2019:277). The study by Mapparessa *et al.* (2017), involving Indonesian firms for the period 2014 to 2015, reported that company type has no significant effect on sustainability report disclosure. The study by Syakirli, Cheisviyanny and Halmawati (2019:277) also indicated that the type of industry has no effect on sustainability reporting.

3.12.2 Firms' market capitalization and sustainability reporting

Sustainability reporting is believed to be positively influenced by the stock market's perception of a company's value, as stated by Van Linh *et al.* (2022:1). An analysis of 28 Nigerian listed firms between 2009 and 2018 by Taiwo *et al.* (2022: 542) reveals that market capitalization significantly affects sustainability reporting. The market capitalization of the company has a positive and considerable impact on sustainability reporting, as shown by a review of data from Bloomberg, Osiris, and corporate disclosures by Loh, Thomas and Wang (2017:2112). While researching 360 businesses that were listed on the Vietnamese stock market between 2015 and 2019, Van Linh *et al.* (2022: 1) found that firm worth, as measured by the stock market, positively correlated with the level of sustainability reporting. This implies a correlation between sustainability reporting and enhanced stock market value.

3.12.3 Market-to-book and sustainability reporting

A financial valuation tool called 'market-to-book value' is employed to assess how a company's current market value compares to its book value (Sutopo *et*

al. 2018:545). According to the literature that is currently available, market-to-book value, used as a gauge of a company's value, has a favourable and significant impact on sustainability reporting (Dhanajaya & Nadeesha, 2018; Wahyuningtyas, Susesti & Murtadho, 2021). According to Dhanajaya and Nadeesha's (2018) study, for instance, market value has a big impact on sustainability reporting in Sri Lanka. Wahyuningtyas, Susesti and Murtadho (2021) found a positive and significant correlation between the market-to-book value of the firms and sustainability reporting in their study of listed firms with published data on sustainability reporting from 2015 to 2020, which received green industry awards on the Indonesian stock exchange. In their study from 2008 to 2016, Sutopo *et al.* (2018:545) found a substantial beneficial impact of market-to-book value on the degree of sustainability reporting, which also included 110 sustainability reporting award (SRA) firms and 110 non-SRA firms. Loh, Thomas and Wang (2017:2112) found that market-to-book value has a positive and significant impact on sustainability reporting in their research of companies that are listed on the Singapore stock exchange. Therefore, research indicates that increasing sustainability reporting is related to increasing market-to-book value of businesses.

3.12.4 Firm growth and sustainability reporting

According to the existing literature, growing companies tend to declare their sustainability efforts more frequently (Akbas, 2014; Dhanajaya & Nadeesha, 2018; Chung, Pyo & Guiral, 2019; Maryana & Yenni, 2021:36). For instance, business expansion has a favourable impact on sustainability reporting, according to Chung, Pyo and Guiral's 2019 study, which included 52 firms and 312 firm-year observations from the Korea Economic Justice Institute database. Sales growth positively and significantly influences sustainability reporting in Sri Lanka, according to Dhanajaya and Nadeesha's (2018) study. Another study, by Akbas (2014), found that firm growth is positively and statistically significantly correlated with environmental sustainability reporting. The study looked at 62 non-financial firms listed on the Borsa Istanbul Turkey in 2011 and examined the relationship between corporate characteristics and

the extent of environmental disclosure. According to Benjamin, Okpanachi, Nyor and Muhammad's (2017:139) study, company expansion had a positive and significant impact on environmental sustainability disclosure and reporting in listed manufacturing companies in Nigeria between 2000 and 2015. According to Maryana and Yenni's (2021) study of 18 LQ 45 indices registered on the Indonesian stock market from 2014 to 2018, business growth has a favorable, significant impact on sustainability reporting.

3.12.5 Firm size and sustainability reporting

A company's size can be related to its assets (Pramesti & Intan, 2019:21). Since large businesses have more resources to enable publication, they do so more frequently (Afsari *et al.*, 2017:56). The costs of running an agency might decline if more information was made public. Large corporations are coming under increasing internal and external pressure as a result of the impact of their operations on the local community (Wulandari & Septiani, 2017:472). Large corporations have a greater impact on the public and its stakeholders because of the nature of their activities. A company's size can be determined by taking the natural logarithm of its total assets, sales, and workforce (Rudyanto & Siregar, 2018:233).

While the majority of existing literature demonstrates a positive and significant correlation between firm size and sustainability reporting (Akbas, 2014; Welbeck *et al.*, 2017; Lucia & Panggabean, 2018), a minority of studies present findings that indicate a negative or non-significant relationship between firm size and sustainability reporting (Jarboui *et al.*, 2023). Welbeck *et al.* (2017) examined environmental disclosure by 17 companies trading on the Ghana Stock Exchange (GSE) between 2003 and 2012 and found that larger firms were more forthcoming with details regarding their operations' impact on the environment. In their study of listed firms in Indonesia and Malaysia from 2013 to 2015, Lucia and Panggabean (2018) found that firm size had a positive and statistically significant effect on sustainability reporting. Dhanajaya and Nadeesha's (2018) research shows that firm size positively and significantly affects sustainability reporting in Sri Lanka. Akbas

(2014) conducted research on 62 non-financial enterprises that were listed on Bursa Istanbul Turkey in 2011 and discovered that company size is positively and statistically significantly connected to environmental sustainability reporting. This research examined how different types of company information disclosure affected the environment. According to Benjamin, Okpanachi, Nyor and Muhammad's (2017:139) research, for listed manufacturing businesses in Nigeria between the years 2000 and 2015, the size of the company had a positive and significant impact on environmental sustainability disclosure or reporting. Tihamiyu and Oyekunle (2021) analyzed annual reports, accounting, environmental reports, and corporate websites from publicly traded Nigerian companies to draw their conclusions about the relationship between business size and sustainability reporting. According to research conducted by Nugrahani, Atiqoh and Pertiwi, who analyzed 164 company-years of data from 41 businesses listed on the Indonesia Stock Exchange (IDX) between 2017 and 2020, the size of the company had no effect on the manner in which the sustainability report was presented. Studying 297 Turkish companies listed on the Bursa Istanbul, Kuzey and Uyar (2017:27) found that "firm size is a key factor in determining sustainability reporting". According to Kuzey and Uyar's research (2017:27), larger corporations are more likely to issue a sustainability report than smaller ones.

However, Mapparessa et al. (2017) discovered that, among listed firms in Indonesia for the years 2014-2015, business size had a large, negative impact on sustainability report disclosure. In their examination of the 18 companies comprising the LQ 45 index that were traded on the Indonesian stock exchange between 2014 and 2018, Maryana and Yenni (2021:36) found no evidence of a significant relationship between firm size and sustainability reporting. Comparable findings were found in the study by Karlina, Mulyati and Putri (2019:36), which analyzed the sustainability reports of 20 companies from 2014 to 2016.

3.12.6 Firm listing age and sustainability reporting

Longer periods of stock market listing are typically connected with more comprehensive sustainability reporting. Companies publicly traded for longer have a stronger history of adhering to excellent corporate governance procedures, which in turn encourages more progressive perspectives on environmental responsibility. Research has shown that the longer a company has been listed on stock exchanges, the better its sustainability reports tend to be (Welbeck *et al.*, 2017; Dhanajaya & Nadeesha, 2018). In their study of 17 firms listed on the Ghana Stock Exchange (GSE) between 2003 and 2012, Welbeck *et al.* (2017) discovered that a company's longevity was a strong predictor of environmental disclosure. Dhanajaya and Nadeesha (2018) found that the longevity of a company has a beneficial effect on its sustainability reporting in Sri Lanka. The 2019 study by Chung, Pyo, and Guiral examined 52 enterprises and 312 company-year observations. They discovered that firm age had a negative effect on sustainability reporting. Company age was found to have a favorable and significant impact on environmental sustainability disclosure or reporting, according to study done on publicly traded Nigerian manufacturing businesses between the years 2000 and 2015 (Benjamin, Okpanachi, Nyor & Muhammad, 2017:139). Maryana and Yenni's (2021:36) study of 18 LQ 45 index businesses listed on the Indonesian stock market between 2014 and 2018 found that firm age has a significant, negative effect on sustainability reporting, which runs counter to the findings of prior research.

3.13 CORPORATE GOVERNANCE AND SUSTAINABILITY REPORTING

Both empirical literature and theory provide adequate support for the significance of corporate governance in the sustainability reporting of firms. Thus, this section of the review provides adequate empirical and theoretical support for the link between corporate governance and sustainability reporting. Hypotheses have therefore been developed, based on the reviewed empirical literature on the link between the components of board structure and board composition on sustainability reporting.

3.13.1 Board size and sustainability reporting

Previous research on board governance (Chau & Gray, 2010:93; Shamil *et al.*, 2014:78; Erin *et al.*, 2016:355) suggests that board size influences sustainability reporting practices. Board size often influences the quality of sustainability disclosure, although there are conflicting assertions on the direction of the influence on sustainability reporting: Adams (2015); Dienes, Sassen and Fischer (2016:154); Katmon *et al.* (2017:447); Bansal and Singh (2022:34) all found a favourable correlation between board size and sustainability reporting. Janggu, Darus, Zain and Sawani (2014:138) conducted an agency theory-based survey of 100 publicly traded firms in Malaysia and found that board size had a positive and significant impact on sustainability disclosure. A larger board increases the possibility that Malaysian listed corporations will disclose their sustainability strategy, according to research by Janggu, Darus, Zain and Sawani (2014:138). Bansal and Singh (2022:34) looked at 92 Indian software businesses between 2011 and 2018 and found that those with larger boards had better sustainability reporting. According to the studies that found a positive correlation between board size and sustainability reporting (Adams, 2015; Dienes, Sassen & Fischer, 2016:154; Katmon *et al.*, 2017:447; Bansal & Singh, 2022:34), a larger board suggests more experts with diverse management and academic backgrounds, who may be helpful in understanding and reporting sustainability. Boards with more members can better connect with other stakeholders, such as regulators and activist groups, and can handle a wider range of issues, such as pollution, biodiversity, and media exposure. The larger the board, the less likely it is to be influenced by management or the outside (Adams, 2015; Dienes, Sassen & Fischer, 2016:154). While some argue that smaller, more focused boards are more effective, Ntim and Soobaroyen (2013:121) and Shamil *et al.* (2014:78) disagree. There are two competing schools of thought on the topic of board size and sustainability disclosure, although a growing body of evidence suggests there is no correlation between the two (Sufian & Zahan,

2013:901). Notwithstanding the general perception that larger board size promotes higher level of sustainability reporting, there are some few researchers that have also reported contradictory finding (Lipton & Lorsch, 1999; Htay, et al., 2012; Anyigbah, et al., 2023). These studies reported that businesses with smaller-size boards report more social and environmental information. These studies emphasized that larger-size boards are disadvantageous in the sense that they are associated with weaker monitoring traits and a slower rate of decision-making, which impacts their disclosure of relevant information to stakeholders. This implies that the material currently in publication discussing the impact of board size on sustainability reporting has contradictions and inconsistent results. Moreover, these research works focus on a single or a pair of sustainability pillars. However, given that most of the studies in literature suggests that a larger board is associated with improved sustainability reporting. This study therefore hypothesizes that:

H₁: Board size positively and significantly affects sustainability reporting

3.13.2 Board independence and sustainability reporting

As stated by proponents of the stakeholder theory, Deegan, Rankin and Voght (2000:101), and Adams and McNicholas (2007:382), organizations with a higher proportion of independent directors are more likely to provide high-quality information to their stakeholders. In recent research in the field of stakeholder theory related to a company's CSR initiatives, Chiu and Wang (2015:379), and Odriozola and Baraibar-Diez (2017:121) have highlighted the importance of independent directors in shaping corporate choices and business strategy. Studies in the field of corporate governance all find a positive correlation between board independence and sustainability reporting (Khan, Muttakin & Siddiqui, 2013:207; Sharif & Rashid, 2014:2501; de Villiers Niker & van Stade, 2011:1636; Ntim & Soobaroyen, 2013:121; Maroun, Coldwell & Segal, 2014:206; Chang *et al.*, 2019:632). The legitimacy theory used by Maroun, Coldwell and Segal (2014:206) in their South African study

led them to the conclusion that boards' levels of autonomy have an impact on how they report on sustainability. According to agency theory, Barako, Hancock and Izan (2006:107); Rao Tilt and Lester (2012:143); Shamil, Shaikh and Krishnan (2014:78); Al Farooque and Ahulu (2017:177) believe that independent directors help regulate managers' social behaviour and reduce agency problems. As experts in monitoring, controlling, and supervising management, as well as providing insightful suggestions and advice for management's judgments on sustainability performance, independent directors are commonly held in high esteem (de Villier, Naiker & van Stade, 2011:1636; Chang *et al.*, 2017). The other parties involved look up to them as representatives and experts because of their reputation and level of involvement (Ntim Elmagrhi & Elamer, 2013:206). Independent directors on the board help reduce the gap between the corporation and society by looking out for the interests of all parties involved (Freeman & Reed, 1983:83; Ntim, Ntim Elmagrhi & Elamer, 2013:88). Independent directors serve the interests of all stakeholders, including their own, by disclosing and providing more information about the organization's environmental and social strategies to cut agency and political costs (Desender & Epure, 2015; Ioannou & Serafeim, 2012:11; El Ghoul *et al.*, 2017:2388). Empirical research on the impact of board independence on sustainability disclosure is inconclusive due to conflicting findings from three separate studies: Amran, Lee and Devi (2014); Shamil Shaikh and Krishnan (2014); and Mahmood and Orazalin (2017). Most studies have found a positive correlation between board independence and sustainability reporting. This study hypothesizes that:

H₂: Board independence positively and significantly affects sustainability reporting

3.13.3 Board diversity and sustainability reporting

According to the literature, sustainability reporting is affected by the diversity of a company's board of directors in terms of age, gender, field of expertise,

and proportion of executive and non-executive members (Bing & Amran, 2017:90; Lopes, 2020; Islam, French & Ali, 2022:1134; Olayinka 2022:70). Bing and Amran (2017:90) found that board diversity considerably and favourably affects the disclosure of material information in sustainability reporting by reviewing studies published between 1981 and 2016. According to Olayinka (2022:70), a study of 169 quoted companies on the Nigerian Stock Exchange (NSE), using a sample of 42 firms with complete and relevant data for the period 2010 to 2019, found a positive and significant relationship between board diversity and the sustainability reporting of selected quoted companies in Nigeria. Anazonwu, Egbunike and Gunardi (2018:65) found that the number of female directors, the number of non-executive directors, and the number of total directorships were all substantially correlated with sustainability reporting among publicly traded manufacturing companies on the Nigerian Stock Exchange. Musa, Gold and Aifuwa (2020:377) found that lack of age diversity on corporate boards had a negative and significant impact on the amount of sustainability reporting made by companies listed on the Nigerian Stock Exchange between 2014 and 2018. Based on in-depth interviews with 19 board members representing 14 Australian organizations, Islam, French and Ali (2022:1134) concluded that gender diversity on boards improves CSR investment and strategic decisions, which in turn leads to better CSR performance. According to Lopes's (2020:1) research, companies are more likely to prepare and report sustainability information if they have a larger board, a higher proportion of non-executive directors, and a higher proportion of women on the board. Based on their analysis of 70 companies operating before the pandemic, and 52 companies operating during it, Juwita and Honggowati (2022:1) concluded that board diversity influenced sustainability reporting before the pandemic, but had no effect on sustainability report disclosure during the pandemic. Ismail and Latiff (2019: 31) found a positive correlation between firm sustainability practices and board diversity traits like age, board capabilities, and board reputation, by analyzing voluntary disclosure on environmental, social, and governance (ESG) scores of 38 listed companies in Malaysia

between 2010 and 2016. For instance, in reference to gender diversity, females are perceived to be more environmentally and socially responsible relative to their male counterparts, and hence, are more oriented to promote sustainability reporting. Thus, the inclusion of females on the board of businesses are perceived to stimulate higher level of sustainability reporting. On the basis of the numerous empirical studies that were analyzed, this study hypothesizes that:

H₃: Gender diversity positively influences sustainability reporting

3.13.4 Board committee characteristics and sustainability reporting

Several studies (Subramania, Kansal & Babu, 2017:543, Amran Lee & Devi, 2014:217) revealed that board committee characteristics significantly impact the depth of sustainability reporting. Common board committees that are crucial to boards' efficacy include the audit committee; the remuneration committee; the nominating committee; the environmental committee; and the financial committee (Bansal & Singh, 2022:34). Numerous studies in the body of corporate governance literature (Mangena & Pike, 2005:327; Sharma Naika & Lee, 2009:245; Haji & Anifowose, 2016:915; Ame Arumona & Erin, 2017: 293) find a strong correlation between the audit committee and sustainability. It has been found that establishing separate board committees decentralizes power and reduces agency disagreements. Management may establish various kinds of committees to improve board effectiveness and efficiency (Amran Lee & Devi, 2014:217) by recruiting resourceful members with the essential credentials (skills, competence, experience, and reputation). Subramania, Kansal, and Babu (2017:543) propose that a board committee holds a specific mandate and objective that could facilitate meaningful engagement with numerous critical stakeholders. Working closely with a designated group of individuals, such a committee may contribute to societal betterment and bolster the organization's reputation. Incorporating societal norms and values aids in establishing a closer bond between businesses and their customers (Amran, Lee & Devi, 2014:217). Creating dedicated committees tasked with overseeing the organization's financial and

non-financial opportunities and challenges, such as addressing issues like the carbon tax, serves as another avenue for reducing political costs.

Little research has been done on how CSR, environmental, audit, and nominating boards affect sustainability reporting in developing countries (Amran, Lee & Devi, 2014:217). However, the scant available evidence indicates that sustainability reporting is improved by the presence of environmental and corporate social responsibility committees (Amran, Lee & Devi, 2014:217). Research by Amran Lee and Devi (2014:217) indicates that CSR committees are positively correlated with the quality of sustainability reporting in Asia-Pacific enterprises; research by Mahmood *et al.* (2018: 207) corroborated this finding. Audit committees are essential to the quality of sustainability reporting, according to research by Al-Najjar (2011:191). Others argue that corporate social responsibility (CSR) and environmental committees push for education of the public, not just out of a sense of civic obligation, but also to boost the company's profile and garner positive public opinion (Amran Lee & Devi, 2014:217). Having accounting and finance experts on the audit committee has been shown to improve financial reporting quality by both Arumona *et al.* (2019:1) and Haji (2015). Despite widespread assertions to the contrary, Lu *et al.* (2015) concluded that the CSR committee is unrelated to sustainability reporting due to a decrease in stakeholder engagement. Some research has revealed that, in sub-Saharan Africa, the influence of board committees like the environmental and CSR committees is hampered by a lack of professionals, by corruption, and by stakeholder pressure and involvement (Bela, Cooper & Khan, 2015:44; Subramaniam, Kansal & Babu, 2017:543). Therefore, Bansal and Singh (2022:34) found in their analysis of 92 Indian software companies between 2011 and 2018 that audit committees do not significantly improve sustainability reporting. In this context, we looked at the functions of the audit, remuneration, and CSR/ESG committees of the board of directors. There has been extensive research and theory development concerning the

characteristics of these committees, including their size, autonomy, meetings, and gender diversity.

3.13.4.1 Board committee size and sustainability reporting

Anyigbah *et al.* (2023:35) state that a four-person board committee is usually sufficient for effective sustainability reporting. It is well-known that the number of board committees affects the effectiveness with which they do their duties with regards to sustainability reporting (Okere *et al.*, 2021:82; Nguyen *et al.*, 2021:2313). Agyemang (2020:22) found that larger board committees improve environmental sustainability reporting. The research by Rabi (2021) and Kumari *et al.* (2022: 1077) further underlined the beneficial influence of board committee size on sustainability disclosure. Stakeholder representation is enhanced when there are more board committees, since this allows for better task allocation, more variety, and smaller loads (Jizi *et al.*, 2013:601). As a result, larger board committee sizes are associated with increased sustainability reporting, according to the research (Kumari *et al.*, 2022:1077). Therefore, a larger board committee is more representative of stakeholders (Kumari *et al.*, 2022:1077), and more conscious of, and successful in, fulfilling its social and environmental responsibilities (Jiz, Nehme & Salama, 2016:77). Notwithstanding this general assertion, some studies have also reported contradictory findings that smaller committee sizes limits enhance easy monitoring and hastens decision making process, and consequently promote higher level of sustainability reporting decisions (Anyigbah, et al., 2023). However, with most studies reporting positive relationship between committee size and sustainability reporting, this study hypothesizes that:

H₄: Board committee size is positively and significantly associated with SR

H_{4a}: Audit committee size is positively and significantly associated with SR

H_{4b}: Remuneration committee size is positively and significantly associated with SR

H_{4c}: Sustainability committee size is positively and significantly associated with SR

3.13.4.2 Board committee independence and sustainability reporting

A higher percentage of independent directors is widely acknowledged to efficiently enhance sustainability reporting by means of a more stringent framework for monitoring operations (Liao, Zhang & Wang, 2019:257). Managers face greater pressure to report sustainability when there are more independent directors serving on board committees (Shamil *et al.*, 2014:78). Independent directors are often considered as professionals who can observe management, supervise it, and provide intelligent advice and proposals on environmental disclosure (Masud *et al.*, 2019:1; Khairiddine *et al.*, 2020:273). In the existing literature (Khan *et al.*, 2021:106; Farza, 2022:1; Almaqtari, 2022:163), independent board committees have been shown to improve sustainability reporting. Aliyu (2019:2) also found a strong positive correlation between an independent board of directors and transparent environmental reporting. There is a strong and positive link between board independence and environmental performance (Ortiz-de-Mandojana *et al.*, 2016:150), which means that a more independent board of directors can assist a company become more ecologically sustainable. Multiple studies also show that improved environmental and commercial sustainability performance is associated with a higher percentage of independent directors serving on board committees (Husted & Sousa-Filho, 2019; Kumari *et al.*, 2022:1077). Ammer, Aliedan, and Alyahya (2020) found that independent directors are more likely to implement stricter sustainability reporting requirements than other members of board committees. Therefore, when there is a greater number of independent board directors on a committee, more ESG (environmental, social, and governance) reports are filed. This study therefore hypothesizes that:

H₅: Board committee independence is positively and significantly associated with SR

H_{5a}: Audit committee independence is positively and significantly associated with SR

H_{5b}: Remuneration committee independence is positively and significantly associated with SR

H_{5c}: Sustainability committee independence is positively and significantly associated with SR

3.13.4.3 Board meetings and sustainability reporting

A board committee that meets effectively at least four times per year, on average, shows its efficacy (Perego & Kolk, 2012:173). More frequent board meetings are associated with better monitoring, which may have a positive effect on how firms report their sustainability efforts, according to proponents of the agency theory (Shamil *et al.*, 2014:78). The frequency of board meetings is a key factor in determining the extent to which managers are overseen and the level to which the board is engaged (Ioana & Mariana, 2014:5). According to Liu and Zang (2017:1075) holding regular board meetings “encourages management to consider the interests of all stakeholders rather than just shareholders” and “increases the board’s involvement in corporate activities”. The quality of corporate reporting may be influenced by the diligence with which directors perform their oversight responsibilities, which is why holding regular board meetings is so important (DeZoort *et al.*, 2002:38; Karamanou & Vafeas, 2005:453). It is generally agreed that organizations that have board meetings regularly see improvements in co-ordination, communication and cost savings (Jizi *et al.*, 2014:601). There is a dearth of empirical data on the link between board committee meetings and sustainability reporting, especially in sub-Saharan Africa, despite the purported importance of board committee meetings for overall organizational success. There has not been much research on the topic, but the little research has found a positive correlation between board committee meetings and sustainability reporting (Haji, 2013; Jizi *et al.*, 2014:601; Alshbili *et al.*, 2019:148; Bansal & Singh, 2022:34). Bansal and Singh (2022:34), who looked at 92 Indian software firms between 2011 and

2018, found that holding board meetings increases the amount of sustainability reporting. Following an assessment of the relevant sources, this study hypothesizes that:

H₆: Board committee meetings positively and significantly affect sustainability reporting

H_{6a}: Audit committee meetings positively and significantly affect sustainability reporting

H_{6b}: Remuneration committee meetings positively and significantly affect sustainability reporting

H_{6c}: Sustainability committee meetings positively and significantly affect sustainability reporting

3.13.4.4 Gender diversity and sustainability reporting

Gender diversity on boards is a notion that has gained traction in academia and business as a means of improving a boards' ability to exercise good governance. Adams and McNicholas (2007:382); Faisal *et al.* (2012); Cebrian, Grace and Humphris (2013:285); Hoang, Abeysekera and Ma (2016); Nekhili, Chakroun and Chtioui (2016); and Katmon *et al.* (2017) all found a positive correlation between gender diversity and sustainability reporting. Tilt *et al.* (2021:267) found that the presence of women on corporate boards significantly affects the credibility of sustainability reports. Decision-making benefits from having both men and women on the team, since women and men approach problems differently (Bakar *et al.*, 2019:34). In addition, women have a track record of advocating for practical solutions that enhance sustainability strategies and reporting (Al-Shaer & Zaman, 2016:210; Bakar *et al.*, 2019:34). Female board members tend to be more concerned with stakeholder interests and more sensitive to sustainability issues because of their unique leadership philosophies and a focus on employees, the environment and communities (Gray *et al.*, 2014; Al-Shaer & Zaman, 2016:210). Gender diversity on boards is associated with better sustainability reporting in the UK, according to research by Al-Shaer and Zaman (2016:210). This is consistent with findings from studies in the United

States (Harjoto, Laksmana & Lee, 2015:641; Jordan, Ibrahim & Hanefah, 2016:279), and Malaysia (Abdullah & Ismail, 2013:27) that found a positive correlation between gender diversity on boards and sustainability reporting. Based on the current literature emphasizing the significance of the legitimacy theory for female directors, this study hypothesizes that:

H₇: Board gender diversity in committees positively and significantly affects sustainability reporting

H_{7a}: Audit gender diversity in committees positively and significantly affects sustainability reporting

H_{7b}: Remuneration gender diversity in committees positively and significantly affects sustainability reporting

H_{7c}: Sustainability gender diversity in committees positively and significantly affects sustainability reporting

3.14 OWNERSHIP STRUCTURE AND SUSTAINABILITY REPORTING

The ownership structure types considered in this study include block holding or concentrated ownership; and institutional, government, director, family, managerial and foreign ownership. The importance of these types of ownership structure of firms for sustainability reporting is reviewed in this section of the study; and hypotheses are developed. The many studies that reported some linkages between the various components of corporate governance and sustainability focused on the direct relationship between the two variables without considering boundary conditional role of ownership structure. The many studies that established relationship between board size (Chau & Gray, 2010:93; Shamil *et al.*, 2014:78; Erin *et al.*, 2016:355), board independence (Khan, Muttakin & Siddiqui, 2013:207; Sharif & Rashid, 2014:2501; de Villiers Niker & van Stade, 2011:1636; Ntim & Soobaroyen, 2013:121; Maroun, Coldwell & Segal, 2014:206; Chang *et al.*, 2019:632), board diversity (Bing & Amran, 2017:90; Lopes, 2020; Islam, French & Ali, 2022:1134; Olayinka 2022:70). Bing and Amran (2017:90), board committees (Mangena & Pike, 2005:327; Sharma Naika & Lee, 2009:245; Haji & Anifowose, 2016:915; Ame Arumona & Erin, 2017: 293) and sustainability

reporting rarely emphasized on the potential moderation role of the ownership type of firms. This section therefore seeks to review literatures that provide evidence of the potential moderation role of ownership type, by examining its influence on sustainability reporting.

3.14.1 Block holder ownership and sustainability reporting

Since majority shareholders in a company with concentrated ownership typically, primarily look out for their own financial interests, agency conflict arises between controlling shareholders and smaller shareholders (Younas, Klein & Zwergel, 2017:133). Thus, the entrenchment argument links ownership concentration with lower performance outcomes. Higher levels of block or concentrated ownership could result in entrenchment problems that create incentives for controlling shareholders to expropriate wealth from other shareholders, which in turn negatively affects performance outcomes (Morck, Shleifer & Vishny, 1988:293; Shleifer & Vishny, 1997:737). By forcing themselves into positions of power in the company's upper echelons of management, or as members of the executive board, directors can exert influence over the board's choices and strategies. However, the sort of block holding will determine whether or not such interference and significant influence in decision-making would lead to a better level of practice of sustainability. As noted by Harjoto and Jo (2011:45) and Kumar *et al.* (2022:1077), institutional and government block holders are likely to advocate for a higher standard of sustainability reporting. Corporate environmental responsibility (CER), as posited by stakeholder theory, can foster a positive reputation among stakeholders, which in turn boosts business value and provides a strategic advantage in the market (Chen *et al.*, 2019:612; Dal Maso *et al.*, 2018:322; Li Patel & Ramani, 2020:715). Also, businesses are less likely to go bankrupt due to environmental responsibility difficulties, and the costs of environmental penalties are mitigated, with sustainable development (Henri, Boiral & Roy, 2016:269). According to Harjoto and Jo's (2011:45) research, there is a favorable correlation between

ownership features, like government and institutional ownership, and a higher degree of CSR reporting.

On the other hand, according to the agency theory, when stockholders have a greater stake in an organization, they are better able to exercise oversight over management (Burkart, Gromb & Panunzi, 1997:693), which in turn limits managers' discretion and curbs wasteful practices. However, disagreements over agency between major and minor shareholders are more frequent when stocks are concentrated. Large shareholders are more likely to be profit-maximization opportunists because of their influence and wealth (Shleifer & Vishny, 1997:737). By exercising their control rights, major shareholders will advance their own interests at the expense of minor shareholders. In an effort to increase their own wealth, the largest shareholders may hold the view that corporate environmental responsibility slows down the company by increasing costs and decreasing profits (Darnall & Edwards, 2006:301). Companies may reduce their investment in strategic resources if they spend heavily on environmental responsibility. As a result, companies often take short cuts to ensure they are in line with relevant CER requirements (Elmagrhi Ntim & Elamer, 2019:206; Trumpp & Guenther, 2017:49). Therefore, the level of concentration of ownership influences firms' CER choices. According to Chen, Wang, Albitar & Huang's (2021: 13) research on a subset of Chinese A-share listed companies between 2008 and 2016, this concentration of ownership has a significant negative effect on corporate environmental duties. When the economy is expanding rapidly, the concentration of ownership has a significant negative effect on CER, but this is not the case when growth is modest. On the basis of reviewed literature and the agency theory, this study hypothesizes that:

H₈: Block holding/concentrated ownership negatively affects sustainability reporting

3.14.2 Institutional ownership and sustainability reporting

Institutional shareholders are viewed as powerful stakeholders, due to the large number of voting rights associated with the shares they possess. In line with agency theory, an institutional owner of a business can fulfill the role of monitoring management and advocating for heightened transparency, especially concerning environmental concerns (Ntim et al., 2013:121, 123). The increased influence of an institutional owner holds sway over the board's environmental decision-making. This is due to the realization that disregarding an environmental perspective could jeopardize investment prospects and escalate operational expenses, as exemplified by incidents like the Exxon oil spill in 1989 and the BP spill in the Gulf of Mexico in 2010 (de Villiers et al., 2011). Increasing the company's strategic focus on environmental policies and strategies is possible through institutional investors' use of board power and the nomination of competent, resourceful directors. Institutional shareholders face increased pressure to increase the value of their holdings and, as a result, they are more interested than ever in participating in management and reducing political costs by publishing comprehensive CSR and ESRP data. Investments from the central government, financial institutions, mutual funds, and venture capital may be classified as institutional ownership. Oh *et al.* (2011) and Harjoto and Jo (2011) demonstrated a statistically significant, positive correlation between institutional ownership, volunteer CSR, and corporate risk disclosures. Many academics maintain that the owners of a company or other institution can significantly affect its policies regarding the community and the environment. Oh *et al.* (2011), similarly, found a positive, statistically significant correlation between institutional ownership and CSR disclosure among Korean businesses. Given the benefits to the company's long-term reputation and business image; protection from loss and harm; reduction of potential risk; and mitigation of pressure from outside activist groups, ESRP disclosures are taken into account by institutional shareholders (Oh *et al.*, 2011; Faller & Zu Knyphausen-Aufseß, 2016:1). They reveal more information about the surrounding environment and factor in potential risk against benefit when making investments because they believe that a lack of openness may

increase investment hazards. In addition, Majeed Aziz and Saleem (2015:530) found a positive correlation between institutional ownership and environmental reporting in Pakistani businesses; whereas Ganapathy and Kabra (2017: 24) found no correlation in Indian businesses. Therefore, this study hypothesizes that:

H₉: Institutional ownership positively affects the sustainability reporting

3.14.3 Government ownership and sustainability reporting

Past empirical investigations examining the correlation between ownership type and the extent of sustainability disclosure have revealed that government-owned companies tend to provide more extensive sustainability information. This trend is attributed to the heightened public scrutiny that government companies face (Alshbili, Elamer & Beddewela, 2019:148). From the perspective of legitimacy theory, state-owned enterprises care more about their reputation and the validity of their organization than they do about making a profit. As a result, they are more likely to provide data concerning sustainability (Said, Zainuddin & Haron, 2009:212; Khan, Muttakin & Siddique, 2013:207; Dissanayake *et al.*, 2016: 169; Aggarwal and Singh 2019: 1033). Previous empirical research from a wide range of disciplines (Eng and Mak 2003:325; Muttakin and Subramaniam 2015: 138; Jain and Winner 2016:253; Figueira et al. 2018:616) also lends credence to the idea that government ownership is correlated with sustainability reporting. Dam and Scholtens (2012:233) found that government ownership was associated with a decline in sustainability efforts. Using the empirical findings and theoretical underpinnings from prior research, this study hypothesizes that:

H₁₀: Government ownership positively influences sustainability reporting

3.14.4 Foreign ownership and sustainability reporting

In accordance with agency theory, the agency conflict that arises between managers and foreign shareholders, who possess a significant ownership stake but diverge in terms of knowledge and values, can be alleviated through the adoption of enhanced sustainability reporting practices (Jensen & Meckling, 1976:305; Harjoto & Jo, 2011:45; Oh et al., 2011; Khan et al., 2013:207). More information sharing is required because, according to the resource dependency hypothesis, multinational shareholders from different cultures with different experiences are vital when selecting board members (Oh et al., 2011; Khan et al., 2013:207). In many influential shareholder groupings, foreign investors play a pivotal role. They keep tabs on corporations and maintain relationships with regional and international groups fighting for environmental justice. The extent to which a society accepts a set of norms and values is also influenced by the legal and ethical standards of that society (Faller & Zu Knyphausen-Aufseß, 2016:1). The management of domestic companies will be persuaded to comply with social and environmental laws and to disclose more sustainability data by foreign investors who are concerned about these issues (Gamerschlag Moller & Verbeeten, 2011:233; Delgado-Márquez et al., 2016:1). Past research has identified a significant and positive connection between foreign ownership and disclosure practices (Haniffa & Cooke, 2005:391; Jeon Lee & Moffett, 2011:344; Oh et al., 2011; Khan, Muttakin & Siddiqui, 2013:207). Furthermore, Khan (2010:82) and Khan, Muttakin, and Siddiqui (2013:207) discovered a favorable correlation between foreign ownership and Corporate Social Responsibility (CSR) disclosure among listed firms in Bangladesh, indicating that foreign owners tend to exhibit more assertive CSR disclosure practices. These findings are in agreement with the results established by Ganapathy and Kabra (2017:24) in India. Prior investigations have demonstrated that foreign investors wield influence over domestic enterprises, compelling them to establish and uphold robust and transparent corporate governance standards and to disclose sustainability-related information (Oh et al., 2011; Khan, Muttakin & Siddiqui, 2013:207; Sharif & Rashid, 2014:2501; Katmon et al., 2019:447). According to previous studies

(Haniffa & Cooke, 2005:391; Harjoto & Jo, 2011:45; Oh *et al.* 2011), foreign investors put pressure on management to support socially conscious projects and publish all necessary sustainability data in an effort to reduce the likelihood of failure or to increase profits. Based on what has already been written, this study hypothesizes that:

H₁₁: Foreign ownership positively and significantly affects sustainability reporting

3.15 CORPORATE GOVERNANCE, OWNERSHIP STRUCTURE AND SUSTAINABILITY REPORTING

Academics continue to disagree on whether or not ownership structure is a significant factor in the relationship between corporate governance, and the extent to which businesses report on their progress towards sustainability. To highlight the potential moderating influence of ownership structure in the relationship between corporate governance and sustainability reporting, this section of the study reviews and discusses empirical studies in the literature. Several hypotheses have been established to expand on the reviewed literature on the connections between corporate, ownership structure, and sustainability reporting. It is evident from the many reviewed studies that the various types of ownership structure, including blockholding (Harjoto & Jo, 2011:45; Kumar *et al.*, 2022:1077), institutional ownership (Majeed Aziz and Saleem, 2015:530; Ganapathy & Kabra, 2017: 24), government ownership (Said, Zainuddin & Haron, 2009:212; Khan, Muttakin & Siddique, 2013:207; Dissanayake *et al.*, 2016: 169; Aggarwal & Singh, 2019: 1033), and foreign ownership (Haniffa & Cooke, 2005:391; Jeon Lee & Moffett, 2011:344; Oh *et al.*, 2011; Khan, Muttakin & Siddiqui, 2013:207) significantly influences sustainability reporting. Government, institutional and foreign ownerships are perceived to stimulate higher level of sustainability reporting relative to managerial ownership. In the context of sub-Saharan Africa, the information of sustainability disclosure is seemingly more of interest to foreign institutions than state-ownership and institutions. It is therefore evident that different institution has different levels of interest in sustainability reporting, which

implies that the level of influence corporate governance on sustainability reporting could be affected the ownership type of businesses. Nonetheless, the ownership structure as boundary condition has been accorded limited attention by researchers seeking to establish any form of relationship between corporate governance and sustainability reporting. This section therefore reviews empirical literatures to emphasize on the potential moderation role of ownership structure in the relationship between corporate governance and sustainability reporting.

3.15.1 Board composition, ownership concentration and sustainability reporting

Agency theory suggests that, when there is a small number of owners, businesses may have more severe agency conflicts. There may be fewer agency conflicts between shareholders and management in closely held companies, especially those owned by families. Conflicts between the majority and minority shareholders are more likely to arise in such businesses, and dominant shareholders may try to increase their wealth at the expense of minority shareholders. Furthermore, entrenchment theory correlates high levels of concentrated ownership with sub-par performance. Higher degrees of concentrated ownership could lead to an entrenchment problem that generates incentives for controlling shareholders to expropriate money from other shareholders, which in turn negatively affects performance outcomes (Morck *et al.*, 1988:293; Shleifer & Vishny; 1997:293). By asserting themselves in the top management or as executive board members, controlling shareholders can affect board decision-making, corporate strategies, and ultimately sustainability reporting. This is supported by the fact that studies examining the correlation between corporate concentration and sustainability reporting have yielded contradictory findings. The impact of concentrated or block holding ownership on sustainability reporting has been found to be favourable in some research (Chen *et al.*, 2019:612; Dal Maso *et al.*, 2018:322; Li Patel & Ramani, 2020:715). In companies with concentrated ownership, such as those controlled by a family or a small group of

individuals, there may be a stronger alignment of interests between the owners and the long-term sustainability of the company due to the lower agency costs between the principal and managers and between type of investors. This alignment can lead to a greater emphasis on sustainability reporting as the owners may prioritize long-term value creation over short-term profits. Also, concentrated ownership structures often allow for a longer-term perspective on business performance and sustainability issues. Owners who plan to retain control of the company for an extended period may be more inclined to invest in sustainability initiatives and disclose their efforts through reporting to maintain their reputation and attractiveness to investors. In this sense, concentrated owners could view sustainability reporting as a means of adding value and offering the firm some degree of competitive edge in the industry, which can convert into higher profit (Dal Maso *et al.*, 2018:322). The opposite can therefore be said of less concentrated ownership with wide various of stakeholders that could make decision making difficult due to varying forms of interests that increases agency problems and costs, and eventually limit sustainability reporting. There are therefore some studies that reported negative correlation between concentrated or block holding ownership and sustainability reporting (Trumpp & Guenther, 2017:49; Elmagrhi Ntim & Elamer, 2019:206; Chen, Wang, Albitar & Huang, 2021:13) concluded that businesses saw sustainability compliance as an added burden that reduced profitability. Furthermore, the existing governance research highlights the importance of board composition on sustainability reporting (Erin Afeisume & Owodunni, 2016; Odriozola & Baraibar-Diez, 2017; Bansal & Singh, 2022: 34). These findings provide credence to the idea that concentrated or block holding ownership may play a moderating role in the association between sustainability reporting and board composition. This study therefore hypothesizes that:

H₁₂: Concentrated ownership moderates the effect of board composition on sustainability

H_{12a}: Concentrated ownership moderates the linkage between board size and sustainability reporting

H_{12b}: Concentrated ownership moderates the linkage between board independence and sustainability reporting

H_{12c}: Concentrated ownership moderates the linkage between board gender diversity and sustainability reporting

3.15.2 Board structure, ownership concentration and sustainability reporting

According to the existing corporate governance literature, the composition of a company's board of directors has a major impact on the accuracy and transparency of the company's sustainability reports (Belal, Cooper & Khan, 2015:44; Subramaniam, Kansal & Babu, 2017:543; Bansal & Singh, 2022:34). Al-Najjar (2011) and Arumona *et al.* (2019) report that the presence of an audit committee, remuneration committee, and CSR and environmental committee leads to an increased quality of sustainability reporting. When it comes to promoting sustainability reporting, however, businesses with a concentrated ownership structure are seen as falling short (Younas, Klein & Zwergel, 2017:113; Chen *et al.*, 2019:13; Dal Maso *et al.*, 2018:322; Li, Patel & Ramani, 2020:715). Elmagrhi, Ntim and Elamer (2019:206), and Trumpp and Guenther (2017:49) cite studies that show how a small number of owners can negatively impact a company's sustainability reporting. Because of this, Chen, Wang, Albitar and Huang (2021:131) argue that ownership concentration acts as a moderator between board structure and sustainability reporting. The positive effect of board structure in the form of a sustainability committee on sustainability reporting, for example, is mitigated by the level of ownership concentration, according to an empirical study conducted by Ong and Djajadikerta (2017) in the Australian resources industry. However, the majority of research into the impact of ownership concentration as a moderator between board structure and sustainability reporting has been on European companies. Therefore, the purpose of this research is to investigate whether or not the level of concentration of ownership plays a moderating function in the region of sub-Saharan Africa. This study therefore hypothesizes that:

H₁₃: Concentrated ownership moderates the effect of board structure on sustainability

H_{13a}: Concentrated ownership moderates the linkage between audit committee characteristics and sustainability reporting

H_{13b}: Concentrated ownership moderates the linkage between remuneration committee characteristics and sustainability reporting

H_{13c}: Concentrated ownership moderates the linkage between sustainability committee characteristics and sustainability reporting

3.15.3 Board composition, institutional ownership and sustainability reporting

From the existing data, it is evident that the composition of the board has a notable impact on sustainability reporting (Adams, 2013:384; Dienes, Sassen & Fischer, 2016:154; Katmon et al., 2019:447; Bansal & Singh, 2022:34). Independent board members, larger boards, and boards with diverse membership all exert a significant influence on sustainability reporting, as supported by the current body of literature (Dienes, Sassen & Fischer, 2016:154; Katmon et al., 2019:447). To what extent board composition affects sustainability reporting, however, is said to depend on the structure of individual business's boards (Chau & Gray, 2010:93; Shamil *et al.*, 2014:78; Erin *et al.*, 2016:1). Habbash (2015:460) used regression and content analysis on a sample of 267 annual reports from Saudi Arabia, spanning 2007 to 2011, and found that the significant and favorable effect of role duality on sustainability reporting was moderated by institutional ownership structure. According to Matta's (2017:106) analysis of the annual reports and standalone sustainability reports of 313 non-financial companies listed on the Bombay Stock Exchange in India, the positive impact of board composition on environmental sustainability reporting is moderated by institutional ownership structure. In a study of 88 listed organizations' sustainability reports from three south Asian countries (Bangladesh, India, and Pakistan), from 2009 to 2016, from the Global Reporting Initiative (GRI) database,

Masud, Nurunnabi and Bae (2018:1) found that institutional ownership structure acts as a moderator for the positive impact of board composition, in terms of independence, size, and diversity, on sustainability reporting. Research conducted by Haider and Nishitani (2022) encompassing 500 companies listed on the Tokyo Stock Exchange has revealed that distinct stockholder groups and independent board directors can serve as incentives for management to produce reliable sustainability reports. This study's findings suggest that institutional ownership, board independence, and sustainability assurance collectively contribute to upholding managerial accountability toward external stakeholders. Based on the reviewed studies, this study hypothesizes that:

H₁₄: Institutional ownership moderates the effect of board composition on sustainability

H_{14a}: Institutional ownership moderates the linkage between board size and sustainability reporting

H_{14b}: Institutional ownership moderates the linkage between board independence and sustainability reporting

H_{14c}: Institutional ownership moderates the linkage between gender diversity and sustainability reporting

3.15.4 Board structure, institutional ownership and sustainability reporting

Current research suggests that board structure promotes increased sustainability reporting (Haji & Anifowose, 2016:915; Ame *et al.*, 2017:1; Arumona *et al.*, 2019:1). The literature on this topic is extensive (Haji, 2013; Jizi *et al.*, 2014:601; Alshbili, Elamer & Beddewela, 2019:148; Bansal & Singh, 2022:34). Some parts of the board structure, such as the audit committee, pay committee, and CSR and environmental committee, are seen to promote more thorough sustainability reporting. In addition to the stated influence of board structure on sustainability reporting, institutional ownership structure is also said to favourably stimulate a greater level of sustainability (Oh *et al.*, 2011; Faller & Zu Knyphausen-Aufseß, 2016:1). Institutions

usually have a high threshold for social and environmental issues that can damage their reputation, making them more motivated to demand adherence to social, environmental, and economic sustainability norms. More recently, a large body of research (de Villiers, Niker & van Stade, 2011:1636; Ntim & Soobaroyen, 2013:121) has shown a positive correlation between institutional ownership and sustainability reporting. The studies examined in the available literature (Oh et al., 2011; Faller & Zu Knyphausen-Aufseß, 2016:1) provide sufficient evidence to illustrate the moderating effect of institutional ownership on the relationship between board structure and sustainability reporting. This emphasis on the potential moderating role of institutional ownership finds support in certain studies within the existing literature. For instance, Matta's research (2017:106), which analyzed the annual reports and standalone sustainability reports of 313 non-financial companies listed on the Bombay Stock Exchange in India, suggests that the positive influence of board structure on environmental sustainability reporting is influenced by the composition of institutional ownership. According to Habbash (2015:460), the positive and significant influence of audit committee performance on sustainability reporting was moderated by the institutional ownership structure. This was determined by using regression and content analysis on a sample of 267 Saudi Arabian annual reports spanning the years 2007 to 2011. In a study of three south Asian countries (Bangladesh, India, and Pakistan), and 88 listed organizations' sustainability reports from 2009 to 2016 from the Global Reporting Initiative (GRI) database, Masud, Nurunnabi and Bae (2018:1) discovered that the institutional ownership structure moderates the positive effect of board structure in the form of board committees on sustainability reporting. Using the CMIE database for the years 2015-2019, Kumar *et al.* (2022) reported that the institutional ownership structure plays a significant role in the effect of frequency of board meetings on the extent of sustainability information disclosure by companies. These 53 companies were selected from the NIFTY100 Index at NSE because of their sensitivity to environmental issues. Sub-Saharan Africa receives a disproportionately limited amount of attention, despite studies

showing that institutional ownership moderates the connection between board structure and sustainability reporting. Therefore, the purpose of this study is to investigate the connection between board structure and sustainability reporting in sub-Saharan Africa and how it is impacted by institutional ownership. This study therefore hypothesises that:

H₁₅: Institutional ownership moderates the effect of board structure on sustainability

H_{15a}: Institutional ownership moderates the linkage between audit committee characteristics and sustainability reporting

H_{15b}: Institutional ownership moderates the linkage between remuneration committee characteristics and sustainability reporting

H_{15c}: Institutional ownership moderates the linkage between sustainability committee characteristic and sustainability reporting

3.15.5 Board composition, foreign ownership and sustainability reporting

Several authors have found that the composition of boards significantly affects how businesses report on their sustainability efforts (Adams, 2013:384; Dienes, Sassen & Fischer, 2016:154; Katmon *et al.*, 2017:447; Bansal & Singh, 2022:34). Sustainability reporting is significantly affected by board independence, board size, and board diversity, according to the corporate governance literature (Katmon *et al.*, 2019:447; Bansal and Singh 2022:34). The extent to which board composition affects sustainability reporting will be determined by the board's structure. For instance, in the current governance literature, foreign ownership is considered to promote a higher level of voluntary sustainability reporting (Adams, 2013:384; Dienes, Sassen & Fischer, 2016:154). The strong requirement of conforming to international regulatory norms sometimes motivates foreign owners to encourage sustainable measures and reporting. Masud, Nurunnabi and Bae (2018:1) found that the Global Reporting Initiative (GRI) database study of three south Asian nations (Bangladesh, India, and Pakistan), and 88 listed organizations' sustainability reports from the years 2009 to 2016, revealed

that the foreign ownership structure moderates the positive effect of board composition in terms of independence, size, and diversity on sustainability reporting. This study therefore hypothesizes that:

H₁₆: Foreign ownership moderates the effect of board composition on sustainability

H_{16a}: Foreign ownership moderates the linkage between board size and sustainability reporting

H_{16b}: Foreign ownership moderates the linkage between board independence and sustainability reporting

H_{16c}: Foreign ownership moderates the linkage between gender diversity and sustainability reporting

3.15.6 Board structure, foreign ownership and sustainability reporting

Based on the current literature, a company's board architecture can influence the degree of reporting on sustainability (Haji & Anifowose, 2016:915; Ame *et al.*, 2017). Board structure, including board committees, board salary, audit committee size, and audit committee independence, are said to have a significant impact on sustainability reporting (Subramaniam, Kansal & Babu, 2017:543). However, the effect of the board structure on sustainability reporting is determined by the nature of the business's ownership. The present governance research discusses the role of foreign ownership in encouraging more voluntary sustainability reporting (Amran Lee & Devi, 2014:217). The strong requirement to conform to international regulatory norms sometimes motivates foreign owners to encourage sustainable measures and reporting. Using data from the Global Reporting Initiative (GRI) database, Masud, Nurunnabi and Bae (2018) found that a foreign ownership structure moderates the beneficial effect of board structure, in the form of board committees, on sustainability reporting across 88 listed organizations in three SA nations (Bangladesh, India, and Pakistan) between 2009 and 2016. Therefore, this study makes the assumption that:

H₁₇: Foreign ownership moderates the effect of board structure on sustainability

H_{17a}: Foreign ownership moderates the linkage between audit committee characteristics and sustainability reporting

H_{17b}: Foreign ownership moderates the linkage between remuneration committee characteristics and sustainability reporting

H_{17c}: Foreign ownership moderates the linkage between sustainability committee characteristics and sustainability reporting

3.15.7 Board composition, government ownership and sustainability reporting

Companies' sustainability reports are said to be highly influenced by the make-up of their boards (Adams, 2013:384; Dienes, Sassen & Fischer 2016:154; Katmon *et al.*, 2017:447; Bansal & Singh, 2022:34). Sustainability reporting is significantly affected by board independence, board size, and board diversity, according to the corporate governance literature (Katmon *et al.*, 2019:447; Bansal & Singh, 2022:34). However, the extent to which board composition affects sustainability reporting is determined on the ownership structure. According to the existing literature, for example, government ownership structures promote more extensive sustainability reporting (Muttakin & Subramaniam, 2015:138; Jain & Winner, 2016; Figueira *et al.*, 2018:616). This is due to the fact that many governments have a vested interest in maintaining a positive image among their foreign partners and are thus politically compelled to comply with international norms and rules. According to Sucahyati, Harymawan and Nasih (2022:281), enterprises with political ties reported more CSR projects because they wished to associate themselves with the state, legacy-related tools, and social motivation. Habbash (2015:460) used regression and content analysis on a sample of 267 annual reports from Saudi Arabia, spanning 2007 to 2011, and found that the significant and favourable effect of role duality on sustainability reporting was moderated by government ownership structure. Based on an analysis of the annual reports and standalone sustainability reports of 313

non-financial companies listed on India's Bombay Stock Exchange, Matta (2017:106) concluded that the positive impact of board composition on environmental sustainability reporting is constrained by government ownership structure. The study therefore hypothesizes that:

H₁₈: Government ownership moderates the effect of board composition on sustainability

H_{18a}: Government ownership moderates the linkage between board size and sustainability reporting

H_{18b}: Government ownership moderates the linkage between board independence and sustainability reporting

H_{18c}: Government ownership moderates the linkage between board gender diversity and sustainability reporting

3.15.8 Board structure, government ownership and sustainability reporting

It has been suggested that a company's board composition affects the frequency with which it reports on its sustainability efforts (Dienes, Sassen & Fischer, 2016:154; Katmon *et al.*, 2019:447; Bansal & Singh, 2022:34). Reports by de Villiers, Niker and van Stade (2011:1636); Oh *et al.* (2011) and Chang *et al.* (2017) indicate that sustainability reporting is greatly impacted by board structure, including board committees, board compensation, audit committee size, and audit committee independence. However, the effect of the board structure on sustainability reporting is determined by the nature of the business's ownership. A government ownership structure is reported in the existing literature to stimulate a higher level of sustainability reporting (Jain & Winner, 2016; Figueira *et al.*, 2018:616; Alshbili, Elamer & Beddewela, 2019:148). This is because governments are often politically motivated to comply with international standards and regulations in order to preserve their political reputation among their international partners. Based on an analysis of 267 annual reports from Saudi Arabia between 2007 and 2011, Habbash (2015:460) concluded that the government ownership

structure moderated the significant and beneficial influence of audit committee effectiveness on sustainability reporting. According to research conducted by Matta (2017:106), who used the annual reports and standalone sustainability reports of 313 non-financial companies listed on the Bombay Stock Exchange in India, the positive impact of board structure on environmental sustainability reporting is moderated by government ownership structure. The study therefore hypothesizes that:

H₁₉: Government ownership moderates the effect of board structure on sustainability

H_{19a}: Government ownership moderates the linkage between audit committee characteristics and sustainability reporting

H_{19b}: Government ownership moderates the linkage between remuneration committee characteristics and sustainability reporting

H_{19c}: Government ownership moderates the linkage between sustainability committee characteristics and sustainability reporting

3.16 SUMMARY AND CONCLUSION

This chapter primarily focused on conducting a thorough review of the existing literature on sustainability reporting within firms. In today's global context, international organizations mandate firms to disclose sustainable information, which can encompass financial and non-financial aspects. The United Nations' Global Sustainable Development Report (GSDR) places emphasis on multiple facets of reporting, including environmental reporting, corporate social responsibility, triple bottom line reporting, connected reporting, and integrated reporting of sustainable information (Reiff & Kvilhaug, 2021).

Firms are driven by both private and public motivations to engage in sustainability reporting. In the private sector, external reasons for disclosing sustainability information are closely tied to effective stakeholder communication, transparent risk and performance disclosure, and building trust with stakeholders (Gokten, Ozerhan & Gokten, 2020:99). For private

firms, this also translates to mitigating reputational risk and gaining positive publicity. In contrast, the public sector emphasizes moral and ethical justifications, given its role in safeguarding the common good (Braam & Peeters, 2018:164). Accountability and good governance are central to the public sector, and sustainability reporting can effectively contribute to these objectives (Ukko, Nasiri, Saunila & Rantala, 2019:236).

Sustainability reporting by firms, both in the public and private sectors, is influenced by their corporate governance practices (Adams, 2013:384; Dienes, Sassen & Fischer, 2016:154; Katmon et al., 2017:447; Bansal & Singh, 2022:34). However, the impact of corporate governance on sustainability reporting is perceived to be contingent upon the ownership structure of firms. This perception is supported by empirical findings in the existing literature, which indicate a significant relationship between ownership structure and sustainability reporting (Younas, Klein & Zwergel, 2017:113; Chen et al., 2019:13; Dal Maso et al., 2018:322; Li, Patel & Ramani, 2020:715; Chen, Wang, Albitar & Huang, 2021:13; Kumar et al., 2022:1077).

In essence, this chapter serves as a comprehensive exploration of sustainability reporting in firms, highlighting the importance of encompassing both financial and non-financial sustainable information. Global organizations, exemplified by the UN, stress the role of various reporting dimensions. Firms are motivated to disclose sustainable information for multifaceted reasons, ranging from effective stakeholder engagement to transparent risk management. In the public sector, ethical considerations are paramount. Moreover, corporate governance profoundly influences sustainability reporting, with ownership structure serving as a moderator. The empirical and theoretical evidence offered in this chapter supports the notion that ownership structure moderates the intricate connection between corporate governance practices and the extent of sustainability reporting within firms. This comprehensive analysis contributes valuable insights into the intricate interplay of corporate governance, ownership structure, and

sustainability reporting within organizational contexts. The subsequent chapter discusses the methodology used to test the model.

This section further links the theories of agency, stakeholders, and stewardship to the conceptual framework of the study. Conflict in the business world can be traced back to the many different interests held by different parties, including directors, managers, shareholders, customers, and others. One of the key ideas in agency theory is the 'agency problem', which is a particular kind of conflict of interest between management and shareholders. The extent of the agency problem is dependent on the board composition and committee characteristics. Efficient board composition and committee characteristics that limits the existing conflict of interest could eventually enhance sustainability information disclosure. Although the existing literature emphasizes on the significance of both board composition and board committee characteristics in sustainability reporting; in practice, corporations are often defined by the scope of the agency problem, which in turn depends heavily on the composition of their ownership. The ethical practices of businesses and adherence social contract is partly dependent on their ownership structure since stakeholders are differently motivated. This therefore suggests that the level of concentration of these forms of ownership could also dictate the level of sustainability motives of the firms. This suggests that organizations' ownership structures determine the intensity of conflicts between various stakeholder groups and management.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 INTRODUCTION

In the previous chapter, a comprehensive review of the literature related to sustainability reporting was presented. The themes covered included the fundamental concept of sustainability; sustainability reporting; the historical evolution of sustainability reporting shaped by various periods and events; and a thorough examination of firm characteristics in the context of sustainability reporting. Furthermore, the review delved into the nature of sustainability information and the development of global sustainability reporting practices. Motivations for sustainability information reporting in both the public and private sectors, the benefits of sustainability reporting for businesses, and various sustainability reporting frameworks were thoroughly explored and discussed.

This chapter explains and justifies the data collection and analysis methods employed in the study and establishes the credibility and rigour of the research process, ultimately enhancing the trustworthiness and applicability of the study's outcomes. The chapter discusses the methodology of the study. It describes the research design, the study population and sample, the main variables of the study (dependent, independent, moderating and control variables); the specific models utilised in testing developed hypotheses; the source of the data; the data analysis and estimation techniques; and the justification for the use of the generalized moment method of estimation.

4.2 RESEARCH PHILOSOPHY

A research philosophy is a set of assumptions and principles concerning the growth of knowledge (Creswell & Creswell, 2017). It has to do with what we know, what we assume, and the type of research being conducted. Knowledge construction is the topic at hand (Watson, 2011:202). A study methodology can be defined as “a researcher's way of thinking” (Elkjaer & Simpson, 2011:55) that leads to the discovery of novel and credible information about the study object. In other words, it is the foundation upon which the research is built, including the selection of a research strategy, the framing of a problem, the gathering, processing, and the analysis of data. This matter needs to be addressed because researchers may have diverse assumptions about the nature of truth and knowledge and philosophy allows us to comprehend their beliefs. Ontology, epistemology, and axiology are the sub-fields of research philosophy. These philosophical viewpoints assist the researcher in choosing which method to use, and why (Saunders, Lewis, & Thornhill, 2009). The philosophical subfields of ontology and epistemology provide additional insight into study design.

4.2.1 Ontology

Assumptions concerning the nature of reality are called “ontology” (Zukauskas & Vveinhhardt, 2018) It may seem abstract and unrelated to research, yet the way one views and investigates a particular research item is heavily influenced by one’s ontological assumptions. Among academics, there are two main schools of ontology: objectivism and subjectivism (Schwandt 1994). Positivism was the original school of thought among academics who believe that there is a single objective truth (Cooper & Schindler, 2013). This school of thought maintains that undiscovered universal truths exist. Constructivists and interpretivists, on the other hand, disagree with the first group's beliefs and assumptions and hold that there is no reality outside of what people make it to be (Mertens, 2014). Those who adopt this methodology and hold the view that, in the context of research, there is no objective reality but that reality is built by each individual have been dubbed ‘constructivists’ (Fazloodullar, 2012:41). Consequently, the

concept of reality is relative. Phenomenology is the title given to the research approach of such scholars.

Researchers' methodological preferences are determined by their underlying ontological assumptions. The positivist philosopher typically employs a quantitative approach to inquiry. Conversely, constructivists conduct research using qualitative approaches and methods. Creswell (2018) outlines a third school of thought among philosophers who, unlike the positivists and constructivists, combine the best of both schools. Within this ideological perspective, pragmatists assert that the validity of an ideology or concept is determined by its effectiveness; the importance of a proposition is unveiled through the tangible outcomes of its adoption; and impractical notions are to be cast aside. Consequently, pragmatists advocate for a research approach that incorporates various angles. This study aligns itself with the positivist philosophy, which posits the existence of a singular truth or reality. This alignment is rooted in the study's foundation upon established theories, which furnish a robust platform for investigating the interrelation between corporate governance, ownership structure, and sustainability reporting within listed firms.

In application to the current study, the researcher perceives the relationship between the concepts as objective reality, since the relationship is firmly backed by several theories and empirical literature. Both the existing theories discussed and the empirical literature reviewed emphasize on significantly role of corporate governance and ownership structure in the level of sustainability disclosure. This study is therefore positively inclined, with the perception of the existence of a single objective truth that can be tested through knowledge gathering.

4.2.2 Epistemology

In contrast to the distinction between justified belief and opinion, epistemology focuses on the techniques, validity, and extent of knowledge

itself. Epistemology, a discipline of philosophy concerned with the origins of knowledge, is increasingly important in the field of business research (Gewin, 2021:315). To be more precise, epistemology explores the scope of possible knowledge, its foundations, its reliability, and its boundaries (Maynard, 1994: 10). The study of the criteria by which a researcher sorts what does and does not count as knowledge is another way to define epistemology (Hallebone & Priest, 2009). What is true and how it may be known is the central concern of epistemology. It is an alternative to ontology as a style of thinking. Epistemology is a subfield of philosophy that seeks to answer issues like, “What is knowledge?” “Do we have knowledge?” and “How can we gain knowledge?” (Maynard 1994:10).

Many fields of study contribute to the body of knowledge used in philosophical inquiry. There are four types of knowledge that can be used in business research: intuitive, authoritarian, logical, and empirical (Moon & Blackman, 2014:1167). Intuition, faith, beliefs, etc., are the foundations of one's intuitive understanding. Intuition can help researchers select a topic within a research area to investigate (Moon *et al.*, 2019:294). Human feelings are more important in intuitive knowledge, than reliance on facts. Books, academic papers, experts, governing bodies, and other authoritative sources are the backbone of authoritarian knowledge (Moon *et al.*, 2021). The literature is thus the primary source of authority knowledge. Knowledge that has been generated through the use of logic and reason is said to be ‘logical’ (Moon *et al.*, 2019:294). Analyzing primary data allows researchers to develop rational knowledge, and the results of the research can be interpreted as empirical knowledge. Facts that have been independently verified are the backbone of empirical knowledge (Moon *et al.*, 2021).

Essentialism; historical perspective; perennialism; progressivism; empiricism; idealism; rationalism; and constructivism are all schools of thought in epistemology (Parikh & Renero, 2017:93). When it comes to epistemology, business studies are shaped by two key foundational debates: empiricism

and rationalism. Rationalists rely on empirical discoveries gathered through legitimate and trustworthy measures; whereas empiricists embrace personal experiences connected with observation, feelings, and senses as a valid source of knowledge. This business study is founded on rationalism since it uses more trustworthy data sources with a mathematical, statistical, and scientific foundation.

With this study ontologically based on objective reality, and the existence of single truth that is less influenced by the researchers' value, knowledge was gathered through empirical approach. The utilized empirical approach aided in gathering data to test developed hypotheses based on the several existing theories to establish relationship between corporate governance, ownership structure and sustainability disclosure.

4.3 RESEARCH DESIGN

In this study, which is investigating the moderating role of ownership structure in the relationship between corporate governance and sustainability of firms in selected countries in sub-Saharan Africa, the appropriate data set for the quantitative study is defined as 'panel', as it has both cross-sectional and time-series components. Thus, this study utilized an explanatory design that employed a panel data research design, which blends the attributes of longitudinal and cross-sectional research approaches. In addition to the deductive approach, this study is mainly perceived as explanatory in design, as the emphasis is largely on establishing causal relationship between major study constructs like corporate governance, ownership structure, and sustainability reporting. It has been emphasized by several research scholars that the establishment of the extent and nature of cause-and-effect relationships defines an explanatory design based on purpose (Baskerville & Pries-Heje, 2010; Zikmund, Babin, Carr & Griffin, 2012). Explanatory and correlational research designs were deemed appropriate for this study, since the primary objective was to explain the level of sustainability practice in sub-Saharan Africa through the level of corporate governance practices of listed firm firms. More so, this study is underpinned on testing developed

hypotheses from existing theories, and hence, deemed more positivism in philosophical paradigm and hence, correlational and explanatory in design.

The causal relationships between corporate governance, ownership structure and sustainability reporting were examined using the data of firms listed on exchanges of six selected countries in SSA for the period 2012 to 2021. For this period of 10 years, the study employs secondary panel data collected from 2,021 firm-year observations of all the 667 listed non-financial companies on the exchanges of six selected countries in sub-Saharan Africa.

The benefits of time-series and cross-sectional-based analysis are exploited through the panel data set of this study. Hence, each of these data design methods compensates for the weaknesses of the other in this study, as emphasized in the book by Gujarati (2003). The three main forms of relationship examined in the study between constructs like corporate governance, ownership structure, and sustainability reporting are linear, quadratic and moderating. In the following section of the methodology discussion, the various variables – dependent, independent, and control – are discussed. In the variable definition sub-section, the specified models in the study are also discussed.

4.4 POPULATION AND SAMPLING

The study population comprises all non-financial firms listed on the Stock Exchanges of sub-Saharan African countries as of 31 December 2021. With the focus of the study on six countries with the required data, the accessible population consisted of all non-financial firms listed on the Stock Exchanges of Nigeria; Ghana; Kenya; South Africa; Zimbabwe and Mauritius as of 31 December 2021. By the end of the financial year, 2021, there were 667 listed non-financial firms in the six selected countries. The distribution of the total number of listed non-financial firms in the countries in the study period was: 120 in Nigeria; 26 in Ghana; 45 in Kenya; 311 in South Africa; 47 in

Zimbabwe; and 119 in Mauritius. The study included and analysed data from non-financial firms with the necessary information on the dependent variables, sustainability reporting – environmental and social – for the period 1 January 2012 to 31 December 2021. Thus, the actual firm-year observations sampled for the study were 2,021. Generally, listed financial companies were excluded since they are less environmentally sensitive, compared to non-financial companies.

4.5 DATA SOURCE

The study employs secondary data derived from the annual financial statements of the selected firms operating within the sub-Saharan African region. The inherent nature of the data gives rise to a panel data framework, characterized by both time-series and cross-sectional dimensions. The final dataset used in this study was sourced from MachameRatios, a registered entity based in Nigeria, specializing in aggregating data from the audited annual accounting reports of companies across African nations. The regression dataset provided by MachameRatios encompasses active companies listed in Africa, with accessible annual reports from countries such as Nigeria, Ghana, Kenya, South Africa, Botswana, Zimbabwe, Zambia, Tanzania, Uganda, and Malawi. The company has also extended its coverage to include firms listed on stock markets in Ivory Coast, Rwanda, Mozambique, Namibia, Tunisia, Seychelles, Algeria, Egypt, Morocco, Sudan, Cape Verde, and eSwatini. Nonetheless, this study primarily relies on data originating from six prominent countries in sub-Saharan Africa, namely Nigeria, Ghana, Kenya, South Africa, Zimbabwe, and Mauritius. The selection of these countries was driven by the availability of the requisite data for the study's analytical purposes. Sub-Saharan Africa was also the focus of this study since the sub-region seems to have been accorded limited scholarly attention in terms of the role of corporate governance in sustainability reporting. However, this subject matter is highly important, since the sub-Saharan African region rarely report or disclosure information on sustainability, and the few businesses that report sustainability information focus on social sustainability with limited emphasis on environmental

sustainability. It is therefore imperative to comprehend how the corporate governance practices of businesses in the region contribute to their level of sustainability reporting.

4.6 VARIABLES IN THE STUDY

This section of the study examines the various variables utilized in the study. The dependent variable defined in this study was sustainability reporting, defined by both environmental and social sustainability reporting by firms. The main independent variable considered in this study was corporate governance. The sub-components of corporate governance defined in the study were board composition and board structure. The main sub-variables of board composition considered in this study included board independence, board size and board diversity. Board structure in this study is defined by sub-variables such as the audit committee; the board remuneration committee; the CSR and environmental committee; board meetings and board gender diversity. The interactive variable that could have the potential of creating different levels of effect of corporate governance on sustainability reporting was the ownership structure. The various types of ownership structure considered in the study were institutional; government; foreign; managerial; and family ownership structures. Additionally, several firm characteristic variables considered in the models of the study were industry type; firm listing age; firm size; market- to- book value and leverage.

4.6.1 Dependent variables

The dependent variable under scrutiny in this study is sustainability reporting. As per the definition provided by the Global Reporting Initiative (GRI), a firm's sustainability report is a document that outlines the economic, environmental, and social impacts stemming from its routine operations (GRI, 2017). This concept of sustainability reporting encapsulates both financial performance and non-financial information. Notably, this research predominantly concentrates on non-financial performance indicators, specifically focusing on environmental and social factors. These aspects are often overlooked by

firms in favor of financial performance, which holds greater interest for shareholders. Nonetheless, it remains crucial to comprehend how businesses in sub-Saharan Africa address and manage the external costs arising from their activities on society. To derive sustainability-related variables, this study draws on data sourced from a platform that aligns with the most recent guidelines for sustainability report disclosure, namely the fourth version of the guidelines (GRI-G4), issued in 2013. Within the three categories of economics, environment, and social aspects, a total of 91 individual items are designated for disclosure: nine items pertain to economic aspects, 34 to environmental aspects, and 48 to social aspects (Caesaria & Basuki, 2017). The disclosure of these variables within the sustainability report is evaluated using the sustainability report disclosure index (SRDI). The calculation of this index involves employing a binary indicator that receives a value of 1 if an item is disclosed and 0 if it is not. By summing the scores across all items in the sustainability report, an aggregate score for the company is obtained. The comprehensive definitions and measurement methods for the dependent variable and its sub-dependent variables are provided in Table 4.1.

4.6.2 Independent variables

The main independent variable of the study is corporate governance. Corporate governance was measured by considering both board composition and board structure. The main components of corporate governance, based on the composition of the board considered in this study, are board independence, board diversity and board size. Board size was measured as the total number of directors on a board (Isik & Ince, 2016). An optimal board size should include both the executive and non-executive directors (Desai, 2022). Board diversity was measured by considering gender diversity and age diversity; and the diversity in directors' industry experience and in education. This study utilized data from a source that measured board diversity using the indices of Blau and Shannon (Bin Khidmat, Ayub Khan & Ullah, 2020). Further board diversity was also measured using individual

variables for board independence. Board independence was measured in this study as the proportion of independent directors to total directors in a firm during a given year. The other component of corporate governance, board structure, was measured in this study using audit committees; board remuneration committees; CSR and environmental committees; board meetings and board gender diversity. Like many other studies in the extant literature, this study measured the structural components by dummifying the variables (Pang, Binti & Hamid, 2017; Tan, Cheng & Hassan, 2018; Maharani, Hartoyo & Sasongko, 2019). The definition and measurement of the independent variables are shown in Table 4.1.

4.6.3 Moderating variable

The existing literature suggests that different types of ownership can have different effects on a company's sustainability reporting. This study, therefore, measured ownership structure as a moderator. The ownership structure of businesses has been classified on the basis of capital contributions or shareholding (Jensen & Meckling, 1976:305). In addition to this categorisation, ownership can also be grouped as concentrated/block holder or dispersed ownership (Said, 2013). In order to take into consideration both categorization methods, this study measured ownership structure with five main dimensions including block/concentrated; institutional; government; foreign; managerial; and family ownership types. A block holder is the owner of a large block of a company's shares and/or bonds (AlHares, Ntim & King, 2018). A block holder refers to an individual or organization which owns a substantial amount of a company's shares, bonds or debt. Based on the definition of the SEC, this study categorized firms with a shareholding of 5% or more as having block holding. The empirical literature typically defines a block holder as a 5% shareholder, since this level triggers disclosure requirements in the U.S. (Chen, 2019). The combined percentage of a company's shares held by domestic institutional investors, families, states/governments, and management was a standard metric.

4.6.4 Control variables

The isolation of the individual effects corporate governance variables have on sustainability reporting requires that firm-specific variables identified in theory and in previous studies as affecting sustainability reporting are introduced in the specific models (Chung *et al.*, 2010; Prommin *et al.*, 2014). Firm size (log of total asset); firm age (firm listing age); market capitalization in US dollars; and market-to-book value were all introduced as control variables in this study, as in other, similar empirical studies (Pang, Binti & Hamid, 2017; Tan, Cheng & Hassan, 2018; Maharani, Hartoyo & Sasongko, 2019). Firm size (FSZ) is defined as the natural logarithm of the total assets of each firm in each financial year. Firm age (FIRA) is defined as the total number of years a firm is listed on the stock market. Considering that the firms in the database are listed, firm age is calculated as the natural logarithm of the total number of years listed on the stock market. In addition to the accounting- and marketing-specific variables, this study also considered country and industrial type as control variables. It is reported in the extant literature that the industry affiliation of a firm influences its level of sustainability reporting (Desai, 2022). If the company was involved in environmentally risky activities, the industrial type dummy variable would have a value of 1; and if not, it would have a value of 0. As businesses became more similar to one another, industrial type (IND) was developed to categorize them according to their growth, risk, and accounting practices (Alford, 1992). Businesses in sub-Saharan Africa are required by law to report how they are impacting the environment and society, but compliance varies by country. 'Dumming' countries allowed for these differences to be taken into account in the study. Table 4.1 provides definitions and values for the control variables.

4.7 Model specification and data analysis

Multiple time periods across a multiplicity of firms provided the data for this study. Thus, the study relies on paneled data for the analysis. Panel data defines multiples of cross-sectional data taken at several times. This form of

data permits the modelling of variations in the behaviour of different firms over time. The associations between the main independent variables (corporate governance), the assumed moderators (ownership structure), and the dependent variable (sustainability reporting), were evaluated using a series of multiple regression models. The general regression model defining the relationship between the independent variable, the assumed moderator, control variables (firm specific characteristics) and the dependent is shown in Equation 1.

$$Y_{it} = \beta_0 + \sum_{n=1}^k \beta X_{it} + \sum_{n=1}^k \beta \lambda_{it} + \sum_{n=1}^k \beta v_{it} + \sum_{n=1}^k \beta \psi_{it} + \mu_{it} \quad \text{Equation (1)}$$

Where;

Y_{it}	=	sustainability Reporting of the i th firm at time period t
β_0	=	Intercept
X_{it}	=	firm-specific characteristics of i th firm at time period t
λ_{it}	=	board composition characteristics of i th firm at time period t
v_{it}	=	board structure characteristics of i th firm at time period t
ψ_{it}	=	ownership structure of i th firm at time period t
B	=	coefficient of the independent variables
μ_{it}	=	error or the disturbance term
$n = 1, \dots, k$	=	from the first variable to the k th variable
$i = 1, 2, 3, \dots, N$	=	firm index or the cross-sectional dimension
$t = 1, 2, 3, \dots, N$	=	times series dimension

This study employs the generalised moment method (GMM) estimation technique. This method is designed for data with a ‘small’ T , and large N panels (Phillips, 2019), a condition met by the data of this study as there are few time periods ($T = 10$) and many individuals ($N = 667$ listed non-financial firms). There is also the necessity for a dynamic dependent variable. This implies that the dependent variable depends on its own past realisations. In addition, the independent variables are not strictly exogeneous as they correlate with past and possible current errors. The current data also has enormous individual specific variables that need to be dealt with to resolve

the fixed individual effect problems. There are also problems of heteroscedasticity and autocorrelation within individuals, but not across them, in panel data; and hence the need to employ a more robust method like the GMM estimation method. GMM is built on two sets of equations (It uses these two set of equations, unlike the FD that uses only the transformed equation). These sets of equations are the original equation (2) and the transformed equation (3 or 4 or 5 or 6). The GMM system assumes that this original equation is a random walk model and y is persistent. GMM system uses both the first differencing transformed equation and the level equation.

$$\begin{aligned}
SUR_{it} = & \delta SUR_{it-1} + \beta_1 CTRY_{it} + \beta_2 IND_{it} + \beta_3 FIRA_{it} + \beta_4 FSZ_{it} + \beta_5 PTBV_{it} + \beta_6 LEV_{it} + \beta_7 BODI_{it} \\
& + \beta_8 BOGD_{it} + \beta_9 BODS_{it} + \beta_{10} AUDI_{it} + \beta_{11} BRC_{it} + \beta_{12} CSR_{it} + \beta_{13} BMET_{it} + \beta_{14} BGDV_{it} \\
& + \beta_{15} BLOW_{it} + \beta_{16} INSO_{it} + \beta_{17} GOVO_{it} + \beta_{18} FR_{it} + \beta_{19} MN_{it} + \beta_{20} FM_{it} + \sigma_i + \mu_{it}
\end{aligned} \tag{2}$$

The deduced original equation (2), or level, is assumed to be a random walk model with a persistent dependent variable. Thus, equation (2) is expressed in level form with first differences (FDs) as instruments. In this equation, the introduced lag dependent (SUR_{it-1}) is assumed to correlate with the fixed effect (σ_i), or the unobserved specific individual characteristics and the error term (μ_i). The idiosyncratic disturbances (those apart from the fixed effects) may have individual-specific patterns of heteroskedasticity and serial correlation (Roodman, 2009). The problem of correlation between the fixed effect and the lag dependent is resolved through the first differencing GMM. However, considering the evaluation of the moderation concept, Equations 3, 4, 5 and 6 were developed in line with the first differentiation.

$$\begin{aligned}
SUR_{it} - SUR_{it-1} = & SUR_{it-1} - SUR_{it-2} + CTRY_{it} - CTRY_{it-1} + IND_{it} - IND_{it-1} + LEV_{it} - LEV_{it-1} + \\
& PTBV_{it} - PTBV_{it-1} + FSIZ_{it} - FSIZ_{it-1} + FIRA_{it} - FIRA_{it-1} + \mu_{it} - \mu_{it-1}
\end{aligned} \tag{3}$$

$$\begin{aligned}
SLIQ_{it} - SLIQ_{it-1} = & SUR_{it-1} - SUR_{it-2} + CTRY_{it} - CTRY_{it-1} + IND_{it} - IND_{it-1} + LEV_{it} - LEV_{it-1} + \\
PTBV_{it} - PTBV_{it-1} + & FSIZ_{it} - FSIZ_{it-1} + FIRA_{it} - FIRA_{it-1} + BODI_{it} - BODI_{it-1} + BOGD_{it} - BOGD_{it-1} \\
+ BODS_{it} - BODS_{it-1} + & AUDI_{it} - AUDI_{it-1} + BRC_{it} - BRC_{it-1} + CSR_{it} - CSR_{it-1} + BMET_{it} - BMET_{it-1} \\
+ BGDV_{it} - BGDV_{it-1} + & \mu_{it} - \mu_{it-1}
\end{aligned} \tag{4}$$

$$\begin{aligned}
SUR_{it} - SUR_{it-1} = & SUR_{it-1} - SUR_{it-2} + CTRY_{it} - CTRY_{it-1} + IND_{it} - IND_{it-1} + LEV_{it} - LEV_{it-1} + \\
PTBV_{it} - PTBV_{it-1} + & FSIZ_{it} - FSIZ_{it-1} + FIRA_{it} - FIRA_{it-1} + BODI_{it} - BODI_{it-1} + BOGD_{it} - BOGD_{it-1} \\
+ BODS_{it} - BODS_{it-1} + & AUDI_{it} - AUDI_{it-1} + BRC_{it} - BRC_{it-1} + CSR_{it} - CSR_{it-1} + BMET_{it} - BMET_{it-1} \\
+ BGDV_{it} - BGDV_{it-1} + & BLOW_{it} - BLOW_{it-1} + INSO_{it} - INSO_{it-1} + GOVO_{it} - GOVO_{it-1} \\
+ MN_{it} - MN_{it-1} + FM_{it} - & FM_{it-1} + \mu_{it} - \mu_{it-1}
\end{aligned} \tag{5}$$

$$\begin{aligned}
SUR_{it} - SUR_{it-1} = & SUR_{it-1} - SUR_{it-2} + CTRY_{it} - CTRY_{it-1} + IND_{it} - IND_{it-1} + LEV_{it} - LEV_{it-1} + \\
PTBV_{it} - PTBV_{it-1} + & FSIZ_{it} - FSIZ_{it-1} + FIRA_{it} - FIRA_{it-1} + BODI_{it} - BODI_{it-1} + BOGD_{it} - BOGD_{it-1} \\
+ BODS_{it} - BODS_{it-1} + & AUDI_{it} - AUDI_{it-1} + BRC_{it} - BRC_{it-1} + CSR_{it} - CSR_{it-1} + BMET_{it} - BMET_{it-1} \\
+ BGDV_{it} - BGDV_{it-1} + & BLOW_{it} - BLOW_{it-1} + INSO_{it} - INSO_{it-1} + GOVO_{it} - GOVO_{it-1} \\
+ MN_{it} - MN_{it-1} + FM_{it} - & FM_{it-1} + Interactions(independent * Moderators) + \mu_{it} - \mu_{it-1}
\end{aligned} \tag{6}$$

The first differencing is achieved by transforming the original equation (2). Thus, equations (3, 4, 5 and 6) are expressed in FD form with levels as instruments. Hence, system GMM uses more instruments than FD GMM. The differencing eliminates the fixed effect (σ_i) as this component does not vary over time. In estimating, unlike the FD GMM, the system GMM uses both the differenced and the level equations. In the presence of heteroscedasticity and serial autocorrelation, the Windmeijer standard error option is used (Windmeijer, 2005). It is also essential to note that the usual system GMM estimator uses both the differenced and levels data. However, system GMM estimates can instead employ the levels data and forward orthogonal deviations if, and only if, the instruments condition in the theorem is satisfied (Phillips, 2019). Notwithstanding the elimination of the fixed effect, the lagged dependent variable is still potentially endogenous, because the lag dependent variable ($SLIQ_{it-1}$) in the equation (3 and 4) in the term $SLIQ_{it-1} = SLIQ_{it-1} - SLIQ_{it-2}$ could correlate with the μ_{it} in the term $\Delta \mu_{it} = \mu_{it} - \mu_{it-1}$. Similarly, the predetermined variables in the equation (3 and 4) that are not necessarily exogenous become potentially endogenous as they could also be

related to μ_{it-1} . Thus, longer lags of the regressors remain orthogonal to the error and available as instruments, in contrast to the mean-deviation transformation. There is, therefore, weakness in the first differencing as it has the ability to magnify gaps and missing data in unbalanced datasets, and this triggers the second transformation, known as the forward orthogonal deviations or orthogonal deviations (Arellano & Bover, 1995).

As an alternative to subtracting the preceding observation from the concurrent observations, it subtracts the means of all future available observations of a variable. This second transformation reduces data loss as it is computable for all observations, except the last for each individual, irrespective of the number of gaps. In forward orthogonal transformation, lagged observations do not enter the equation, but are rather validated as instruments. To ensure efficient and consistent estimators of system GMM, a series of GMM tests in dynamic data models is performed. Among these tests are the Arellano-Bond test of serial correlation; the Sargan/Hansen test of over-identification restrictions; and the differences in Sargan/Hansen test of exogeneity (Roodman, 2009). The first serial correlation tests the appropriateness of the data for the dynamic model, whereas the second serial correlation tests the goodness of the lag dependent as an instrument. The Sargan/Hansen test of over-identification restrictions tests the validity of the instruments. The Sargan/Hansen test of exogeneity also tests whether the subsets of instruments used in the levels equations are exogeneous. These steps are necessary to justify the adoption of the system GMM and the 2SLS estimation methods. Data was actually analysed using STATA 14.1. In addition to the inferential analysis, the study also utilised descriptive statistical tools in the form of measurements of central tendencies to describe the main variables of the study. The names, definitions and measurement of the variables utilised in the specified model 2 are shown in Table 4.1.

Table 4.1: Notation, name and measurement of study variables

Notation	Name of Variables	Measurement/Definition of variables
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Dependent Variables		
SUR	Sustainability Reporting	The average score of sustainability index
ESR	Environmental	The number of indicators reported by each company in the environmental indicator category according to GRI guidelines
SSR	Social	The number of indicators reported by each company in the social indicator category according to GRI guidelines
Independent Variables		
BCP	Board Composition	
BODI	Board Independence	The proportion of the number of independent directors represented on the board to the total number of directors on the board (in %)
BOGD	Board Gender Diversity	The proportion of females and males on the boards of companies
BODS	Board Size	The number of directors on the board
BST	Board Structure	
AUDI	Audit Committee	If a firm has audit committee (1), otherwise (0)
BRC	Board Remuneration Committee	If a firm has board remuneration committee (1), otherwise (0)
CSR	CSR and Env. Committee	This is measured as dummy variable; if a firm has CSR or an environmental committee (1), otherwise (0)
BMET	Board Meetings	Number of meetings held in a year by the board
BGDV	Board Gender Diversity	The total number of women on the board in financial year
Moderator		
BLOW	Block Ownership	The fraction of shares held by outside owners who have more than 5% of a firm's stock, plus the fraction of shares held by managers, company pension funds and other insiders
INSO	Institutional	The total percentage of shares held by a company's domestic institutional investors
GOVO	Government	The total percentage of majority shares held by government or the state.
FR	Foreign	The total percentage of shares held by a company's foreign institutional investors
Firm Specific x'tics		
CTRY	Country	The specific country of location of firms
IND	Industry Type	A dummy variable takes (1) if a firm is working in environmentally sensitive industries, and (0) otherwise
FIRA	Firm Listing Age	Number of years firm is listed on the stock market
FSZ	Firm Size	The natural logarithm of total assets
PTBV	Market-to-Book	The natural log of (the market capitalization dollar value divided by the equity dollar value)
LEV	Leverage	The natural log (the total liability divided by total assets)

4.8 GENERALISABILITY OF RESULTS

In academic research, the concept of generalizability is employed to extend the findings and conclusions of a study conducted on a specific sample population to the broader population (Shadish, 1995:419; Delios et al., 2022). The generalizability of the results of this study was determined by comparing the data of the current study with the general sub-Saharan African level data using descriptive statistics, to see whether the results can be generalised to the sub-Saharan region.

4.9 CREDIBILITY ASSURANCE

The credibility of a research study is essential in determining whether the outcome is valid and reliable, or not (Olabode *et al.*, 2019:27). The assurance of credibility is largely defined by the quality of the sources of secondary data. In the context of this study, considerable importance is attributed to Adefioye's (2016) definition of reliability in the analysis of secondary data. This definition underscores the overarching consistency, accuracy, and comprehensiveness of measurements, focusing on the repeatability of findings derived from processed data in relation to their intended applications. In this context, reliability signifies that the data are reasonably thorough and precise, align with their intended purposes, and remain unaffected by inappropriate alterations. Thus, this study relied on data from a reputable institution called MachameRatios. It is an institution that makes available regression data sets from Africa-listed companies for writing accounting, finance and econometrics empirical seminar papers; journal papers; policy brief papers; books and theses. The data used from this source was up-to-date, as it covered the period of 2012 to 2021. In addition to the broad time span, the data collected for the period was also complete. This study also relied on the generalized method of moments (GMM), which is generally deemed more robust than fixed and random effect models in analyzing endogenous variables in panel datasets. The robust estimation

method of the GMM accounts for heteroscedasticity. However, there is no assurance the lagged error terms can be independent of the instruments; and, in that case, there is the need for testing for instrument validity, using tests for first- and second-order serial correlation among the differenced residuals; and the Sargan test and/or the Hansen test of over-identifying restrictions.

The study also relied on a large sample, or many observations, as there were 10 panels and 667 firms. The measured items were deemed valid as the institution relied on international and standard measurement formulas and procedures. Sustainability was measured through the sustainability report disclosure index (SRDI). The data covered a broad timeframe and a wide geographical area across six sub-Saharan African countries. It also covered a wide range of variables of interest.

4.10 ETHICAL CONSIDERATIONS OF THE STUDY

The source of the secondary data for the study provided adequate assurance of the consent of the original source of the data. All sensitive data from the original source were not utilized in the analysis for the purpose of confidentiality. Thus, the use, management and storage of the data were in line with the requirements of the original source of the data. The researcher also acknowledged the secondary and original sources of the data through appropriate referencing. The researcher also avoided any copy right issues by not presenting the reports of the originals source of the data. The pooling of data from several and multiple sources did not in any way de-anonymize the participating firms. The analysis and presentation of the results ensured and upheld anonymity of participating firms.

4.11 SUMMARY AND CONCLUSION

Philosophically, this research is grounded in the positivist philosophy, and hence, the perception that there is a single truth or reality. Also, based on the reliance of this study on factual, reliable data sources with a mathematical,

statistical and scientific base, this business research is grounded in rationalism knowledge. With the purpose of investigating the causal interrelationships between corporate governance, ownership structure and sustainability reporting, this study built on an explanatory research design. The causal links between corporate governance, ownership structure, and sustainability reporting were investigated using the data for listed firms on the stock exchanges of six selected countries in SSA for the period 2012 to 2021. For the period of 10 years, the study employs secondary panel data collected from 2,021 firm-year observations of all the 667 listed non-financial companies on the exchanges of six selected countries in sub-Saharan Africa. Data was extracted and analyzed using the generalised moment method (GMM) estimation technique. This method is designed for data with 'small' T, and large N panels, a condition met by the data in this study as there few time periods ($T = 9$) and many individuals ($N = 667$ listed non-financial firms).

In conclusion, this research contributes to our understanding of the relationships between corporate governance, ownership structure, and sustainability reporting in the context of sub-Saharan Africa. The use of a positivist philosophy, rationalist knowledge, and the GMM estimation technique, strengthens the validity and robustness of the study's conclusions, making it a valuable contribution to the academic and business communities interested in sustainable practices and corporate governance. The next chapter presents the study's results and discussed the generation thereof.

CHAPTER 5: RESULTS AND DISCUSSION

5.1 INTRODUCTION

The previous chapter discussed the methodology of the study. It defined the research philosophy; the research design; the study population and sampling; and the sources of the data. It also discussed credibility; the main variables in the study; model specification; and the data analysis utilised in testing the developed hypotheses; as well as the justification for using the generalized moment method of estimation; and the generalisability of the results.

This chapter presents and discusses the results of the study. The chapter presents the results yielded by the empirically tested hypotheses, leading to the achievement of the research objectives. The chapter presents the results in the form of both descriptive and inferential statistics. The descriptive analysis largely calculated means and standard deviations. The inferential analysis utilised was the generalized method of moment (GMM), with the Arellano-Bond dynamic panel-data estimation method. The hierarchical

regression modelling approach was employed to test the moderating concept.

It is important to reiterate that the aim of this study is to investigate the role that ownership structure of non-financial institutions listed on the sub-Saharan African (SSA) stock markets plays in the relationship between their corporate governance practices and sustainability disclosure. The main objective is to examine the effect of board composition on sustainability reporting and to determine the moderating role of ownership structure on the effect of corporate governance on sustainability reporting. The subsidiary objectives are to: 1) examine the effect of board composition on sustainability reporting; 2) explore the effect of board structure on sustainability reporting; 3) examine the effect of ownership structure on sustainability reporting; 4) Examine the moderating role of ownership structure on the relationship between board composition and sustainability reporting; 5) determine the moderating role of ownership structure on the effect of board structure on sustainability reporting; 6) examine the moderating role of ownership structure in the relationship between board composition and environmental sustainability reporting; 7) examine the moderating role of ownership structure in the relationship between board composition and environmental sustainability reporting; and 8) examine the moderating role of ownership structure in the relationship between board structure and environmental sustainability reporting. These objectives have been developed into 15 hypotheses, the results of which are the focus of this chapter.

The chapter will discuss the results of the preliminary tests conducted to ensure the credibility of the findings of the study; followed by the presentation and discussion of descriptive statistics of the study variables, including the mean differences between the variables of financial and non-financial firms. Thereafter, the inferential statistics are presented in relation to the hypotheses/research objectives of the study, followed by a summary and conclusion.

5.2 ASSURANCE OF CREDIBILITY

The study's hypotheses were examined using the generalized moment method (GMM), as this statistical technique is more appropriate for panel data. Thereafter, to validate the appropriateness of the regressed models through GMM tests in dynamic data models, which is generally deemed more robust than fixed and random effect models in analysing endogenous variables in panel datasets, a more robust two-step system GMM that is asymptotically efficient was utilised. The validity and reliability of the data was ensured through a series of GMM tests performed in dynamic data models. Among these tests are the Arellano-Bond test of serial correlation: the serial correlation involved the first serial correlation (AR(1)), which tested the appropriateness of the data for dynamic model; whereas the second serial correlation (AR(2)) tested the goodness of the lag dependent as an instrument. The Sargan/Hansen test of over-identification restrictions tested the validity of instruments, and the differences in the Sargan/Hansen test of exogeneity also tested whether the subsets of instruments used in the levels equations are exogeneous. The problems of heteroscedasticity and autocorrelation within individuals, but not across them, in panel data was also resolved. These steps were necessary to justify the adoption of the system GMM and the 2SLS estimation methods. The results of the second serial correlation (AR(2)) tests and the Sargan/Hansen test of over-identification restrictions tests are shown in Table 5.5 and Table 5.6.

5.3 DESCRIPTIVE STATISTICS

In this section of the study, descriptive statistics in the form of means and standard deviations on the various components of corporate governance, ownership structure and sustainability disclosure are presented.

5.3.1 Corporate governance

This component of the study examines the corporate governance methods employed by listed companies in sub-Saharan Africa. The audit committee

size (Acsiz); the audit committee independence (Acind); the average number of audit committee meetings, annually (Acmt); the average size of remuneration committees (Rcsiz); the number of remuneration committee meetings (Rcmt); and the remuneration committee independence (Rcind) were all discussed as corporate governance variables. The descriptive statistics for these variables, including mean values and standard deviations, are shown in Table 5.1.

table 5.1: Corporate governance characteristics

Country	Bsize	Bfgd (%)	Bind (%)	Acsz	Acind (%)	Acmt	rsize	Rcmt	Rcind (%)	csrsize	Scind (%)	Scgd (%)	Csrbmt
Ghana	8.3±2.6	15.4±15.7	76.6±14.9	3.7±1.1	90.7±14.5	3.5±.7	0.4±1.2	.4±1.1	6.9±25	0	0	0	0
Kenya	9.4±3.1	16.5±12.4	77.6±11.6	4.3±1.3	95.7±12.4	4.4±1.8	2.7±1.9	2.3±2.3	58.2±45.2	.1±.5	.6±7.2	.3±2.9	.03±.36
Mauritius	10.1±2.1	6.7±7.7	79.1±10.9	3.8±1.2	95.1±14.4	4.8±1.3	1.7±2.0	1.2±1.5	33.4±42.9	.1±.3	.5±3.9	0	.02±.2
Nigeria	9.0±2.8	13.1±12.3	69.5±13.7	5.5±.9	52.2±19.1	3.9±.9	1.8±2.0	1.2±1.6	40.3±46.5	0	0	0	0
South Africa	10.1±2.9	20.0±13.5	70.7±11.04	4.4±1.7	90.6±18.9	3.9±1.4	3.6±1.2	3.1±1.4	76.7±40.5	3.5±2.1	46.5±34.6	18.8±22.3	2.0±1.5
Zimbabwe	8.6±2.1	11.9±12.5	76.1±42.9	3.9±1.2	88.9±17.9	3.6±1.1	2.8±1.8	1.9±1.7	54.4±44.2	.3±1.0	1.8±9.1	5.8±22.8	.1±.5
Total	9.5±2.8	16.0±13.4	72.3±18.2	4.6±1.5	81.2±24.9	4.0±1.3	2.7±1.9	2.1±1.8	57.4±46.9	1.6±2.2	20.8±32.6	8.9±18.8	.9±1.3

Note: Results are means/averages plus or minus standard deviations

Source: Field Survey (2022)

Table 5.1 shows that the average board size of listed SSA businesses between 2012 and 2021 was 9.5 ± 2.8 members. The board size of 10 of Mauritian and South African listed businesses was slightly above the sub-region average. Ghana's board size of 8.3 was the smallest of the countries. Notwithstanding the enormous variations in the recommended effective board size of listed businesses, the average board size of approximately 10 members in the listed sub-Saharan African businesses is in line with SECs recommended size of between 8 and 16 members (Bansal & Singh, 2022:34), and with the Cadbury Committee's suggested ideal board size of 8 to 10 members (Cadbury Report, 1992). It can, therefore, be concluded that listed sub-Saharan African businesses have board sizes which are sufficient for effective functioning.

The mean board female gender diversity (BFGD) in SSA was 16%. South Africa's board female gender diversity of 20% was above the region's average; whereas the 15% in Ghana, 16.5% in Kenya, and 13.1% in Nigeria were below the sub-region average. The board female gender diversity of 6.7% in Mauritius was the lowest of the SSA countries studied. The mean female gender diversity on the boards of the sub-Saharan African businesses, of 16%, is an indication that there is limited representation of females on the boards of listed sub-Saharan African businesses. Thus, the female gender diversity of the boards does not meet the legislative requirement of 40%, as in many European countries like Norway; Belgium; Italy; Denmark; Greece; France; Spain; the Netherlands; Finland and Slovenia (Pasaribu, 2017:145; Garcia-Solarte *et al.*, 2018:499; Usman, Farooq *et al.*, 2019:1171).

With 79% board independence (Bind), Mauritian listed businesses have the highest board independence, compared to Nigerian listed businesses with 69.5% board independence. The percentage of board ownership of the listed SSA businesses was 11.5% between 2012 and 2021. The listed sub-Saharan African businesses have a high level of board independence, of

72%, which implies that more than half of the board members of the listed companies are independent directors. This level of independence on the boards is consistent with the recommendations of the European market of board independence standard for either half, or the majority, of independent directors (Bansal & Singh, 2022:34).

Table 5.1 shows that the average size of the audit committees (Acsize) of the listed SSA businesses was 4.6 members. Listed businesses in Nigeria have the highest audit committee size of 5.5 members; whereas Ghanaian listed businesses have the lowest audit committee size of 3.7 members. In the extant literature, the recommended effective functioning size of audit committee is four members (Agyemang, 2020:22). The recommended size of audit committees of four members was adhered to by the listed firms in Ghana, Kenya, Mauritius, South Africa and Zimbabwe. The only country with listed firms that failed to adhere to the recommended audit committee size of four members was Nigeria. It can, therefore, be inferred that the effective functioning of the audit committees of listed firms in Ghana; Kenya; Mauritius; South Africa and Zimbabwe was better than for the listed firms in Nigeria.

With a 95.1% average, the listed businesses in Mauritius have the highest audit committee independence (Acind), and Nigerian-listed businesses, with 52.2%, have the lowest audit committee independence. The audit committees were generally independent, as about 81% of the members were independent directors. This finding on the independence of the audit committees of the listed sub-Saharan African listed businesses is in line with the recommendation for more than 50% independent director representation on the audit committee (Al-Hadrami, Rafiki & Sarea, 2020:299; Saeed, Qasim Ali & Khan, 2022:108; Moats, Parker & Brown 2022).

The average annual number of meetings of the audit committees of the listed SSA businesses was four. Listed businesses in Mauritius have the highest number of audit committee meetings (Acmt) (4.8 times annually), compared

to the fewest number of meetings, of 3.5 in Ghana. The four audit committee meetings a year, as held by the listed firms in sub-Saharan Africa, is in line with the international recommendation of at least three times in a year (KPMG 2017; Deloitte, 2023).

Table 5.1 shows that the average size of the remuneration committees (Rcsize) of the listed SSA businesses was 2.7 members. Listed businesses in South Africa have the largest remuneration committee size of 3.6 members; whereas Ghanaian listed businesses have the smallest remuneration committee size of 0.4 members. The remuneration committee size of the listed sub-Saharan African businesses of approximately 3 members is in line with the recommendation of Academy to Innovate HR (AIHR), that the membership of the remuneration committees of firms should be at least three members, depending on the size of the firm (Kanapathippillai, Mihret & Johl, 2019:1063; Harymawan *et al.*, 2020:34). In the main, the countries in sub-Saharan Africa with listed businesses that adhere to the recommendation of three members in the remuneration committee were Kenya, South Africa and Zimbabwe. However, the remuneration committee membership size of listed businesses in countries like Ghana, Mauritius, and Nigeria are below the recommended three members, which could impair the effective functioning of the remuneration committee, as the committees could be left without adequate information.

With 76.7% on average, the listed businesses in South Africa have the highest remuneration committee independence (Rcind); and Nigerian listed businesses, with 6.9%, have the lowest remuneration committee independence. The sub-region's average remuneration committee independence of the listed businesses of 57% meets the recommended representation for more than 50% independent directors (Bansal & Singh, 2022:34).

The average number of meetings of the remuneration committees, per year, of the listed SSA businesses was two. Listed businesses in South Africa have the most remuneration committee meetings (Rcmt): 3.1 each year; compared to the fewest (0.4) in Ghana. The average number of business remuneration committee meetings per year, of two, is below the international recommendation of three per year (Kanapathippillai, Mihret & Johl, 2019:1063), a practice that could impair on their effectiveness.

5.3.2 Ownership structure of businesses

This section of the study describes the ownership structure of the listed businesses in sub-Saharan Africa. The ownership structure variables that were considered were block ownership (Blkown); block institutional ownership (Blkinsown); block government ownership (Blkgovown); and block foreign ownership (Blkforown). The descriptive statistics of these variables, in the form of mean values and standard deviations, are presented in Table 5.2.

Table 5.2: Ownership structure

Country	Blkown (%)	Blkinsown (%)	Blkgovown (%)	Blkforown (1,0)
Ghana	74.5±9.8	65.2±24.6	9.7±20.6	0.4±.4
Kenya	69.3±16.2	65.5±19.1	10.2±20.5	0.3±.4
Mauritius	58.7±16.7	57.7±18.1	0.7±1.9	
Nigeria	55.8±21.5	48.9±26.3	0.5±2.1	0.5±.5
South Africa	46.0±22.5	43.9±25.5	5.8±8.7	0.1±.2
Zimbabwe	71.4±14.3	71.2±14.4	5.9±13.4	0.2±.4
Total	55.1±22.6	51.67±25.7	4.6±10.7	.21±.4

Note: Results are means/averages plus or minus standard deviations

Source: Field Survey (2022)

Table 5.2 shows that Ghana and Zimbabwe, with block ownership (Blkown) percentages of 74.5 and 71.4, respectively, have listed businesses that are, comparatively, more characterised by block ownership. The countries with

listed businesses that are more institutional in ownership were Zimbabwe (71.2%); Ghana (65.2%) and Kenya (65.5%). It is, therefore, obvious that the ownership of the listed businesses of Zimbabwe, Ghana and Kenya is characteristically institutional. The extent of government and foreign ownership of the listed SSA businesses was very limited in the study period of 2012 to 2021.

Clearly, the ownership structure of the listed sub-Saharan African businesses was largely block ownership; and the largest block was owned by institutions. The countries with the highest level of institutional block ownership business structures were Zimbabwe, Kenya, and Ghana. From the minimal level of foreign ownership in sub-Saharan African businesses, it can be inferred that the institutions investing in many sub-Saharan businesses are local or indigenous in character. The growing prevalence of institutional ownership within the ownership structures of numerous businesses in sub-Saharan Africa is attributed to the efficacy of their monitoring function (Sakawa & Watanabel, 2020:10). Institutional owners are able to supervise and monitor the firms in which they have ownership. Their monitoring activities can be efficiently performed because they have financial incentives due to their stakes in these companies (Jiang & Liu, 2021:101; Moradi *et al.*, 2022:200). Furthermore, institutional shareholders are likely to possess industry-specific knowledge surpassing that of smaller shareholders, leading to cost-effective and efficient monitoring (Baghdadi *et al.*, 2018:19; Li *et al.*, 2022:911). As a result, it is claimed that institutional shareholders aid in building sustainable corporate governance procedures and in improving sustainable business performance in a stakeholder-oriented system (Sakawa & Watanabel, 2020:10).

5.3.3 Sustainability reporting

This section of the study describes the sustainability reporting practices of the listed businesses in sub-Saharan Africa. The sustainability disclosure variables that were considered are social sustainability (sdisclosure) and

environmental sustainability (envdisclos). The mean values and standard deviations of sdisclosure and envdisclos have been presented in Table 5.3.

Table 5.3: Sustainability reporting

Country	Sdisclos	envdis~s
Ghana	21.9±26.2	3.0±10.4
Kenya	26.6±18.9	18.9±21.5
Mauritius	51.3±17.5	26.0±27.7
Nigeria	30.9±15.7	6.8±16.8
South Africa	49.0±23.4	39.1±23.6
Zimbabwe	30.2±25.4	17.6±25.6
Total	39.4±23.6	24.3±26.2

Note: Results are means/averages, plus or minus standard deviations

Source: Field Survey (2022)

Table 5.3 shows that listed firms in Ghana and Nigeria do not have corporate social responsibility and environmental sustainability governance committees. Listed businesses with corporate social responsibility and environmental sustainability committees are more prevalent in South Africa. It is, therefore, obvious that social and environmental sustainability disclosure among SSA businesses was very limited. With 51.3% and 49% of social sustainability disclosure in Mauritius and South Africa, respectively, these two countries have the highest level of social sustainability disclosure practices, compared to Ghana, Kenya and Nigeria. The level of environmental sustainability disclosure practices was also comparatively higher in Mauritius and South Africa relative to Ghana and Nigeria. Generally, social sustainability disclosure (39.4%) practices among the listed SSA businesses were more common than environmental sustainability disclosure (24.3%) practices.

The percentage of all social measurement items like community; health and safety; donation and gifts; data protection and privacy; human rights; customer concerns and complaints; educational sponsorship; public health sponsorship; and others, disclosed or reported by sub-Saharan African businesses listed on the stock exchanges is about 39%. The listed businesses that reported the highest proportion of their social disclosure measured items were Mauritius and South Africa. Notwithstanding the generally low level of environmental disclosure or reporting among listed businesses in sub-Saharan African, Mauritius and South Africa have the highest percentage of environmental sustainability disclosure. The high level of sustainability reporting in these countries could be attributed to the mandatory measures instituted in these countries. For instance, the higher sustainability disclosure of South African listed firms could be attributed to the instituted mandatory reporting measures in the form of the King Reports on Corporate Governance and the B-BEE legislation in the country (Wachira & Berndt, 2019:1). Although all the sub-Saharan African countries considered in this study have some form of regulation that both explicitly and implicitly encourages the issue of sustainability disclosures, there are variations in the application of the regulations (Wachira & Mathuva, 2022:159). There is evidence of a high level of mandatory sustainability reporting demands in South Africa and Mauritius, relative to the other countries (Wachira & Mathuva, 2019).

A noteworthy sustainability disclosure practice among the sub-Saharan African listed businesses was that sustainability reporting of the firms leaned more towards social sustainability than environmental sustainability. This trend might be attributed, in part, to the prevalent sense of community engagement found in many African countries. Businesses operating in emerging markets tend to provide more extensive disclosures concerning community social investments compared to their counterparts in more developed nations (Wachira & Berndt, 2017:1). To some, environmental concerns may seem less pressing than social and economic issues, such as

the inadequate healthcare, inadequate educational systems, unemployment and poverty in emerging markets (Wachira & Berndt, 2019:1). It has also been argued that corporations' initiatives to interact with their local communities may not be motivated by the need for public accountability, but rather by managerial discretion (Hosanoo, Gungadeen & Gungah, 2021:493).

5.4. INFERENCE STATISTICS

The main inferential statistical instruments utilised in this study were Pearson's correlation and GMM. The correlation analysis was performed to provide an initial or preliminary understanding of the inter-relationships between the variables of the study, and of potential multicollinearity issues related to the variables. However, the developed hypotheses of the study were tested using the two-step GMM system results.

5.4.1 Correlation analysis

The inter-correlation between the study's numerous variables is examined in this section. Examining the correlations between the numerous independent variables, moderating variables, and the two main dependent variables was the main focus of the correlation analysis. The details of the variables are shown in Table 5.4:

Table 5.4: Specified variables

Independent Variable	Moderating Variable	Dependent Variable
Board Size (bsize)	Block Ownership (blkown)	Social Sustainability Disclosure (Sdisclosure)
Board Female Gender Diversity (bfgd)	Block Institutional Ownership (blkinsown)	Environmental Sustainability Disclosure (Envdisclos)
Board Independence (bind)	Block Government Ownership (blkgovown)	

Audit Committee Size (acsize)	Block Foreign Ownership (blkforown)	
Audit Committee Independence (acind)		
Audit Committee Meeting (acmt)		
Remuneration Committee Size (rcsize)		
Remuneration Committee Meetings (rcmt)		
Remuneration Committee Independence (rcind)		
CSR/ESG Sustainability Board Committee Size (csrsize)		
Sustainability Committee Independence (scind)		
Sustainability Committee Gender Diversity (scgd)		

Source: Field Survey (2022)

The Pearson's correlation analysis method was utilised, and the results are presented in Table 5.5

Table 5.5: Correlation between variables of the study

	Variables	Sdisclos	Envdisclos	Mbv	Dta	Bsize	Bfgd	Bind	Acszize	Acind	Acmt	Rcszize	Rcmt	Rcind	Crszize	Scind
1	Sdisclos	1.000														
2	Envdisclos	0.568*	1.000													
3	Mbv	0.128*	0.173*	1.000												
4	Dta	-0.139*	-0.114*	0.045*	1.000											
5	Bsize	0.378*	0.408*	0.134*	-0.055*	1.0000										
6	Bfgd	0.266*	0.314*	0.081*	0.019	0.216*	1.000									
7	Bind	0.064*	0.147*	-0.075*	-0.075*	0.192*	0.058*	1.000								
8	Bown	-0.106*	-0.196*	-0.127*	0.028	-0.184*	-0.128*	-0.262*								
9	Acszize	-0.002	-0.116*	0.001	0.118*	0.176*	0.050*	-0.042*	1.000							
10	Acind	0.217*	0.392*	0.073*	-0.170*	0.142*	0.169*	0.249*	-0.623*	1.000						
11	Acmt	0.163*	0.137*	-0.131*	0.038	0.210*	0.120*	0.159*	0.120*	0.046*	1.000					
12	Rcszize	0.245*	0.370*	0.108*	-0.114*	0.346*	0.222*	0.054*	0.082*	0.163*	0.070*	1.000				
13	Rcmt	0.321*	0.438*	0.122*	-0.110*	0.333*	0.288*	0.056*	-0.001	0.216*	0.142*	0.739*	1.000			
14	Rcind	0.295*	0.395*	0.118*	-0.136*	0.218*	0.241*	-0.066*	-0.073*	0.264*	-0.002	0.647*	0.692*	1.000		
15	Crszize	0.448*	0.485*	0.139*	-0.114*	0.239*	0.295*	-0.084*	-0.098*	0.291*	-0.014	0.338*	0.433*	0.482*	1.000	
16	Scind	0.424*	0.481*	0.123*	-0.084*	0.218*	0.294*	-0.063*	-0.118*	0.289*	-0.006	0.323*	0.419*	0.472*	0.908*	1.000
17	Scgd	0.365*	0.410*	0.106*	-0.053*	0.203*	0.393*	-0.011	-0.086*	0.250*	0.018	0.280*	0.366*	0.367*	0.757*	0.779*
18	Csrbmt	0.421*	0.479*	0.140*	-0.084*	0.241*	0.323*	-0.066*	-0.093*	0.276*	0.038	0.317*	0.428*	0.454*	0.906*	0.884*
19	Blkown	-0.227*	-0.201*	-0.027	-0.018	-0.124*	-0.159*	0.138*	-0.048*	-0.003	-0.012	-0.126*	-0.193*	-0.227*	-0.379*	-0.364*
20	Blkinsown	-0.132*	-0.100*	0.014	-0.037	-0.032	-0.122*	0.184*	-0.025	0.050*	0.016	-0.068*	-0.126*	-0.182*	-0.307*	-0.294*
21	blkgovown	0.287*	0.347*	0.120*	0.043*	0.329*	0.249*	0.101*	-0.063*	0.273*	0.096*	0.225*	0.324*	0.209*	0.366*	0.354*
22	Blkforown	-0.141*	-0.238*	0.044*	0.121*	-0.075*	-0.069*	-0.047*	0.213*	-0.312*	0.009	-0.138*	-0.196*	-0.201*	-0.299*	-0.294*

17	Scgd	1.000														
18	Csrbmt	0.750*	1.000													
19	Blkown	-0.308*	-0.349*	1.000												
20	Blkinsown	-0.247*	-0.283*	0.924*	1.000											
21	Blkgovown	0.322*	0.358*	-0.225*	-0.141*	1.000										
22	Blkforown	-0.215*	-0.281*	0.235*	0.260*	-0.167*	1.000									

Significance at 0.05

Source: Field Survey (2022)

5.4.1.1 Correlates of social sustainability

Table 5.5 shows that market-to-book value (MBV) positively and significantly correlated with social sustainability disclosure ($r=0.128$, $P<.05$). This implies that a significant improvement in the market-to-book value of the listed SSA businesses is associated with improved social sustainability disclosure practices. However, the debt-to-asset ratio (DTA) of the listed SSA businesses negatively and significantly correlated with social sustainability disclosure ($r=-0.139$, $P<.05$). This implies that a significant increase in the debt-to-asset value of the listed SSA businesses is associated with decreasing social sustainability disclosure practices.

The size of the board (BSize) of the listed SSA businesses positively and significantly correlated with social sustainability disclosure ($r=0.378$, $P<.05$). This implies that significant increase in the size of the board of the listed SSA businesses is associated with better social sustainability disclosure practices. The female gender diversity of the board (BFGD) of the listed SSA businesses positively and significantly correlated with social sustainability disclosure ($r=0.266$, $P<.05$). This implies that a significant increase in female representation on the boards of the listed SSA businesses is associated with better social sustainability disclosure practices. The independence of the board (Bind) of the listed SSA businesses positively and significantly correlated with social sustainability disclosure ($r=0.064$, $P<.05$). This implies that a significant increase in the independence of the boards of the listed SSA businesses is associated with improved social sustainability disclosure practices.

Table 5.5 also shows that the size of the audit committee (Acsiz) of the listed SSA businesses negatively and significantly correlated with social sustainability disclosure ($r=-0.002$, $P<.05$). This indicates that a notable expansion in the size of audit committees within listed businesses in SSA is linked to reduced practices of social sustainability disclosure. The independence of audit committees (Acind) in listed SSA businesses is

positively and significantly correlated with social sustainability disclosure ($r=0.217$, $P<.05$). This suggests that a substantial enhancement in the independence of audit committees within listed SSA businesses is connected to improved social sustainability disclosure. The frequency of audit committee meetings (Acmt) held annually in listed SSA businesses positively and significantly correlates with social sustainability disclosure ($r=0.163$, $P<.05$). This implies that a noteworthy increase in the number of meetings conducted by audit committees in listed SSA businesses is associated with better practices of social sustainability disclosure. The size of remuneration committees (Rcsize) in listed SSA businesses positively and significantly correlates with social sustainability disclosure ($r=0.245$, $P<.05$). This suggests that a significant expansion in the size of remuneration committees in listed SSA businesses is linked to increased social sustainability disclosure. The number of annual meetings held by remuneration committees (Rcmt) in listed SSA businesses positively and significantly correlates with social sustainability disclosure ($r=0.321$, $P<.05$). This indicates that a considerable rise in the frequency of meetings conducted by remuneration committees in listed SSA businesses is connected to enhanced practices of social sustainability disclosure. The independence of remuneration committees (Rcind) in listed SSA businesses positively and significantly correlates with social sustainability disclosure ($r=0.295$, $P<.05$). This suggests that a noteworthy enhancement in the independence of remuneration committees within listed SSA businesses is associated with improved practices of social sustainability disclosure.

Table 5.5 shows that the CSR/ESG sustainability board committee size (Csrsz) of the listed SSA businesses positively and significantly correlated with social sustainability disclosure ($r=0.448$, $P<.05$). This implies that a significant increase in the size of the CSR/ESG sustainability board committee is associated with better social sustainability disclosure practices. The sustainability committee independence (Scind) of the listed SSA businesses positively and significantly correlated with social sustainability

disclosure ($r=0.424$, $P<.05$). This implies that a significant improvement in the independence of the sustainability committees of the listed SSA businesses is associated with better social sustainability disclosure practices. The female gender diversity (Scgd) on the sustainability committees of the listed SSA businesses positively and significantly correlated with social sustainability disclosure ($r=0.365$, $P<.05$). This implies that a significant increase in female representation on the sustainability committees of the listed SSA businesses is associated with better social sustainability disclosure practices. The number of CSR/ESG sustainability board meetings (Csrbmt) of the listed SSA businesses positively and significantly correlated with social sustainability disclosures ($r=0.421$, $P<.05$). This implies that a significant increase in the number of meetings held annually by the CSR/ESG sustainability board committees of the listed SSA businesses is associated with better social sustainability disclosure practices.

Table 5.5 also shows that block ownership (Blkown) ($r=-0.227$, $P<.05$), block institutional ownership (Blkinsown) ($r=-0.132$, $P<.05$) and block foreign ownership (blkforown) ($r=-0.141$, $P<.05$) negatively and significantly correlated with social sustainability disclosure. This implies that increasing institutional and foreign block ownership of the listed SSA businesses is associated with fewer social sustainability disclosure practices. However, block government ownership (Blkgovown) positively and significantly correlated with social sustainability disclosure ($r=0.287$, $P<.05$). This implies that increasing government block ownership is associated with better social sustainability disclosure practices.

5.4.1.2 Correlates of environmental sustainability disclosure

Table 5.5 shows that market-to-book value (MBV) positively and significantly correlated with environmental sustainability disclosure ($r=0.173$, $P<.05$). This implies that a significant improvement in the market-to-book value of the listed SSA businesses is associated with better environmental sustainability disclosure practices. However, the debt-to-asset ratio (DTA) of the listed SSA

businesses negatively and significantly correlated with environmental sustainability disclosure ($r=-0.114$, $P<.05$). This implies that a significant increase in the debt-to-asset value of the listed SSA businesses is associated with fewer environmental sustainability disclosure practices.

Table 5.5 shows that the size of the board (Bsize) of the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.408$, $P<.05$). This implies that a significant increase in the size of the board of the listed SSA businesses is associated with better environmental sustainability disclosure practices. The female gender diversity on the boards (Bfgd) of the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.314$, $P<.05$). This implies that a significant increase in female gender diversity on the boards of the listed SSA businesses is associated with better environmental sustainability disclosure practices. The independence of the boards (Bind) of the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.147$, $P<.05$). This implies that a significant increase in the independence of the boards of the listed SSA businesses is associated with better environmental sustainability disclosure practices.

Table 5.5 also shows that the size of the audit committees (Acsiz) of the listed SSA businesses negatively and significantly correlated with environmental sustainability disclosure ($r=-0.116$, $P<.05$). This implies that a significant increase in the size of the audit committees of the listed SSA businesses is associated with fewer environmental sustainability disclosure practices. The independence of the audit committees (Acind) of the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.392$, $P<.05$). This implies that a significant improvement in the independence of the audit committees of the listed SSA businesses is associated with better environmental sustainability disclosure practices. The number of audit committee meetings held each year (Acmt) by

the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.137$, $P<.05$). This implies that a significant increase in the number of meetings held by the audit committees of the listed SSA businesses is associated with better environmental sustainability disclosure practices. The size of the remuneration committees (Rcsize) of the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.370$, $P<.05$). This implies that a significant increase in the size of the remuneration committees of the listed SSA businesses is associated with better environmental sustainability disclosure practices. The number of meetings held each year by the remuneration committees (Rcmt) of the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.438$, $P<.05$). This implies that a significant increase in the number of meetings held by the remuneration committee of the listed SSA businesses is associated with better environmental sustainability disclosure practices. The independence of the remuneration committees (Rcind) of the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.395$, $P<.05$). This implies that a significant improvement in the independence of the remuneration committees of the listed SSA businesses is associated with better environmental sustainability disclosure practices.

Table 5.5 shows that the CSR/ESG sustainability board committee size (Csrsiz) of the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.485$, $P<.05$). This implies that a significant increase in the size of the CSR/ESG sustainability board committees is associated with better environmental sustainability disclosure practices. The sustainability committee independence (Scind) of the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.481$, $P<.05$). This implies that a significant improvement in the independence of the sustainability committees of the listed SSA businesses is associated with better environmental sustainability

disclosure practices. The female gender diversity on the sustainability committees (Scgd) of the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.410$, $P<.05$). This implies that a significant increase in the female gender diversity on the sustainability committees of the listed SSA businesses is associated with better environmental sustainability disclosure practices. The number of CSR/ESG sustainability board meetings (Csrbmt) of the listed SSA businesses positively and significantly correlated with environmental sustainability disclosure ($r=0.479$, $P<.05$). This implies that a significant increase in the number of meetings held annually by the CSR/ESG sustainability board committees of the listed SSA businesses is associated with better environmental sustainability disclosure practices.

Table 5.5 also shows that block ownership (Blkown) ($r=-0.201$, $P<.05$), institutional block ownership (Blkinsown) ($r=-0.100$, $P<.05$) and foreign block ownership (blkforown) ($r=-0.238$, $P<.05$) negatively and significantly correlated with environmental sustainability disclosure. This implies that more institutional and foreign block ownership of the listed SSA businesses is associated with fewer environmental sustainability disclosure practices. However, government block ownership (Blkgovown) is positively and significantly correlated with environmental sustainability disclosure ($r=0.347$, $P<.05$). This implies that more government block ownership is associated with better environmental sustainability disclosure practices.

5.4.2 The generalized method of moment analysis

The relationship between corporate governance characteristics, ownership structure and sustainability disclosure was tested through the GMM system approach. In order to ensure that the GMM results could be analyzed without any anomalies, the validity of the instruments was checked. The two main advantage of GMM approach that limits many validity and reliability tests are that it does not require distributional assumptions, like normality; and it can allow for heteroskedasticity of unknown form (Verbeek, 2000, p. 143 and

331; Greene, 2002, p. 525 and 533). In contrast to maximum likelihood estimation method, non-normality is automatically allowed in GMM, and hence, not an assumption requires subjection to diagnostic testing. In this study, the utilized 'robust' estimation method is capable of accounting for the effect of heteroscedasticity. Nonetheless, GMM does not assume equal variance of the error terms or fails to assume absence of autocorrelation between the error terms. In this situation, the instruments could autocorrelate with the lagged error terms, and hence, the need for validation of the instruments (Arellano & Bond, 1991, p. 278). The validation of the instruments in this study was carried out through the tests for first- and second-order serial correlation among the differenced residuals; and the Hansen test of over-identifying restrictions. Since the hypothesis that there is no second-order serial correlation in the error term of the first-differenced equation was not statistically significant, the hypothesis is accepted or maintained. Also, since the Hansen test of over-identification restrictions was statistically insignificant, the hypothesis that the instruments are uncorrelated with the error term was accepted or maintained.

5.4.2.1 Corporate governance, ownership structure and environmental sustainability disclosure/reporting

The GMM model was utilised to test the developed hypotheses related to corporate governance, ownership structure and environmental sustainability disclosure of sub-Saharan African businesses listed on the stock markets. The dependent variable was environmental sustainability disclosure. The independent variable and the moderating variable were corporate governance and ownership structure, respectively. To test the developed hypotheses, the two-step generalized method of moment (GMM) using `xtabond2` in STATA 14.1 was applied. Well balanced panel data, with 1,969 observations from 275 groups within the timeframe of 2012 to 2021, was modelled using the Arellano-Bond dynamic panel-data estimation method. In the estimated model, the instrumental variables used included market-to-book value (Mbv) and debt-to-asset ratio (Dta). The GMM conditions of

estimation were nodiffsargan, twostep, and orthogonal. The results of the Arellano-Bond dynamic panel-data estimation two-step system GMM are presented in Table 5.6. The hierarchical regression modelling method, involving three models, was utilised in testing the moderation concept.

Table 5.6: Governance, ownership and environmental sustainability disclosure

Envdisclos	Model 1	Model 2	Model 3
Constant	-11.162(4.339)**	-6.423(4.826)	2.900(13.33)
Envdisclos (L1.)	1.334(.080)***	1.335(.077)***	1.354(.093)***
Mbv	-.001(.001)	-.001(.001)	-.001(.001)
Dta	-.002(.000)***	-.002(.000)***	-.002(.000)***
Bsize	-.207(.221)	-.246(.221)	-.010(.453)
Bfgd	.197(.047)***	.197(.046)***	.215(.122)
Bind	.025(.009)***	.026(.009)***	-.041(.089)
Acsiz	-.077(.335)	-.116(.335)	-.894(.988)
Acind	-.005(.031)	-.001(.031)	.059(.091)
Acmt	.683(.401)	.594(.397)	-.797(1.06)
Rcsiz	-.969(.376)**	-1.079(.390)***	-1.472(1.22)
Rcmt	-.183(.481)	-.202(.475)	.534(.859)
Rcind	.111(.025)***	.115(.025)***	.068(.051)
Csrsiz	.305(.568)	.416(.552)	-1.032(1.042)
Scind	-.039(.033)	-.038(.032)	-.011(.069)
Scgd	.118(.049)**	.117(.049)**	.201(.101)**
Csrbmt	-.458(.711)**	-.509(.703)**	-.367(1.14)
Blkown		.015(.092)	.378(.404)
Blkinsown		-.101(.093)	-.894(.373)**
Blkgovown		.046(.117)	.440(.169)**
Blkforown		-.988(2.758)	.461(.467)
blkownxbsize			-.043(.025)
blkownxbfgd			-.003(.007)
blkownxbind			.002(.002)
blkownxacsiz			.004(.026)
blkownxacind			-.001(.002)
blkownxacmt			-.006(.029)
blkownxrcsiz			.035(.073)
blkownxrcmt			-.011(.040)
blkownxrcind			-.003(.003)
blkownxcsrsiz			.083(.053)
blkownxscind			.004(.003)
blkownxscgd			-.011(.008)
blkownxcsrbmt			-.029(.149)
blkinsownxbsize			.043(.026)
blkinsownxbfgd			.005(.007)
blkinsownxbind			-.002(.002)
blkinsownxacsiz			.021(.025)
blkinsownxacind			.001(.002)
blkinsownxacmt			.043(.027)
blkinsownxrcsiz			-.036(.068)
blkinsownxrcmt			.005(.039)
blkinsownxrcind			.005(.002)**
blkinsownxcsrsiz			-.055(.052)
blkinsownxscind			-.006(.003)
blkinsownxscgd			.009(.008)
blkinsownxcsrbmt			.024(.148)
blkgovownxbsize			.003(.014)
blkgovownxbfgd			-.002(.004)
blkgovownxbind			-.013(.004)***
blkgovownxacsiz			-.070(.034)**

blkgovownxacind			-.001(.003)
blkgovownxacmt			-.020(.021)
blkgovownxrcsize			-.001(.022)
blkgovownxrcmt			-.036(.029)
blkgovownxrcind			-.001(.002)
blkgovownxcsize			.001(.037)
blkgovownxscind			.004(.002)**
blkgovownxscgd			-.005(.004)
blkgovownxcrbmt			.050(.033)
blkforownxbsize			.034(.464)
blkforownxbfgd			-.321(.122)***
blkforownxbind			-.050(.101)
blkforownxacsize			-.270(1.04)
blkforownxacind			-.133(.078)
blkforownxacmt			.721(1.01)
blkforownxrcsize			.352(.146)**
blkforownxrcmt			.788(1.15)
blkforownxrcind			-.168(.050)
blkforownxcsize			.688(1.83)
blkforownxscind			.128(.098)
blkforownxscgd			.029(.123)
blkforownxcrbmt			.846(3.07)
Specification tests			
AR(2) in first differences	0.902	0.901	0.885
H-test of overid. Rest	0.927	0.911	0.900

Note: Standard Errors in the Parentheses, *** and ** denotes significance at 1%(0.001) and 5%(0.05) respectively.

Control variables: Market-to-Book Value (MBV) and Debt-to-Asset Ratio (DTA); **Independent Variables:** Board Size (BSize), Board Female Gender Diversity (BFGD), Board Independence (Bind), Audit Committee Size (ACSize), Audit Committee Independence (ACInd), Audit Committee Meeting (ACMT), Remuneration Committee Size (RCSize), Remuneration Committee Meetings (RCMT), Remuneration Committee Independence (RCInd), CSR/ESG Sustainability Board Committee Size (CSRSize), Sustainability Committee Independence (SCInd), Sustainability Committee Gender Diversity (SCGD), CSR/ESG Sustainability Board Meeting (CSRBMT); **Moderating Variables:** Block Ownership (BLKOwn), Block Institutional Ownership (BLKInsOwn), Block Government Ownership (BLKGovOwn), Block Foreign Ownership (BLKForOwn); **Dependent Variable:** Environmental Sustainability Disclosure (EnvDisclos). Source: Field Survey (2022)

5.4.2.1.1 Corporate governance and environmental sustainability

In Model 1 of Table 5.6, it is evident that the observed negative correlation between board size (BSize) and the extent of environmental sustainability disclosure among listed firms in SSA was not statistically significant ($\beta = -.207$, $P > .10$). It is evident that the environmental sustainability reporting of the listed businesses in sub-Saharan African is not significantly dependent on the size of the boards of the firms. Thus, the negative relationship between board size and sustainability reporting was not statistically significant. Notwithstanding that this finding contradicts several studies in the extant literature (Chau & Gray, 2010:93; Shamil *et al.*, 2014:78; Erin, Afeisume & Owodunni, 2016:355), there are also several studies in the literature that corroborate this finding (Modozie & Amahalu, 2022:204; Almaqtari *et al.*,

2023:136). Notwithstanding the motivation of many public listed businesses in sub-Saharan Africa to set up boards of ten members, on average, this adherence is not necessarily motivated by sustainability reporting, but rather by the desire to stimulate better operational and financial performance. However, this study contradicts the first hypothesis (H_1), of a positive and significant effect of board size on sustainability reporting.

Board female gender diversity (Bfgd) is positively and significantly associated with the environmental sustainability disclosure of SSA businesses ($\beta=.197$, $P<.01$). Thus, a significant unit improvement in the board female gender diversity in the SSA businesses is associated with a 0.197 unit increase in the environmental sustainability disclosure of the firms. More female representation on the boards of sub-Saharan African businesses is associated with better environmental sustainability disclosure. This finding is consistent with several studies in the extant literature which also reported the positive and significant effect of board female gender diversity on environmental sustainability disclosure (Zampone *et al.*, 2022:132; Gonenc & Krasnikova, 2022:144; Wasiuzzaman & Subramaniam, 2023:143). Resource dependency theory (RDT) proposes that women serving on boards contribute to the board's ability to access resources by establishing strong connections within society (Gonenc & Krasnikova, 2022:144). The presence of female directors is correlated with enhanced transparency in firm governance, the prioritization of long-term strategies, and the recognition of non-financial performance outcomes. Existing research has indicated that boards with gender diversity are more inclined to engage in environmentally responsible practices and achieve superior environmental ratings compared to other companies. Given the emerging challenge of addressing environmental concerns, fresh insights and diverse perspectives at the board level are likely to be valuable (Liao, Luo & Tang, 2015:409). Female directors also demonstrate a stronger commitment to environmental sustainability and are more inclined to support environmentally responsible practices, even when they entail higher personal costs (Glass, Cook & Ingersoll, 2016:495). This

observation lends support to the hypothesized (H3) positive and significant impact of gender-diverse boards on environmental sustainability reporting or disclosure.

The level of independence within the board (Bind) of businesses in SSA is positively and significantly linked to the extent of environmental sustainability disclosure among these businesses ($\beta=0.025$, $P<0.01$). This implies that a significant unit increase in board independence is associated with a 0.025 unit increase in environmental sustainability disclosure of SSA businesses. Unlike board size, the independence of the boards of publicly listed sub-Saharan African businesses positively and significantly influences environmental sustainability disclosure. This finding is consistent with several studies in the extant literature that also reported a positive and significant linkage between board independence and environmental sustainability reporting or disclosure (Maroun, Coldwell & Segal, 2014:206; Chang et al., 2017; MODOZIE & AMAHALU, 2022:204; GITHAIGA & KOSGEI, 2023:3). It is reported that businesses with a greater proportion of independent board members are more likely to disclose their environmental sustainability reports (Herda, Taylor & Winterbotham, 2012:178). Independent directors are commonly perceived as specialists who oversee, regulate, and supervise management activities, offering valuable insights and recommendations for managerial choices concerning sustainability performance (de Villiers, Niker, & van Stade, 2011:1636; Chang et al., 2017; Oh et al., 2011). Due to their expertise and influential roles, various stakeholders hold substantial expectations for them, attributing importance to their individual reputations and involvement (Ntim, Lindop, & Thomas, 2013:363). This finding, therefore, supports the hypothesized (H₂) positive and significant effect of board independence on environmental sustainability reporting or disclosure.

Table 5.6 shows that audit committee variables were not significantly associated with the environmental sustainability disclosure of listed businesses in SSA. The audit committee size (ACSize) did not significantly

explain the level of environmental sustainability disclosure of the listed SSA businesses ($\beta = -.077$, $P > .10$). Although a smaller audit committee size was associated with more environmental sustainability disclosure of the listed SSA businesses, the relationship was not statistically significant. This finding is not consistent with the extant literature, which reports a significant and positive effect of audit committee size on environmental sustainability reporting (Raimo *et al.*, 2020:522; Amin, Iqbal & Makki, 2021:239; Wahhab & Al-Shammari, 2021:43; Aprianti *et al.*, 2022:42). This finding from the study, therefore, contradicts the hypothesized (H_{4a}) positive and significant effect of audit committee size on environmental sustainability reporting. Potentially, the audit committees of the sub-Saharan African public listed businesses are less concerned with the monitoring of sustainability disclosure practices, but are more focused on financial outcomes and practices; and hence, the notion that larger audit committees, reported in the extant literature to be associated with better environmental sustainability disclosure, is not supported by the current findings.

The independence of the audit committees (ACInd) was also not statistically significantly related to the environmental sustainability disclosure of the listed SSA businesses ($\beta = -.005$, $P > .10$). Although the increasing independence of the audit committee is inversely associated with environmental sustainability disclosure, the relationship was not statistically significant. Higher levels of independence of audit committees of businesses are reported in the extant literature to enhance the protection of all stakeholder interests, including environmental protection. The finding of the study, therefore, did not support the hypothesized (H_{5a}) positive and significant influence of audit committee independence on sustainability reporting. Evidently, in sub-Saharan Africa, where little priority is given to environmental sustainability, disclosure or reporting by businesses is also minimal, and hence does not really depend on the various characteristics of the audit committees of the boards of the businesses, including the independence of the audit committees. Thus, contradicts the findings of many studies in the extant literature (Buallay & Al-

Ajm, 2019; Buallay & AlDhaen, 2019; Munir et al., 2019; Aprianti et al., 2022). It is imperative to emphasize that these studies provided information on the situation in Asia, North America and Europe, places where the practice of environmental sustainability is more prevalent, and is closely monitored and demanded.

The number of audit committee meeting (ACMT) was also not statistically significantly to the environmental sustainability disclosure of the listed SSA businesses ($\beta=.683$, $P>.10$). Although increasing the number of meetings of the audit committees is directly associated with environmental sustainability disclosure, the relationship was not statistically significant. This finding contradicts the findings in the extant literature, which reported a positive and significant relationship between audit committee meetings and environmental sustainability disclosure (Buallay & Al-Ajm, 2019:249; Raimo *et al.*, 2020:522; Aprianti *et al.*, 2022:42). Raimo et al. (2020:522) found the regularity with which members of the audit committee fulfill their tasks has an impact on the quality of financial reports. According to Buallay and Al-Ajm (2019:249), the frequency of meetings has a positive impact on the quality of integrated sustainability reporting. The findings from this study contradict the hypothesized (H_{6a}) positive and significant effect of audit committee on the level of sustainability reporting. This contradiction with previous studies could be explained by the limited importance paid to environmental sustainability by sub-Saharan African businesses, and a possible representation of members with limited knowledge of the importance of environmental sustainability disclosure.

Table 5.6 shows that the remuneration committee size (RCSize) of the board of the listed SSA businesses is inversely and significantly associated with environmental sustainability disclosure ($\beta=-.969$, $P<.05$). Thus, a significant unit increase in the size of the remuneration committee is associated with a 0.969 unit decrease in the environmental sustainability disclosure of the listed businesses. This finding is not consistent with the many studies in the extant

literature which report a positive and significant effect of board committee sizes on sustainability reporting, due to reduction in workload, diversity and higher level of responsibility allocation (Rabi, 2021:1; Kumari *et al.*, 2022:677). This finding, therefore, does not support the hypothesized (H_{4b}) positive and significant effect of remuneration committee size on environmental sustainability reporting. With limited importance attached to environmental protection practices, most businesses establish committees for their primary functions – so decisions on the remuneration of board members is the main function of the remuneration committee. The remuneration committee would, therefore, play no significant role in environmental reporting, as their roles are limited to their primary functions. With limited interest from sub-Saharan African businesses in environmental issues, an increase in the remuneration committee size is perceived to increase the financial burden of firms unnecessarily, as the role of the committee is perceived to be of limited importance or benefit to the stakeholders in the businesses. Thus, decreasing the size of the remuneration committee is deemed appropriate for the financial benefit of the businesses in the region. This finding of the study can be inferred as contrary to the findings of previous studies in the corporate governance literature (Bel-Oms & Segarra-Moliner, 2022:860; Oyekale, Olaoye & Nwaobia 2022:121; Almici, 2023:49).

The independence of the remuneration committee (RCInd) was positively and significantly associated with environmental sustainability disclosure ($\beta=.111$, $P<.01$). This implies that a significant unit increase in the independence of the remuneration committee is associated with a 0.111 unit increase in the environmental sustainability disclosure of the businesses. This finding, therefore, supports the hypothesized (H_{5b}) positive and significant effect of remuneration committee independence on environmental sustainability reporting. By increasing the representation of independent directors on the remuneration committee, more attention is given to societal interests in the form of environmental protection. Independent directors are

typically seen as experts who can monitor management, supervise it, and provide insightful advice and suggestions on environmental disclosure (Masud *et al.*, 2019:44; Khairredine *et al.*, 2020:273). This finding is supported by several studies in the extant literature that reported a positive influence of more board committee independence on environmental sustainability reporting (Khan *et al.*, 2021:106; Farza *et al.*, 2022:1; Almaqtari *et al.*, 2022:163).

However, the number of remuneration committee meetings (RCMT) of the listed SSA businesses was negatively, but not significantly, associated with environmental sustainability disclosure ($\beta = -.183$, $P > .10$). It is evident from the study that the number of remuneration board committee meetings held annually by the businesses does not influence the environmental sustainability disclosure or reporting practices of sub-Saharan African public listed businesses. This finding contradicts the hypothesized (H_{6a}) positive and significant effect of the number of remuneration committee meetings on environmental sustainability reporting. It is, potentially, possible that the remuneration committee is less interested in environmental issues, a situation that characterizes most sub-Saharan African businesses which are largely focused on financial outcomes, and hence are largely focused on economic sustainability rather than non-financial issues related to sustainability reporting, particularly environmental sustainability reporting (Almici, 2023:49).

Table 5.6 shows that CSR/ESG sustainability board committee size (CSRSize) was positively, but not significantly, associated with the environmental sustainability disclosure of the listed SSA businesses ($\beta = .305$, $P > .10$). Thus, the size of CSR/ESG sustainability board committees did not significantly explain the environmental sustainability disclosure of the listed businesses. The revealed negative relationship between sustainability committee independence (SCInd) and the environmental sustainability disclosure of the listed SSA businesses was not statistically significant

($\beta=.039$, $P>.10$). This implies that the independence of the sustainability committees of the listed companies did not significantly explain the environmental sustainability disclosure of the firms. The reported insignificance of sustainability board committee size and independence to environmental sustainability disclosure is inconsistent with previous a study which reported that the establishment of a sustainability committee is significant for the environmental disclosure of businesses (Driss *et al.*, 2022). This finding, therefore, contradicts the hypothesized (H_{6c}) positive and significant effect of sustainability committee size on environmental sustainability reporting. In many sub-Saharan African countries, sustainability committees are established just to meet regulations, and most functional sustainability committees are primarily focused on designing corporate social responsibility strategies in order to legitimize their existence in local communities. Little emphasis is placed on environmental sustainability as the businesses are unwilling to shoulder the large cost involved in carrying out environmental practices.

However, the gender diversity of the sustainability committees (SCGD) was positively and significantly associated with the environmental sustainability disclosure of the listed SSA businesses ($\beta=.118$, $P<.05$). Thus, a significant unit increase in the gender diversity of the sustainability committee of the listed SSA businesses is associated with a 0.118 unit increase in the environmental sustainability disclosure of the businesses. This finding is supported by the hypothesized (H_{7c}) positive and significant influence of sustainability committee gender diversity on environmental sustainability reporting. Generally, more representation of females is perceived to be associated with increased concern and monitoring of operational environment practices (Nekhili, Chakroun & Chtioui, 2016:1; Katmon et al., 2017:447; Tilt *et al.*, 2021:267).

The number of CSR/ESG sustainability board meetings (CSRBMT) of the listed SSA firms was negatively and significantly associated with the

environmental sustainability disclosure of the listed SSA businesses ($\beta=.305$, $P<.05$). This implies that any significant unit increase in the number of CSR/ESG sustainability board meetings is associated with a 0.458 unit decrease in the environmental sustainability disclosure of the listed SSA firms. This finding is consistent with several studies in the extant literature which reported that increasing the number of committee members and the number of meetings per year is associated with increased environmental sustainability disclosure (Raimo et al., 2020:522; Amin, Iqbal & Makki, 2021:239; Aprianti et al., 2022:42; Driss et al., 2022:1). This finding from the study also supports the hypothesized (H_{6c}) positive and significant effect of the number of meetings held annually by sustainability committees on environmental sustainability reporting. It is perceived that increasing size of the sustainability committee would enhance the available knowledge and expertise represented, and hence would improve the oversight environmental reporting responsibility. In addition, increasing the number of meetings organized annually would enhance their capacity to discuss more environmental disclosure issues that could eventually prompt the firms to disclose their environmental practices.

5.4.2.1.2 Ownership structure and environmental sustainability

Model 2 of Table 5.6 shows that the ownership structure of listed SSA businesses was not significantly associated with environmental sustainability disclosure of the businesses. The positive relationship between the block ownership (BLKOwn), government block ownership (BLKGovOwn) and environmental sustainability disclosure of the listed SSA businesses was not statistically significant. The negative relationship between the institutional block ownership (BLKInsOwn), foreign block ownership (BLKForOwn) and environmental sustainability disclosure of the listed SSA businesses was not statistically significant. Thus, the hypotheses that block holding ownership negatively affects sustainability reporting (H_8); that institutional ownership positively affects the sustainability reporting (H_9); that government ownership positively influences sustainability reporting (H_{10}); and that foreign ownership

positively and significantly affect sustainability reporting (H_{11}) were all not supported by the findings of this study. It was, therefore, evident that the environmental sustainability disclosure practices of the listed SSA businesses were not significantly dependent on the ownership structure of the businesses. Contrary to this finding, several studies in the extant literature have reported a significant impact of corporate ownership on environmental sustainability reporting (Ika *et al.*, 2021; Amosh & Khatib, 2022:49; Fuadah *et al.*, 2022:314; Tanui, 2023:312). Institutional, and government block holders are reported to promote higher level of sustainability reporting (Harjoto & Jo, 2011:45; Kumar *et al.*, 2022:1077). In accordance with stakeholder theory, embracing corporate environmental responsibility (CER) can establish a favorable reputation among stakeholders, leading to an increase in both firm value and a competitive edge within the market (Chen *et al.*, 2019:612; Dal Maso *et al.*, 2018:322; Li, Patel & Ramani, 2020:715). Despite the deviation of this study from the prevailing trend in existing literature, the reported lack of substantial impact from foreign ownership on environmental sustainability disclosure is consistent with findings from Matta's research (2017:106), which also indicated that the concentration of foreign ownership doesn't significantly influence the extent of environmental disclosure.

5.4.2.1.3 Block ownership as moderator in the corporate governance and environmental sustainability disclosure relationship

Model 3 of Table 5.6 shows that block ownership (blkown) did not interact with any of the corporate governance variables in their prediction of the environmental sustainability disclosure of the listed SSA businesses. This implies that the influence of board characteristics (gender diversity, independence, size and ownership); audit committee characteristics; remuneration committee characteristics; and CSR/ESG committee characteristics on the environmental sustainability disclosure of the listed firms was not significantly moderated by the block ownership characteristics of the businesses. Thus, the hypothesis (H_{12}) that a block holding ownership

structure moderates the relationship between board composition and sustainability reporting was not supported. This implies that, whether listed businesses in sub-Saharan Africa would report environmental sustainability practices or not, is not dependent on the block holding ownership structure of the business.

Model 3 of Table 5.6 shows that block holding ownership (blkown) did not interact with board characteristics, audit committee characteristics or CSR/ESG committee characteristics in their prediction of the environmental sustainability disclosure of the listed SSA businesses. This suggests that the influence of board characteristics (including gender diversity, independence, size, and ownership), audit committee characteristics, and CSR/ESG committee characteristics on the environmental sustainability disclosure of listed firms was not notably influenced by the block ownership characteristics of these businesses. As a result, the hypothesis proposing that the block holding ownership structure moderates the connection between board structure (H13) and sustainability reporting did not find substantial support.

5.4.2.1.4 Institutional block ownership as moderator in the corporate governance and environmental sustainability disclosure relationship

With the exception of remuneration committee independence (RCInd), the influence of all other characteristics of the remuneration committee on the environmental sustainability disclosure of the listed SSA businesses was not significantly moderated by the type of block institutional ownership (BLKInsOwn) of the businesses. Thus, the most significant information is that the effect of remuneration committee independence (RCInd) on environmental sustainability disclosure was negatively and significantly moderated by the type of block institutional ownership (BLKInsOwn) of the businesses. This finding, therefore, supports the hypothesis (H14b) that institutional ownership moderates the linkage between board independence and sustainability reporting. This finding is supported by several studies in the extant literature that reported a significant moderating role of institutional

ownership in the linkage between board composition and environmental sustainability reporting (Matta, 2017:106; Masud, Nurunnabi & Bae, 2018:1). Scholars have proposed that different categories of stockholders and independent members of the board can motivate managerial teams to produce credible sustainability reports, with the aim of upholding managerial responsibility towards external stakeholders. This highlights the interconnectedness among institutional ownership, board autonomy, and sustainability verification, as suggested by Haider and Nishitani (2022).

5.4.2.1.5 Block government ownership as moderator in the corporate governance and environmental sustainability disclosure relationship

Model 3 of Table 5.6 shows that the characteristics of the board, in terms of board size (BSize), and board female gender diversity (BFGD), did not significantly interact with government block ownership (BLKGovOwn) with regards to their influence on the environmental sustainability disclosure of the SSA businesses. This implies that government block ownership did not significantly moderate the effect of board size, and board female gender diversity on the environmental sustainability disclosure of the SSA businesses. Therefore, the study's findings do not support the null hypothesis that government block ownership moderates the link between board size and sustainability reporting (H18a); nor do they support the null hypothesis that government block ownership moderates the link between board gender diversity and sustainability reporting (H18c).

However, the significant effect of the independence of the board (Bind) on the environmental sustainability disclosure of the SSA businesses was negatively moderated by government block ownership ($\beta = -.013$, $P < .01$). This implies that, with more government block holding, the impact of board independence on environmental sustainability disclosure would be lower; whereas with less government block holding, the impact of board independence on environmental sustainability disclosure would be higher. This finding supports the hypothesis (H_{18b}) the government block ownership

moderates the linkage between board independence and sustainability reporting. This is likely to happen in a business environment where the impact of government block holding on environmental sustainability is negative (Saini & Singhania, 2019; Sharma et al., 2020).

Model 3 of Table 5.6 shows that the relationship between audit committee independence (ACInd), number of audit committee meeting meetings (ACMT) and environmental sustainability disclosure of the listed businesses was not significantly moderated by government block ownership. Thus, the hypothesis (H_{19a}) that government ownership moderates the linkage between audit committee characteristics and sustainability reporting was not supported.

However, the impact of audit committee size (ACSize) on environmental sustainability disclosure was negatively and significantly altered by government block ownership ($\beta = -.070$, $P < .05$). This finding suggests that when there is a higher degree of government block ownership, the effect of audit committee size on environmental sustainability disclosure becomes diminished. Conversely, when government block ownership is lower, the effect of audit committee size on environmental sustainability disclosure becomes more pronounced. This observation aligns with the hypothesis (H_{19a}) proposing that government ownership moderates the relationship between audit committee characteristics and sustainability reporting. This phenomenon is typically observed when government-held shares in companies prioritize conflicting interests that diverge from environmental sustainability disclosure goals. In such cases, the influence of government block ownership on environmental sustainability tends to be negative (Juhmani, 2013:130; Kolsi, 2017:249). However, the moderating effect of government block ownership on the influence of remuneration committee size (RCSize), remuneration committee independence (RCInd), and the number of remuneration committee meetings (RCMT) on environmental sustainability disclosure was not found to be statistically significant.

Model 3 of Table 5.6 shows that the influence of the CSR/ESG sustainability board committee size (CSRSize), sustainability committee gender diversity (SCGD), and the frequency of CSR/ESG sustainability board meetings (CSRBMT) of the listed SSA businesses on environmental sustainability disclosure was not significantly moderated by government block ownership. However, the influence of sustainability committee independence (SCInd) on environmental sustainability disclosure was positively and significantly moderated by government block ownership ($\beta=.004$, $P<.05$). This implies that, with more government block holding, the impact of sustainability committee independence on environmental sustainability disclosure would be higher; whereas with less government block holding, the impact of sustainability committee independence on environmental sustainability disclosure would be less. This finding supports the hypothesis (H_{19c}) that government ownership moderates the linkage between sustainability committee characteristics and sustainability reporting. This situation commonly happens when there is a positive effect of sustainability committee independence on environmental sustainability disclosure (Li, Jia & Chapple, 2022:134; Javeed, 2022:134; Jarboui, Hlima & Bouaziz, 2023:628).

5.4.2.1.6 Foreign block ownership as moderator in the corporate governance and environmental sustainability disclosure relationship

Model 3 of Table 5.6 shows that the relationship between various characteristics of the board of the listed SSA businesses in the form of board size (BSize), board independence (Bind), and the environmental sustainability disclosure of the businesses, was not significantly moderated by foreign block ownership (BLKForOwn). These finding suggest that the hypotheses that foreign ownership moderates the linkage between board size and sustainability reporting (H_{16a}), and that foreign ownership moderates the linkage between board independence and sustainability reporting (H_{16b}), were not supported. However, the relationship between female gender board diversity (BFGD) and the environmental sustainability disclosure of the

businesses was negatively and significantly moderated by foreign block ownership (BLKForOwn) ($\beta = -.321$, $P < .01$). This finding, therefore, supported the hypothesis (H_{16c}) that foreign ownership moderates the linkage between gender diversity and sustainability reporting. This implies that the impact of female gender board diversity on environmental sustainability disclosure would be less with more foreign block holding, and more with less foreign block holding. When the acquired foreign block holding is of relatively short- or medium- term, this condition of reduced, or a negative influence of foreign ownership on environmental sustainability disclosure is likely to occur (Abu Qa'dan & Suwaidan, 2019; Saini & Singhania, 2019; Sharma et al., 2020).

The relationship between the characteristics of the audit committee, in the form of audit committee size (ACSize), audit committee independence (ACInd) and number of audit committee meetings (ACMT) on the environmental sustainability disclosure of the businesses was not significantly moderated by foreign block ownership (BLKForOwn). Thus, the hypothesis (H_{17a}) that foreign ownership moderates the linkage between audit committee characteristics and sustainability reporting was not supported by the findings of this study. Similarly, the relationship between the remuneration committee characteristics of the listed SSA businesses in the number of remuneration committee meetings (RCMT), remuneration committee independence (RCInd) and the environmental sustainability disclosure of the businesses, was not significantly moderated by foreign block ownership (BLKForOwn). Thus, the hypothesis (H_{17b}) that foreign ownership moderates the linkage between remuneration committee characteristics and sustainability reporting was not supported by the findings of this study.

However, the relationship between the remuneration committee size (RCSIZE) and the environmental sustainability disclosure of the businesses was positively and significantly moderated by foreign block ownership

(BLKForOwn) ($\beta=.352$, $P<.05$). This implies that, with more foreign block holding, the remuneration committee size has a greater impact on environmental sustainability disclosure; whereas with less foreign block holding, the impact of remuneration committee size on environmental sustainability would be less. This finding, therefore, supports the hypothesis (H_{17b}) that foreign ownership moderates the linkage between remuneration committee characteristics and sustainability reporting. This would mainly occur in a business environment where the effect of foreign block holding on environmental sustainability is positive (Mahmood & Orazalin, 2017:389; Adeniyi & Adebayo; 2018; Rustam *et al.*, 2019; Grassa *et al.*, 2020).

The relationship between the corporate social responsibility and environmental sustainability governance characteristics of the firms, in terms of CSR/ESG sustainability board committee size (CSRSize); sustainability committee independence (SCInd); sustainability committee gender diversity (SCGD); and CSR/ESG sustainability board meeting frequency (CSRBMT), and the environmental sustainability disclosure of the businesses was not significantly moderated by foreign block ownership (BLKForOwn). Thus, the hypothesis (H_{17c}) that foreign ownership moderates the linkage between sustainability committee characteristics and sustainability reporting was not supported by the findings of this study.

5.4.2.2 Corporate governance, ownership structure and social sustainability disclosure

This section of the study tested the various hypotheses developed on the linkages between governance, ownership structure and social sustainability disclosure of sub-Saharan African businesses listed on the stock markets. The dependent variable considered was social sustainability disclosure. The independent variable and the moderating variable were corporate governance and ownership structure, respectively. To test the developed hypotheses, the two-step system of the generalized method of moment (GMM), using `xtabond2` in STATA 14.1, was applied. Strongly balanced

panel data, with 1,969 observations of 275 groups within the timeframe of 2012 to 2021, was modelled using the Arellano-Bond dynamic panel-data estimation method. In the estimated model, the instrumental variables used included market-to-book value (Mbv) and debt-to-asset ratio (Dta). The GMM conditions of estimation were nodiffsargan, twostep, and orthogonal. The results of the Arellano-Bond dynamic panel-data estimation two-step system GMM are presented in Table 5.7. The hierarchical regression modelling method involving three models was utilised in the testing the moderation concept.

Table 5.7: Governance, ownership and social sustainability disclosure

Sdisclos	Model 1	Model 2	Model 3
Constant	8.605(4.163)**	12.42(4.600)***	-13.31(10.22)
Sdisclos (L1.)	.699(.078)***	.677(.080)***	.665(.078)***
Mbv	.003(.001)**	.003(.001)	.003(.001)**
Dta	-.002(.000)***	-.002(.000)**	-.002(.000)***
Bsize	.076(.174)	.048(.166)	.708(.425)
Bfgd	.034(.032)	.029(.032)	.128(.097)
Bind	.019(.008)**	.019(.009)**	.088(.060)
Acszize	-.032(.261)	.031(.262)	1.356(.645)**
Acind	.001(.021)	.003(.021)	.081(.059)
Acmt	.006(.269)	.055(.278)	.171(.737)
Rcszize	-.487(.323)	-.414(.321)	-.261(.668)
Rcmt	.204(.253)	.226(.252)	-.807(.657)
Rcind	.021(.016)	.019(.016)	.061(.039)
Csrszize	.137(.395)	.239(.396)	-.511(.817)
Scind	-.025(.021)	-.026(.021)	.032(.041)
Scgd	.037(.022)	.035(.023)	.007(.055)
Csrbmt	.065(.568)	.097(.574)	-.066(.146)
Blkown		-.100(.046)**	.063(.256)
Blkinsown		.070(.041)	.388(.232)
Blkgovown		-.081(.108)	.136(.388)
Blkforown		-.549(.452)	-.182(.049)
blkownxbsize			-.027(.013)**
blkownxbfgd			-.002(.003)
blkownxbind			.002(.002)
blkownxacszize			-.015(.020)
blkownxacind			-.001(.001)
blkownxacmt			-.004(.022)
blkownxrcszize			.048(.026)
blkownxrcmt			-.055(.024)**
blkownxrcind			-.001(.001)
blkownxcsrszize			.044(.037)
blkownxscind			-.002(.002)
blkownxscgd			.005(.004)
blkownxcsrbmt			-.004(.061)
blkinsownxbsize			.017(.012)
blkinsownxbfgd			.001(.002)
blkinsownxbind			-.003(.002)
blkinsownxacszize			-.008(.018)
blkinsownxacind			-.001(.001)

blkinsownxacmt			-.001(.017)
blkinsownxrcsize			-.054(.026)**
blkinsownxrcmt			.073(.022)***
blkinsownxrcind			-.000(.001)
blkinsownxcsize			-.046(.034)
blkinsownxscind			.000(.002)
blkinsownxscgd			-.005(.004)
blkinsownxcsrbmt			.049(.059)
blkgovownxbsize			-.008(.014)
blkgovownxbfgd			-.001(.004)
blkgovownxbind			.000(.003)
blkgovownxacsize			-.055(.021)***
blkgovownxacind			-.005(.002)**
blkgovownxacmt			.017(.011)
blkgovownxrcsize			.006(.014)
blkgovownxrcmt			.008(.016)
blkgovownxrcind			.000(.001)
blkgovownxcsize			.079(.026)
blkgovownxscind			.001(.001)
blkgovownxscgd			-.004(.002)
blkgovownxcsrbmt			.019(.027)
blkforownxbsize			.079(.425)
blkforownxbfgd			.056(.072)
blkforownxbind			.032(.055)
blkforownxacsize			.372(.138)**
blkforownxacind			-.016(.053)
blkforownxacmt			-.274(.082)
blkforownxrcsize			.905(.736)
blkforownxrcmt			-.153(.638)
blkforownxrcind			.043(.034)
blkforownxcsize			.925(1.284)
blkforownxscind			-.267(.084)***
blkforownxscgd			.316(.097)***
Blkforownxcsrbmt			-2.799(2.13)
Specification tests			
AR(2) in first differences	0.849	0.834	0.823
H-test of overid. Rest.	0.979	0.943	0.934

Note: Standard Errors in the Parentheses, *** and ** denotes significance at 1%(0.001) and 5%(0.05) respectively.

Control variables: Market-to-Book Value (MBV) and Debt-to-Asset Ratio (DTA); **Independent Variables:** Board Size (BSize), Board Female Gender Diversity (BFGD), Board Independence (Bind), Audit Committee Size (ACSize), Audit Committee Independence (ACInd), Audit Committee Meeting (ACMT), Remuneration Committee Size (RCSize), Remuneration Committee Meeting Frequency (RCMT), Remuneration Committee Independence (RCInd), CSR/ESG Sustainability Board Committee Size (CSRSize), Sustainability Committee Independence (SCInd), Sustainability Committee Gender Diversity (SCGD), CSR/ESG Sustainability Board Meeting Frequency (CSRBMT); **Moderating Variables:** Block Ownership (BLKOwn), Institutional Block Ownership (BLKInsOwn), Government Block Ownership (BLKGovOwn), Foreign Block Ownership (BLKForOwn); **Dependent Variable:** Social Sustainability Disclosure (SDisclosure). Source: Field Survey (2022)

5.4.2.2.1 Corporate governance and social sustainability disclosure

Model 1 in Table 5.7 shows that neither board size (BSize) nor board female gender diversity (BFGD) were statistically significant predictors of the social sustainability disclosure of the listed SSA enterprises. This result is supported by the findings of studies by Sufian and Zahan (2013:901) and Adeniyi and Fadipe (2018), which show that the size of the board and the gender composition of the board have no discernible effect on social

sustainability reporting. This shows that larger boards, with a significant number of women on them, are not necessarily the reason for an increase in businesses' interest in social sustainability. Therefore, the results of the study did not support either the theory that board size positively and significantly affects social sustainability reporting (H1), or the hypothesis that gender diversity positively impacts social sustainability reporting (H3). However, board independence (Bind) was favourably and significantly connected with the social sustainability disclosure of the listed SSA enterprises ($\beta = 0.019$, $P < 0.05$). For each major-unit rise in board independence, there is a 0.019-unit increase in social sustainability disclosure. Studies in the existing literature have found that board independence has a favorable and significant impact on social sustainability disclosure (Jangu *et al.*, 2014:138; Anyigbah *et al.*, 2023:35). Thus these findings are consistent with those claims. This finding supports the second hypothesis (H2), which postulates that an independent board of directors has a favourable and significant effect on reporting social sustainability. A growing number of independent board members, whose primary interest is in opposing the route followed by all stakeholders, including members of the community, are likely to fight for the disclosure of social sustainability. Independent directors have been shown to benefit from reducing agency and political costs (Desender & Epure, 2015; Ioannou & Serafeim, 2012; El Ghouli, Guedhami & Kim, 2017) by disclosing and providing more information about an organization's environmental and social strategies.

The characteristics of the audit committee were not shown to be a significant predictor of social sustainability disclosure among SSA-listed companies. Audit committee size, independence, and frequency of meetings did not significantly influence SSA businesses' disclosure of social sustainability. Supporting this finding is research by Biçer and Feneir (2019:111), who discovered that the makeup of audit committees had no bearing on the social sustainability reporting and disclosure of banks listed on the Borsa, which is the Istanbul stock exchange. The results of the study disproved the following

hypotheses about the relationship between audit committees and SR: (H4a) audit committee size is positively and significantly associated with SR; (H5a) audit committee independence is positively and significantly associated with SR; (H6a) audit committee meetings are positively and significantly associated with SR; and (H7a) audit committee female gender diversity is positively and significantly associated with SR. It is possible that the audit committee elements do not matter much when it comes to social sustainability disclosure in sub-Saharan Africa because businesses there are more focused on economic sustainability.

There was no correlation between the characteristics of remuneration committees and the listed SSA companies' disclosure of social sustainability. Businesses in the SSA did not disclose their social sustainability practices based on the size of their remuneration committees, the independence of their remuneration committees, or the frequency with which their remuneration committees met. As a result, we can conclude that the size of the remuneration committee is positively and significantly associated with social SR (H4b); that the independence of the remuneration committee is positively and significantly associated with social SR (H5b); that the frequency with which the remuneration committee meets is positively and significantly associated with social SR (H6b); and that the presence of women on the committee is positively and significantly associated with social SR (H7b). While Europe, Asia, and North America all place a premium on reporting social sustainability, the situation is different in sub-Saharan Africa, where such practices are not given nearly the same weight. Many studies in the developed world have found that the characteristics of compensation committees of public listed corporations significantly influence social sustainability disclosure or reporting (Bel-Oms & Segarra-Moliner, 2022:860). Therefore, this study contradicts such findings.

The listed SSA enterprises' social sustainability disclosure was not significantly influenced by the composition of the corporate social

responsibility and environmental social governance committee. There were no statistically significant correlations between the social sustainability disclosure of SSA enterprises and any of the following: committee size; independence; gender diversity of the sustainability committee; or frequency of the CSR/ESG sustainability board meetings. This finding runs counter to the consensus in the existing literature, which holds that appointing a sustainability committee and defining its membership positively affects the quantity and quality of sustainability disclosure and reporting, including social sustainability reporting (Anyigbah *et al.*, 2023:35; Jarboui, Hlima & Bouaziz, 2023:628). Thus, the hypotheses that the size of the sustainability committee is positively and significantly related to social SR (H4c); that the independence of the sustainability committee is positively and significantly related to social SR (H5c); that the frequency with which the sustainability committee meets is positively and significantly related to social SR (H6c); and that the size of the sustainability committee is positively and significantly related to social SR (H7c). As Githaiga and Kosgei point out (2020:3), in the developed world, sustainability practices have a significant impact on a company's bottom line, but in sub-Saharan Africa, where regulations and laws of enforcement are weak, sustainability practices and reporting are given less weight.

5.4.2.2.2 Ownership structure and social sustainability disclosure

The negative association between government block ownership (BLKGovOwn), foreign block ownership (BLKForOwn) and social sustainability disclosure was not statistically significant. Thus, the social sustainability disclosure practice of the SSA firms was not significantly based on their level of government block ownership and foreign block ownership. These findings did not support the hypotheses that government ownership positively influences sustainability reporting (H₁₀), or that foreign ownership positively and significantly affect sustainability reporting (H₁₁). Generally, in the extant literature, there is agreement that government block ownership enhances social sustainability disclosure. Monk (2009) asserts that state

ownership contributes to enhancing corporate transparency and accountability, thereby bolstering legitimacy. Additionally, governmental entities prioritize disclosure as a means of addressing stakeholder interests (Eng & Mak, 2003:325). Rudyanto (2017:15) highlights the pivotal role of government ownership in elevating the quality of sustainability disclosure. Khan, Muttakin, and Siddiqui (2013:207) also posit that publicly owned firms strive to garner social acceptance and legitimacy, leading to heightened focus on social responsibility and its disclosure, especially when governmental pressure prompts corporate boards to reinforce their commitment to social and environmental responsibility (Khlif et al., 2017). Notwithstanding the emphasis in the extant literature on the significant role of government in sustainability disclosure, this study found otherwise. It is, therefore, clear that governments in sub-Saharan Africa do not support the interests of the international and local communities in promoting social sustainability disclosure. Similarly, there is a general understanding that foreign ownership enhances stakeholders' aspirations (Arouri, Hossain & Muttakin, 2014:117) Thus, the studies by Adeniyi and Adebayo (2018), Mahmood and Orazalin (2017:389), and Rustam *et al.* (2019) indicate that the foreign ownership factor plays a critical role in motivating companies to engage in, and report on, sustainability activities. Nonetheless, this general perception and findings in the literature are contradicted by the findings of this study. It is possible that foreign owners in sub-Saharan Africa often rely largely on the direction of local experts, who have limited interest in social sustainability practices and disclosure as influential factor in other performance outcomes of firms in the region.

The positive association between institutional block ownership (BLKInsOwn) and social sustainability disclosure was not statistically significant. Thus, the level of institutional block ownership of SSA businesses is not a significant predictor of their level of social sustainability disclosure practices. In the existing body of literature, there is a prevailing notion that institutional shareholders play a significant role in augmenting sustainable firm

performance and establishing effective corporate governance mechanisms within a stakeholder-oriented framework (Nulla, 2015:1052; Sakawa & Watanabel, 2020:10; Velte, 2020:282; Cheng, Wang & Wang, 2022:106; Alomran & Alsaahli, 2023:34). Nonetheless, the findings of this research contradict these studies and do not support the hypothesis (H₉) that institutional ownership positively affects the social sustainability reporting. The study by Cheng, Wang & Wang (2022:106) explained that institutional ownership needs to be long-term in order to positively influence sustainability decisions. This assertion by Cheng, Wang and Wang (2022:106) is also supported in the study by Alomran and Alsaahli (2023:34), which emphasized that long-term institutional ownership leads to increased social sustainability disclosure. Thus, institutional block shareholding in the short- or medium-term might not necessarily significantly influence sustainability decisions of firms in sub-Saharan Africa, a region with a lower level of sustainability disclosure than the western World.

5.4.2.2.3 Block ownership as moderator in the corporate governance-social sustainability disclosure linkage

Model 3 of Table 5.7 shows that the relationship between the characteristics of the boards of SSA businesses in terms of board female gender diversity (BFGD), board independence (Bind) and the social sustainability disclosure of the listed SSA businesses, is not significantly moderated by the block ownership (BLKOwn) characteristics of the firms. However, the relationship between the board size (BSize) of the listed SSA businesses and social sustainability disclosure is negatively and significantly moderated by the block ownership (BLKOwn) characteristics of the firms ($\beta = -.027$, $P < .05$). Thus, the generally perceived direct relationship between board size and social sustainability disclosure could be minimized in a business unit with a block ownership structure. This finding, therefore, supports the hypothesis (H_{12a}) that block holding moderates the linkage between board size and sustainability reporting. Block holders constantly try to influence the company's decisions by directing it to engage in a specific agenda (Al-Janadi

et al., 2016). This normally happens when the block shareholders are primarily seeking other interests that are in conflict with social sustainability, and hence, the block holder may restrict the disclosure of information (Raimo *et al.*, 2020:522), which leads to inconsistencies in the information.

The relationship between the audit committee characteristics of the board of SSA businesses in terms of audit committee size (ACSize); audit committee independence (ACInd); audit committee meeting frequency (ACMT), and the social sustainability disclosure of the listed SSA businesses is not significantly moderated by the block ownership (BLKOwn) characteristics of the firms. These findings did not support the hypothesis (H_{13a}) that block ownership moderates the effect of audit committee characteristics on social sustainability reporting. Similarly, the relationship between the characteristics of the remuneration committees of the listed SSA businesses in terms of remuneration committee size (RCSIZE); remuneration committee independence (RCInd) and the social sustainability disclosure of the listed SSA businesses, was not significantly moderated by the block ownership (BLKOwn) characteristics of the firms. This finding, therefore, did not support the hypothesis (H_{13b}) that block holding moderates the linkage between remuneration committee characteristics and social sustainability reporting. However, the relationship between the frequency of remuneration committee meetings (RCMT) of the listed SSA businesses and social sustainability disclosure is negatively and significantly moderated by the block ownership (BLKOwn) characteristics of the firms ($\beta = -.055$, $P < .05$). This finding is contrary to the general perception in the extant literature that more meetings of remuneration committees, and block shareholding, are characteristics of businesses with more sustainability disclosure (Yu, Kuo & Ma, 2020:324; Baba & Baba, 2021:210; Amosh & Khatib, 2022:49). It is also believed that block holders with agendas which are in conflict with sustainability practices and disclosure could invariably negatively influence social sustainability disclosure (Amosh & Mansor, 2021:121; Amosh & Khatib, 2022:49). Under these circumstances, more block holding would be associated with less

impact of the frequency of remuneration committee meetings on social sustainability disclosure; whereas less block holding could be associated with a higher impact of the remuneration committee on social sustainability disclosure.

The relationship between the sustainability committee characteristics of the board of SSA businesses in terms of CSR/ESG sustainability board committee size (CSRSize); sustainability committee independence (SCInd); sustainability committee gender diversity (SCGD); CSR/ESG sustainability board meeting frequency (CSRBMT); and the social sustainability disclosure of the listed SSA businesses was not significantly moderated by the block ownership (BLKOwn) characteristics of the firms. These findings did not support the hypothesis (H_{13c}) that block holding moderates the linkage between sustainability committee characteristics and social sustainability reporting.

5.4.2.2.4 Block institutional ownership as moderator in the corporate governance – social sustainability disclosure linkage

Model 3 on Table 5.7 shows that the relationship between board characteristics in the form of board size (BSize); board female gender diversity (BFGD); board independence (Bind), and social sustainability disclosure was not moderated by institutional block ownership (BLKInsOwn). As a result, these findings do not provide support for the hypothesis (H14) suggesting that institutional ownership moderates the impact of board composition on social sustainability reporting. Additionally, there was no significant moderating effect of block institutional ownership (BLKInsOwn) on the relationship between audit committee characteristics, including audit committee size (ACSize), audit committee independence (ACInd), and audit committee meeting frequency (ACMT), and social sustainability disclosure. This finding did not support the hypothesis (H_{15a}) that institutional ownership moderates the linkage between audit committee characteristics and social sustainability reporting.

The relationship between the corporate social responsibility (CSR) and environmental sustainability governance (ESG) characteristics of the boards in the form of CSR/ESG sustainability board committee size (CSRSize) sustainability committee independence (SCInd); sustainability committee gender diversity (SCGD); CSR/ESG sustainability board meeting frequency (CSRBMT), and social sustainability disclosure, was not moderated by block institutional ownership (BLKInsOwn). This implies that any existing relationship between, and influence of, sustainability committee characteristics on the level of social sustainability reporting is not dependent on the institutional block holding ownership structure of SSA businesses. However, the relationship between remuneration committee size (RCSize) and the social sustainability disclosure of the listed SSA firms was negatively and significantly moderated by block institutional ownership (BLKInsOwn) ($\beta = -.054$, $P < .05$). This implies that larger institutional block holdings could minimize the impact of remuneration committee size on social sustainability; whereas less institutional block holding would increase the impact of institutional block holdings on social sustainability disclosure. This finding supports the hypothesis (H_{15b}) that institutional ownership moderates the linkage between remuneration committee characteristics and sustainability reporting. This situation is likely to occur when the effect of institutional block holding on social sustainability disclosure is negative (Tarighi *et al.*, 2022:732; Alomran & Alsahali 2023:34). Also, the relationship between remuneration committee meeting frequency (RCMT) and the social sustainability disclosure of the listed SSA firms was positively and significantly moderated by block institutional ownership (BLKInsOwn) ($\beta = .073$, $P < .01$). Thus, larger institutional block holdings could lead to a larger impact of remuneration committee meetings on social sustainability disclosure; whereas less institutional block holding would eventually reduce the impact of remuneration committee meetings on social sustainability disclosure. This finding supports the hypothesis (H_{15b}) that institutional ownership moderates the linkage between remuneration committee characteristics and sustainability reporting. This situation is likely to happen

when the effect of institutional block holding on social sustainability disclosure is positive (Nurleni, Bandang & Amiruddin 2018:979; Tao, Hui & Chen, 2020:483). Nonetheless, the relationship between remuneration committee independence (RCInd) and social sustainability disclosure was not moderated by block institutional ownership (BLKInsOwn).

5.4.2.2.5 Government block ownership as moderator in the corporate governance - social sustainability disclosure linkage

Model 3 of Table 5.7 shows that the relationship between board characteristics in the form of board size (BSize); board female gender diversity (BFGD); board independence (Bind), and social sustainability disclosure, was not moderated by government block ownership (BLKGovOwn). These findings are not supported by the hypothesis (H₁₈) that government ownership moderates the effect of board composition on social sustainability reporting. In addition, the relationship between remuneration committee characteristics in the form of remuneration committee size (RCSIZE); remuneration committee independence (RCInd); and remuneration committee meeting frequency (RCMT), and social sustainability disclosure, was not moderated by block government ownership (BLKGovOwn). This finding does not support the hypothesis (H_{19b}) that government ownership moderates the linkage between remuneration committee characteristics and sustainability reporting. The relationship between the corporate social responsibility (CSR) and environmental sustainability governance (ESG) characteristics of the board in the form of CSR/ESG sustainability board committee size (CSRSize); sustainability committee independence (SCInd); sustainability committee gender diversity (SCGD); and CSR/ESG sustainability board meeting frequency (CSRBMT), and social sustainability disclosure, was not moderated by block government ownership (BLKGovOwn). This finding does not support the hypothesis (H_{19c}) that government ownership moderates the linkage between sustainability committee characteristics and sustainability reporting.

However, the relationship between audit committee size (ACSize) and the social sustainability disclosure of the listed SSA firms was negatively and significantly moderated by government block ownership (BLKGovOwn) ($\beta = -.055$, $P < .01$). This result implies that, with more government block holding, the impact of audit committee size on social sustainability is likely to be less; whereas with smaller government block holdings, the impact of audit committee size on social sustainability is likely to be higher. This finding supports the hypothesis (H_{19a}) that government ownership moderates the linkage between audit committee characteristics and social sustainability reporting.

In addition, the relationship between audit committee independence (ACInd) and the social sustainability disclosure of the listed SSA firms was negatively and significantly moderated by government block ownership (BLKGovOwn) ($\beta = -.005$, $P < .01$). This result implies that, with more government block holding, the impact of audit committee independence on social sustainability is likely to be smaller; whereas, with less government block holding, the impact of audit committee independence on social sustainability is likely to be higher. This finding supports the hypothesis (H_{19a}) that government ownership moderates the linkage between audit committee characteristics and social sustainability reporting. However, the relationship between the audit committee meeting (ACMT) and social sustainability disclosure was not moderated by government block ownership (BLKGovOwn).

5.4.2.2.6 Foreign block ownership as moderator in the corporate governance - social sustainability disclosure linkage

The results presented in Model 3 of Table 5.7 indicate that the association between board characteristics such as board size (BSize), board female gender diversity (BFGD), and board independence (Bind) with social sustainability disclosure was not influenced by foreign block ownership (BLKForOwn). These findings do not provide confirmation for the hypothesis (H_{16}) suggesting that foreign ownership moderates the impact of board

composition on social sustainability reporting. Furthermore, the relationship between remuneration committee characteristics, including remuneration committee size (RCSize), remuneration committee independence (RCInd), and remuneration committee meeting frequency (RCMT), and social sustainability disclosure was not affected by foreign block ownership (BLKForOwn). As a result, the hypothesis (H17b) proposing that foreign ownership moderates the connection between remuneration committee characteristics and social sustainability reporting is not supported by the findings of this study. Similarly, the relationship between audit committee independence (ACInd) and audit committee meeting frequency (ACMT) with social sustainability disclosure was not modified by foreign block ownership (BLKForOwn). This indicates that the hypothesis (H17a) positing that foreign ownership moderates the relationship between audit committee characteristics and social sustainability reporting does not find support in the results of this study.

However, the relationship between audit committee size (ACSize) and the social sustainability disclosure of the listed SSA firms was positively and significantly moderated by foreign block ownership (BLKForOwn) ($\beta=.372$, $P<.05$). With more foreign block ownership, the positive effect of audit committee size on social sustainability disclosure would be larger, than with less foreign ownership. This finding supports the hypothesis (H_{17a}) that foreign ownership moderates the linkage between audit committee characteristics and social sustainability reporting. Foreign shareholders are crucial to establishing trust and transparency between organizations and their stakeholders (Amosh & Mansor, 2021:121). Stakeholders' hopes are boosted when foreign ownership is present (Suchman, 1995:571; Arouri, Hossain & Muttakin, 2014:117), and the business's operations are viewed more favorably as a result (Alkhawaldeh, 2012:92).

The relationship between sustainability committee independence (SCInd) and social sustainability disclosure was negatively and significantly moderated by foreign block ownership (BLKForOwn) ($\beta=-.267$, $P<.01$). The

relationship between sustainability committee gender diversity (SCGD) and social sustainability disclosure was positively and significantly moderated by foreign block ownership (BLKForOwn) ($\beta=.316$, $P<.01$). These findings support the hypothesis (H_{17c}) that foreign ownership moderates the linkage between sustainability committee characteristics and social sustainability reporting. However, the relationship between the CSR/ESG sustainability board committee size (CSRSize) and CSR/ESG sustainability board meeting frequency (CSRBMF), and social sustainability disclosure, was not moderated by foreign block ownership (BLKForOwn).

5.5 SUMMARY AND CONCLUSION

This chapter analyzed the data of the study using both descriptive and inferential statistical analysis. The descriptive statistics showed that the listed SSA businesses have high levels of board independence (72.3%), audit committee independence (81.2%), and remuneration committee independence (57.4%). The listed SSA businesses are also characterized by less board female gender diversity (16%) and an average board size of approximately ten members. The ownership structure type of the SSA listed businesses was largely institutional block ownership (51.67%). While sustainability disclosure was generally low among sub-Saharan African listed businesses, the level of environmental sustainability disclosure was relatively lower, compared to social sustainability disclosure practices. Businesses in Ghana, Nigeria and Kenya had the lowest level of sustainability disclosure.

Based on the GMM results, board female gender diversity; board independence; remuneration committee independence; and sustainability committee gender diversity were all positively and significantly associated with environmental sustainability disclosure. However, ownership structure of the businesses was not significantly associated with their environmental sustainability disclosure. The relationship between remuneration committee independence and environmental sustainability disclosure was positively moderated by institutional block ownership. The relationship between board

independence and audit committee size, and environmental sustainability disclosure of the businesses, was negatively moderated by government block ownership structure. The relationship between remuneration committee size and the environmental sustainability disclosure of the firms was also positively moderated by foreign block ownership.

Furthermore, board independence and board ownership positively and significantly influenced social sustainability disclosure practices of the SSA listed businesses. Block ownership negatively and significantly influenced social sustainability disclosure practices. However, institutional, government and foreign ownership had no significant influence on the social sustainability disclosure practices of the firms. The relationship between board size, remuneration committee meeting frequency and social sustainability disclosure was negatively moderated by board ownership. The relationship between remuneration committee size and social sustainability disclosure, and the relationship between remuneration committee meetings, were moderated negatively and positively, respectively. Additionally, the relationship between audit committee size, audit committee independence and social sustainability was moderated negatively by government ownership. It is, therefore, evident that ownership structure plays significant moderating role in the effect that corporate governance practices of listed sub-Saharan African businesses have on their sustainability disclosure practices.

The summary and conclusions relating to these findings are presented in the next chapter.

CHAPTER 6: SUMMARY, CONCLUSION AND RECOMMENDATION

6.1 INTRODUCTION

In this chapter, key findings are summarized, conclusions are drawn and recommendations provided. The other areas discussed in this chapter are the limitations of the study, new knowledge generated, and suggestions for future studies.

6.2 SUMMARY

This section of the study summarizes the main findings of the study. The summary is based on the specifically defined objectives of the study, including: (1) The impact of board composition on social sustainability

reporting; (2) The influence of board composition on environmental sustainability reporting; (3) The correlation between board structure and social sustainability reporting; (4) The association between board structure and environmental sustainability reporting; (5) The moderating effect of ownership structure on the link between board composition and social sustainability reporting; (6) The moderating effect of ownership structure on the association between board composition and environmental sustainability reporting; (7) The moderating effect of ownership structure on the relationship between board structure and social sustainability reporting; (8) The moderating effect of ownership structure on the relationship between board structure and environmental sustainability reporting.

6.2.1 Effect of board composition on social sustainability reporting

Both female board diversity and board size had no significant effect on social sustainability reporting of the publicly listed SSA businesses. However, both board independence and board ownership composition had a positive and significant effect on social sustainability reporting.

6.2.2 Effect of board composition on environmental sustainability reporting

Board female gender diversity and board independence were significant and positive predictors of environmental sustainability reporting. Improvements in board female diversity and independence were significantly associated with increasing environmental sustainability reporting among publicly listed SSA businesses. Although board size was negatively related to environmental sustainability reporting, it was not significant predictor.

6.2.3 Effect of board structure on social sustainability reporting

Board structure (audit, remuneration and sustainability committee characteristics) has no significant effect on social sustainability reporting.

6.2.4 Effect of board structure on environmental sustainability reporting

Audit committee characteristics, including size, independence, and frequency of meetings, did not demonstrate significant predictive power for environmental sustainability reporting. On the other hand, remuneration committee size exhibited a negative and significant correlation with environmental sustainability reporting, whereas remuneration committee independence displayed a positive and significant relationship with environmental sustainability reporting. Furthermore, sustainability committee gender diversity was found to have a positive and significant connection with environmental sustainability reporting, while sustainability committee board meeting frequency exhibited a negative and significant association with environmental sustainability reporting.

6.2.5 The moderating role of ownership structure in the relationship between board composition and social sustainability reporting

The effect of board size on social sustainability reporting was significantly and negatively moderated by block ownership structure. However, the effect of board female diversity, board independence and board ownership on social sustainability reporting was not significantly moderated by block ownership structure. The effect of board composition on social sustainability reporting was not significantly moderated by block institutional and government ownership structure.

6.2.6 The moderating role of ownership structure in the relationship between board composition and environmental sustainability reporting

The effect of board composition (board size, board female gender diversity, board independence and board ownership) on environmental sustainability reporting was not moderated by block ownership structure. The effect of board composition on environmental sustainability reporting was not moderated by institutional block ownership structure. However, the effect of board independence on environmental sustainability reporting was negatively and significantly moderated by government block ownership structure. The

effect of board female gender diversity on environmental sustainability was negatively and significantly moderated by block foreign ownership.

6.2.7 The moderating role of ownership structure in the relationship between board structure and social sustainability reporting

The effect of audit and sustainability committee characteristics on social sustainability reporting was not significantly moderated by block ownership structure. However, the effect of remuneration committee meetings on social sustainability reporting was negatively and significantly moderated by block ownership structure.

The effect of remuneration committee size on social sustainability reporting was negatively and significantly moderated by institutional block ownership; while the effect of remuneration committee meetings on social sustainability reporting was positively and significantly moderated by block institutional ownership structure. However, the effect of sustainability committee characteristics on social sustainability reporting was not significantly moderated by block institutional ownership structure.

The effect of both audit committee size and independence on social sustainability reporting was negatively and significantly moderated by government block ownership structure. However, the effect of remuneration and sustainability committee characteristics on social sustainability was not significantly moderated by social sustainability reporting.

The effect of audit committee size on social sustainability reporting was positively and significantly moderated by foreign block ownership. The effect of sustainability committee independence on social sustainability was negatively moderated by foreign ownership; whereas the effect of sustainability committee gender diversity on social sustainability was positively moderated by foreign block ownership. However, the effect of

remuneration committee characteristics on social sustainability reporting was not significantly moderated by foreign block ownership structure.

6.2.8 The moderating role of ownership structure in the relationship between board structure and environmental sustainability reporting

The effect of audit, remuneration and sustainability committee characteristics (size, independence and frequency of meetings) on environmental sustainability reporting was not moderated by block ownership structure. The effect of audit and sustainability committee characteristics on environmental sustainability reporting was not significantly moderated by block institutional ownership structure. However, the effect of board independence and audit committee size on environmental sustainability reporting was negatively and significantly moderated by government ownership structure. The effect of sustainability committee independence on environmental sustainability reporting was positively and significantly moderated by government ownership structure.

The effect of board female gender diversity on environmental sustainability reporting was negatively and significantly moderated by foreign ownership; whereas the effect of remuneration committee size on environmental sustainability reporting was positively and significantly moderated by foreign block ownership structure. However, the effect of sustainability committee characteristics on environmental sustainability was not moderated by block foreign ownership structure.

6.3 LIMITATIONS AND DELIMITATIONS

With the reliance of the study on secondary and predetermined data, the researcher's selection of variables was limited, or defined by the primary source of the data. The researcher's access to only the variables defined in the primary source of the data led to the exclusion of CEO duality and nomination committee characteristics as corporate governance characteristics, and the exclusion of managerial and family ownership

structure types. This study was also limited to countries in sub-Saharan Africa with businesses listed on the stock market between 2012 and 2021. This implies that countries in sub-Saharan Africa without stock markets, or with stock markets established after 2021, were excluded from the study. Notwithstanding that there are many countries in sub-Saharan Africa with young stock exchanges, or without stock exchanges, the emphasis of this study on publicly listed businesses implies that the defined scope is representative enough to produce significant and representative findings.

In addition to these limitations, the study was also delimited by non-financial firms. Largely, the sustainability measures, the weighted asset to debt ratio and capitalization of financial and non-financial firms are quite different, a situation could lead to biases in the measurement process. In order to avoid misleading and biases in the results the researcher decided to focus on the non-financial sector, a group with greater sustainability issues relative to the financial sector that largely offer services.

6.4 NEW KNOWLEDGE

The available scholarly literature on the relationship between corporate governance characteristics and sustainability reporting of publicly listed firms in sub-Saharan Africa appears to be limited. Consequently, this study makes a valuable contribution to this field of research by shedding light on the connection between corporate governance attributes and sustainability reporting. As a novel source of knowledge, this study offers insights indicating that the social sustainability reporting behavior of publicly listed companies in sub-Saharan Africa is not significantly influenced by sustainability committee characteristics. However, the inclination to report environmental practices is contingent upon sustainability committee gender diversity and the frequency of sustainability committee meetings.

Furthermore, this study presents empirical evidence that supports the hypothesized moderating role of ownership structure in influencing the impact of corporate governance attributes on sustainability reporting. Overall, this study enriches the existing body of knowledge by providing comprehensive and current empirical evidence regarding the role of ownership structure in shaping the relationship between corporate governance attributes of publicly listed firms and their sustainability reporting practices within the sub-Saharan African context.

6.5 RECOMMENDATION

Based on the results and conclusions of this study, both policy and managerial recommendations are discussed in this section of the study.

6.5.1 Policy implication of the study

Empirical evidence from this study shows that publicly listed sub-Saharan African businesses pay limited attention to environmental sustainability reporting, compared to social sustainability reporting. It is generally believed that the poor regulations in sub-Saharan Africa, and their limited enforcement, are the reasons for the low level of environmental sustainability reporting among publicly listed businesses in sub-Saharan Africa. Policy makers like the various environmental ministries and regulatory bodies of businesses in sub-Saharan Africa should develop a significant interest in sustainability reporting among businesses. It is important that effective and significant regulatory and law enforcement frameworks are developed in sub-Saharan Africa to improve the level of environmental sustainability reporting. The governments in sub-Saharan Africa could also utilise tax exemption policy to promote environmental sustainability reporting. Points can be awarded to businesses in sub-Saharan based on environmental sustainability reporting, and a percentage of tax exempted, based on the quality of the environmental sustainability reporting.

6.5.2 Managerial implications of the study

The low level of environmental sustainability reporting could also be attributed to the inadequacies of the sustainability committees of the publicly listed sub-Saharan African businesses, compared to international standards. The evidence from this study shows that the average membership of the sustainability committee, of two, was below the recommended size of four members; and the level of independence of just 21% was too low. This limits their effectiveness in ensuring sustainability reporting. It is also worrying that the sustainability committees in SSA, on the average, held meetings once a year. In some countries, like Ghana and Nigeria, the publicly listed businesses apparently do not have sustainability committees, which limits the level of sustainability reporting in these countries. With sustainability reporting, especially environmental sustainability reporting, established as a way of building the image of publicly listed businesses internationally, it is necessary for the management of publicly listed businesses in the sub-Saharan African region to ensure the establishment of CSR/ESG sustainability board committees which meet international standards (size, independence, meetings) in order to ensure their functional effectiveness.

With ownership structure empirically proven in this study to moderate the effect of some corporate governance characteristics on sustainability reporting, it is imperative that strategies are implemented to establish the appropriate ownership structure to stimulate higher levels of sustainability reporting. For instance, with the bigger influence of sustainability committee gender diversity on social sustainability reporting dependent on higher levels of block foreign ownership, sub-Saharan African publicly listed businesses with foreign block ownership, seeking to enhance legitimacy in local communities, should improve the gender diversity of their sustainability committees. With the gender diversity of sub-Saharan Africa publicly listed businesses of just about 9%, it is imperative to improve gender diversity significantly to enhance diverse knowledge, proficiency and perspectives that could eventually improve social sustainability reporting. It is also evident that the greater influence of the independence of remuneration committees on

better environmental sustainability reporting is dependent on publicly listed businesses in SSA having a largely institutional block ownership structure. This implies that businesses with institutional ownership in SSA, seeking to enhance environmental sustainability reporting, would need to put effective managerial measures in place to enhance the independence of the remuneration committees.

6.6 SUGGESTIONS FOR FURTHER STUDY

Future studies should extend the scope of corporate governance dimensions of this study by studying variables such as CEO duality and nomination committees. Future studies can also extend the scope of this study by investigating the moderating role of managerial and family ownership structures in the linkage between corporate governance and sustainability reporting. It is also suggested that future studies look at potential mediators in the relationship between corporate governance characteristics of publicly listed sub-Saharan African businesses and sustainability reporting.

6.7 CONCLUSION

From the study, it is generally evident that sub-Saharan African businesses are less interested in environmental sustainability than in social sustainability reporting. Igwe, Khatib, and Bazhair (2023) conducted a systematic review, revealing that companies in Africa primarily emphasize reporting their economic and social effects, while allocating relatively less attention to their environmental impact. This is evident from the CSR/ESG sustainability committee characteristics of the publicly listed businesses in sub-Saharan Africa. Evidently, publicly listed businesses in Ghana and Nigeria are yet to develop an interest in establishing sustainability committees to oversee effective sustainability reporting practices. The structural characteristics of

the sustainability committees of publicly listed businesses in Zimbabwe, Mauritius and South African are below international standards, which impedes effective functioning. With board composition, although board independence was high and board size met the standard requirements, there was limited gender diversity.

Notwithstanding the dynamic corporate governance characteristics, board gender diversity; board independence; remuneration committee size; remuneration committee independence; sustainability committee gender diversity; and meeting frequency, were the significant predictors of the quality of environmental sustainability reporting of the publicly listed businesses in sub-Saharan Africa. However, increasing the level of board female gender diversity; board independence; remuneration committee independence; and sustainability committee gender diversity, was associated with better environmental sustainability reporting; whereas, increasing board size and the frequency of sustainability committee meetings was associated with poorer environmental sustainability reporting. Finally, the corporate governance characteristics of the publicly listed businesses in sub-Saharan African businesses were not significantly related to social sustainability reporting practices.

It can also be concluded that, although ownership structure does not directly influence environmental and social sustainability reporting, some peculiar types of ownership of publicly listed businesses in sub-Saharan Africa moderate the influence of corporate governance characteristics on environmental sustainability reporting. For instance, the effect of the remuneration committee independence on environmental sustainability reporting of publicly listed sub-Saharan African businesses is dependent on block institutional ownership. Similarly, the significant effect of remuneration committee size on environmental sustainability is based on foreign block ownership. In another example, the effect of sustainability gender diversity on

social sustainability reporting of publicly listed sub-Saharan African businesses is dependent on foreign block ownership.

In resonance to the final framework of the study, block ownership was neither a significantly predictor of environmental sustainability nor a significant moderator in the relationship between corporate governance and environmental sustainability reporting. Based on this result, the proposed role of block ownership in the proposed framework of the study would be ignored in the final model or framework in reference to environmental sustainability reporting.

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APPENDIX 1: RESULTS GENERATED AT VARIOUS LEVELS OF THE HIERARCHICAL MODEL

```

Arellano-Bond dynamic panel-data estimation      Number of obs      =      1,969
Group variable: comp_id                          Number of groups   =      275
Time variable: year

Obs per group:
      min =      1
      avg =      7.16
      max =      8

Number of instruments =      65                    Wald chi2(17)      =      441.14
                                                    Prob > chi2        =      0.0000

```

envdisclos	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
envdisclos						
L1.	1.275304	.0797847	15.98	0.000	1.118928	1.431679
Mbv	-.0010489	.0093799	-0.11	0.911	-.0194332	.0173354
Dta	-.001655	.0026295	-0.63	0.529	-.0068088	.0034987
bsize	-.0244322	.3172357	-0.08	0.939	-.6462027	.5973384
Bfgd	.2762363	.0580976	4.75	0.000	.1623671	.3901055
Bind	.0280127	.0238065	1.18	0.239	-.0186472	.0746726
bown	-.0539127	.0509273	-1.06	0.290	-.1537283	.0459028
acsize	-.5805568	.4479036	-1.30	0.195	-1.458432	.297318
acind	-.0264888	.0316093	-0.84	0.402	-.0884419	.0354643
acmt	1.213394	.4542034	2.67	0.008	.3231717	2.103616
rcsize	-.6351628	.5331521	-1.19	0.234	-1.680122	.4097961
rcmt	.3331379	.4264716	0.78	0.435	-.5027311	1.169007
rcind	.0879553	.0285019	3.09	0.002	.0320926	.143818
csrsize	.1806149	.655463	0.28	0.783	-1.104069	1.465299
scind	-.0125692	.0393367	-0.32	0.749	-.0896678	.0645293
scgd	.1230373	.053204	2.31	0.021	.0187593	.2273153

csrbmt	-1.334814	.8280495	-1.61	0.107	-2.957761	.2881337
_cons	-13.32491	5.29691	-2.52	0.012	-23.70666	-2.943154

Instruments for differenced equation

GMM-type: L(2/.)envdisclos

Standard: D.mbv D.dta D.bsize D.bfgd D.bind D.bown D.acsize D.acind

D.acmt D.rcsize D.rcmt D.rcind D.csrsz D.scind D.scgd

D.csrbmt mbv dta bsize bfgd bind acind bown acsize acmt

rcsize rcind csrsz

Instruments for level equation

Standard: _cons

Arellano-Bond dynamic panel-data estimation

Group variable: comp_id

Time variable: year

Number of obs = 1,964

Number of groups = 275

Obs per group:

min = 1

avg = 7.141818

max = 8

Number of instruments = 69

Wald chi2(21) = 443.46

Prob > chi2 = 0.0000

One-step results

envdisclos	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
envdisclos						
L1.	1.266731	.0794769	15.94	0.000	1.110959	1.422503
mbv	-.001064	.0093206	-0.11	0.909	-.019332	.017204
dta	-.0017323	.0026137	-0.66	0.507	-.0068551	.0033904
bsize	-.0882388	.3158336	-0.28	0.780	-.7072613	.5307836
bfgd	.2674683	.0579716	4.61	0.000	.1538461	.3810906
bind	.0305494	.0236736	1.29	0.197	-.01585	.0769487
bown	-.0576169	.050537	-1.14	0.254	-.1566676	.0414337
acsize	-.6194255	.4477227	-1.38	0.167	-1.496946	.258095
acind	-.0308064	.0317481	-0.97	0.332	-.0930314	.0314187
acmt	1.153004	.4534221	2.54	0.011	.2643134	2.041695
rcsize	-.6220038	.5307312	-1.17	0.241	-1.662218	.4182102
rcmt	.3188926	.4243615	0.75	0.452	-.5128406	1.150626
rcind	.0847571	.0283431	2.99	0.003	.0292056	.1403086
csrsz	.2415348	.65488	0.37	0.712	-1.042006	1.525076
scind	-.0185801	.0391329	-0.47	0.635	-.0952792	.058119
scgd	.1227779	.0528955	2.32	0.020	.0191047	.2264511
csrbmt	-1.216271	.8246829	-1.47	0.140	-2.832619	.4000781
blkown	-.049974	.0957237	-0.52	0.602	-.237589	.137641
blkinsown	-.0617884	.0924569	-0.67	0.504	-.2430006	.1194237

blkgovown	-.0193852	.1355706	-0.14	0.886	-.2850987	.2463282
blkforown	2.171229	4.438632	0.49	0.625	-6.52833	10.87079
_cons	-6.056118	5.8163	-1.04	0.298	-17.45586	5.343621

```

Arellano-Bond dynamic panel-data estimation      Number of obs      =      1,964
Group variable: comp_id                          Number of groups   =      275
Time variable: year

Obs per group:
    min =      1
    avg =    7.141818
    max =      8

Number of instruments =      125                  Wald chi2(77)     =      483.54
                                                    Prob > chi2       =      0.0000

One-step results

```

envdisclos	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
envdisclos						
L1.	1.243546	.0850848	14.62	0.000	1.076783	1.41031
mbv	-.0007931	.0092644	-0.09	0.932	-.0189509	.0173648
dta	-.0020065	.0026174	-0.77	0.443	-.0071365	.0031235
bsize	-.6380454	.7259345	-0.88	0.379	-2.060851	.78476
bfgd	.2140045	.1427915	1.50	0.134	-.0658617	.4938707
bind	.0079401	.1215915	0.07	0.948	-.230375	.2462551
bown	-.0702764	.113717	-0.62	0.537	-.2931576	.1526047
acsize	2.123288	1.16061	-1.83	0.067	-4.398042	.1514654
acind	.0455487	.083273	0.55	0.584	-.1176633	.2087607
acmt	.8889722	1.17368	0.76	0.449	-1.411398	3.189342
rcsize	-.1600635	1.280269	-0.13	0.901	-2.669345	2.349218
rcmt	.611347	1.077713	0.57	0.571	-1.500932	2.723626
rcind	.0542936	.0680143	0.80	0.425	-.079012	.1875992
csrsize	-1.183305	1.258976	-0.94	0.347	-3.650853	1.284243

scind	.0617553	.0846249	0.73	0.466	- .1041064	.2276171
scgd	.1947665	.1133361	1.72	0.086	- .0273681	.4169011
csrbmt	- 1.544824	1.822328	-0.85	0.397	- 5.116522	2.026874
blkown	.2959627	.5475599	0.54	0.589	- .7772349	1.36916
blkinsown	- .7791126	.5198217	-1.50	0.134	- 1.797944	.2397193
blkgovown	.9374172	.7709607	1.22	0.224	- .5736379	2.448472
blkforown	8.682803	13.93777	0.62	0.533	- 18.63473	36.00034
blkown_bsize	- .0369415	.031067	-1.19	0.234	- .0978317	.0239486
blkown_bfgd	- .0004962	.0056501	-0.09	0.930	- .0115703	.0105779
blkown_bind	.0040418	.0044878	0.90	0.368	- .0047541	.0128377
blkown_bown	- .0019243	.0036448	-0.53	0.598	- .0090679	.0052193
blkown_acsize	.0330967	.0490793	0.67	0.500	- .0630969	.1292903
blkown_acind	- .0004478	.0026815	-0.17	0.867	- .0057034	.0048079
blkown_acmt	- .0543309	.0455442	-1.19	0.233	- .143596	.0349341
blkown_rcsize	.0031349	.0617656	0.05	0.960	- .1179235	.1241933
blkown_rcmt	- .0413294	.0600119	-0.69	0.491	- .1589506	.0762919
blkown_rcind	- .0026378	.0025993	-1.01	0.310	- .0077324	.0024569
blkown_csrsz	.0986514	.076991	1.28	0.200	- .0522481	.2495509
blkown_scind	.0020229	.0048126	0.42	0.674	- .0074097	.0114554
blkown_scgd	-.01549	.0104319	-1.48	0.138	- .0359361	.0049562
blkown_csrbmt	.0686745	.1495618	0.46	0.646	- .2244614	.3618103
blkinsown_bsize	.0464671	.030607	1.52	0.129	- .0135215	.1064556
blkinsown_bfgd	.0019388	.0054251	0.36	0.721	- .0086941	.0125718
blkinsown_bind	- .0030684	.0042605	-0.72	0.471	- .0114188	.0052821
blkinsown_bown	.0022096	.003543	0.62	0.533	- .0047345	.0091537

blkinsown_acsize	.0038667	.0466081	0.08	0.934	-	.0874834	.0952168
blkinsown_acind	-.000474	.0023721	-0.20	0.842	-	.0051233	.0041752
blkinsown_acmt	.0665106	.0425482	1.56	0.118	-	.0168823	.1499035
blkinsown_rcsize	-	.0610792	-0.33	0.741	-	.139864	.0995621
	.0201509						
blkinsown_rcmt	.0347181	.0581822	0.60	0.551	-	.0793169	.1487532
blkinsown_rcind	.0044896	.0024603	1.82	0.068	-	.0003325	.0093116
blkinsown_csrsz	-	.0745327	-1.05	0.295	-	.224084	.0680789
	.0780025						
blkinsown_scind	-	.0046754	-0.94	0.349	-	.0135434	.0047838
	.0043798						
blkinsown_scgd	.0147538	.0103198	1.43	0.153	-	.0054726	.0349802
blkinsown_csrmt	-	.1464948	-0.43	0.667	-	.3500926	.2241563
	.0629681						
blkgovown_bsize	.0089125	.026529	0.34	0.737	-	.0430833	.0609084
blkgovown_bfgd	.0014921	.0057354	0.26	0.795	-	.009749	.0127332
blkgovown_bind	-	.0059975	-1.62	0.105	-	.0214634	.0020464
	.0097085						
blkgovown_bown	-	.0065842	-0.64	0.525	-	.0170893	.0087202
	.0041845						
blkgovown_acsize	-	.0418382	-1.27	0.203	-	.13528	.0287227
	.0532787						
blkgovown_acind	-.000872	.0044491	-0.20	0.845	-	.009592	.0078481
blkgovown_acmt	-	.0227333	-0.55	0.584	-	.0569977	.0321151
	.0124413						
blkgovown_rcsize	-	.0364914	-0.50	0.617	-	.089759	.0532847
	.0182372						
blkgovown_rcmt	-	.0249833	-0.38	0.706	-	.0583786	.0395539
	.0094124						
blkgovown_rcind	-	.0023433	-0.18	0.858	-	.0050133	.0041724
	.0004205						
blkgovown_csrsz	.0299465	.0390255	0.77	0.443	-	.046542	.1064351
blkgovown_scind	.0027614	.0028656	0.96	0.335	-	.0028552	.0083779
blkgovown_scgd	-	.0050597	-1.36	0.174	-	.0167986	.0030349
	.0068819						
blkgovown_csrmt	.0258488	.0481249	0.54	0.591	-	.0684743	.1201719
blkforown_bsize	.1785836	.7417509	0.24	0.810	-	1.275221	1.632389
blkforown_bfgd	-.139585	.1460439	-0.96	0.339	-	.4258258	.1466558
blkforown_bind	-.062893	.1146307	-0.55	0.583	-	.287565	.161779

blkforown_bown	.0954567	.1421667	0.67	0.502	-.183185	.3740984
blkforown_acsize	.0893648	1.346828	0.07	0.947	-2.550369	2.729099
blkforown_acind	-.0617946	.0715725	-0.86	0.388	-.2020741	.078485
blkforown_acmt	.107022	1.365342	0.08	0.938	-2.568999	2.783043
blkforown_rcsize	2.665181	1.370106	1.95	0.052	-.0201762	5.350539
blkforown_rcmt	.140832	1.023942	0.14	0.891	-1.866057	2.147721
blkforown_rcind	-.1608801	.0641627	-2.51	0.012	-.2866367	-.0351236
blkforown_csrsz	.4553986	2.677327	0.17	0.865	-4.792065	5.702863
blkforown_scind	.222567	.1741875	1.28	0.201	-.1188343	.5639682
blkforown_scgd	.0035945	.1718714	0.02	0.983	-.3332672	.3404562
blkforown_csrmt	-.0383018	4.190251	-0.01	0.993	-8.251042	8.174439
_cons	4.833344	14.72463	0.33	0.743	-24.0264	33.69309

Instruments for differenced equation
GMM-type: L(2/).envdisclos
Standard: D.mbv D.dta D.bsize D.bfgd D.bind D.bown D.acsize D.acind
D.acmt D.rcsize D.rcmt D.rcind D.csrsz D.scind D.scgd
D.csrmt D.blkown D.blkinsown D.blkgovown D.blkforown
D.blkown_bsize D.blkown_bfgd D.blkown_bind D.blkown_bown
D.blkown_acsize D.blkown_acind D.blkown_acmt D.blkown_rcsize
D.blkown_rcmt D.blkown_rcind D.blkown_csrsz D.blkown_scind
D.blkown_scgd D.blkown_csrmt D.blkinsown_bsize
D.blkinsown_bfgd D.blkinsown_bind D.blkinsown_bown
D.blkinsown_acsize D.blkinsown_acind D.blkinsown_acmt
D.blkinsown_rcsize D.blkinsown_rcmt D.blkinsown_rcind
D.blkinsown_csrsz D.blkinsown_scind D.blkinsown_scgd
D.blkinsown_csrmt D.blkgovown_bsize D.blkgovown_bfgd
D.blkgovown_bind D.blkgovown_bown D.blkgovown_acsize
D.blkgovown_acind D.blkgovown_acmt D.blkgovown_rcsize
D.blkgovown_rcmt D.blkgovown_rcind D.blkgovown_csrsz
D.blkgovown_scind D.blkgovown_scgd D.blkgovown_csrmt
D.blkforown_bsize D.blkforown_bfgd D.blkforown_bind
D.blkforown_bown D.blkforown_acsize D.blkforown_acind
D.blkforown_acmt D.blkforown_rcsize D.blkforown_rcmt
D.blkforown_rcind D.blkforown_csrsz D.blkforown_scind
D.blkforown_scgd D.blkforown_csrmt mbv dta bsize bfgd bind
bown acsize acind acmt rcsize rcind csrsz

Instruments for level equation
Standard: _cons

```

Arellano-Bond dynamic panel-data estimation      Number of obs      =      1,969
Group variable: comp_id                          Number of groups   =      275
Time variable: year

Obs per group:
      min =      1
      avg =      7.16
      max =      8

Number of instruments =      65                  Wald chi2(17)     =      658.07
                                                Prob > chi2       =      0.0000

```

Two-step results

envidisclos	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
envidisclos						
L1.	1.33427	.0801393	16.65	0.000	1.1772	1.49134
mbv	-.000565	.0007507	-0.75	0.452	-.0020363	.0009063
dta	-.0015654	.0001852	-8.45	0.000	-.0019284	-.0012024
bsize	-.2071801	.2219591	-0.93	0.351	-.6422119	.2278518
bfgd	.1969157	.0471374	4.18	0.000	.1045282	.2893033
bind	.0251339	.0093593	2.69	0.007	.00679	.0434777

bown	-.0394842	.0455035	-0.87	0.386	-.1286695	.0497011
acsize	-.076817	.3353868	-0.23	0.819	-.7341631	.5805291
acind	-.0047771	.0308776	-0.15	0.877	-.0652961	.0557419
acmt	.6830794	.4016314	1.70	0.089	-.1041037	1.470263
rcsize	-.9685289	.3764392	-2.57	0.010	-1.706336	-.2307216
rcmt	-.18315	.4805957	-0.38	0.703	-1.1251	.7588003
rcind	.1105127	.0252304	4.38	0.000	.061062	.1599635
csrsize	.3045277	.5681498	0.54	0.592	-.8090254	1.418081
scind	-.0388803	.0338606	-1.15	0.251	-.1052458	.0274852
scgd	.117873	.0497453	2.37	0.018	.0203741	.2153719
csrbmt	-1.458542	.7107075	-2.05	0.040	-2.851503	-.065581
_cons	-11.1626	4.339907	-2.57	0.010	-19.66866	-2.656536

```

Arellano-Bond dynamic panel-data estimation      Number of obs      =      1,964
Group variable: comp_id                          Number of groups   =      275
Time variable: year

Obs per group:
min =      1
avg =      7.141818
max =      8

Number of instruments =      69                    Wald chi2(21)      =      702.37
                                                    Prob > chi2       =      0.0000

```

Two-step results

envdisclos	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
envdisclos						
L1.	1.335011	.0771051	17.31	0.000	1.183888	1.486135
mbv	-.0005796	.0007814	-0.74	0.458	-.0021111	.000952
dta	-.0015464	.0001968	-7.86	0.000	-.0019321	-.0011607
bsize	-.2462636	.221708	-1.11	0.267	-.6808033	.1882762
bfgd	.1972885	.046284	4.26	0.000	.1065736	.2880034

bind	.0259148	.0091147	2.84	0.004	.0080504	.0437792
bown	-.0399624	.0448192	-0.89	0.373	-.1278065	.0478817
acsize	-.11566	.3358134	-0.34	0.731	-.7738423	.5425222
acind	-.0011353	.0305585	-0.04	0.970	-.0610289	.0587582
acmt	.5935125	.3972902	1.49	0.135	-.185162	1.372187
rcsize	-1.079857	.3900094	-2.77	0.006	-1.844261	-.3154524
rcmt	-.2016431	.4755925	-0.42	0.672	-1.133787	.730501
rcind	.1154929	.025412	4.54	0.000	.0656864	.1652994
csrsize	.4155605	.5516813	0.75	0.451	-.665715	1.496836
scind	-.0384068	.032639	-1.18	0.239	-.102378	.0255645
scgd	.1170782	.0497765	2.35	0.019	.019518	.2146384
csrbmt	-1.509275	.7039842	-2.14	0.032	-2.889058	-.1294911
blkown	.0154808	.0927803	0.17	0.867	-.1663653	.197327
blkinsown	-.1011074	.0939238	-1.08	0.282	-.2851947	.0829799
blkgovown	.0460875	.1173961	0.39	0.695	-.1840046	.2761795
blkforown	-.9877199	2.758924	-0.36	0.720	-6.395111	4.419672
_cons	-6.423198	4.826848	-1.33	0.183	-15.88365	3.037251

Warning: gmm two-step standard errors are biased; robust standard errors are recommended.

Instruments for differenced equation
GMM-type: L(2/.) .envdisclos
Standard: D.mbv D.dta D.bsize D.bfgd D.bind D.bown D.acsize D.acind D.acmt D.rcsize D.rcmt D.rcind D.csrsize D.scind D.scgd D.csrbmt D.blkown D.blkinsown D.blkgovown D.blkforown mbv dta bsize bfgd bind bown acsize acind acmt rcsz rcind csrsize

Instruments for level equation
Standard: _cons

Arellano-Bond dynamic panel-data estimation Number of obs = 1,964
Group variable: comp_id Number of groups = 275
Time variable: year

Obs per group:
min = 1
avg = 7.141818
max = 8

Number of instruments = 125 Wald chi2(77) = 1066.26
Prob > chi2 = 0.0000

Two-step results

envdisclos	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
------------	-------	-----------	---	-----	------------	-----------

envdisclos						
L1.	1.35450 1	.093920 2	14.4 2	0.00 0	1.17042 1	1.53858 1
mbv	- .000604 5	.000823 2	-0.73	0.46 3	-.002218	.001009
dta	- .001887 6	.000251 7	-7.50	0.00 0	-.002380 9	-.001394 4
bsize	- .010132 2	.453062 6	-0.02	0.98 2	-.898118 6	.877854 2
bfgd	.214671 3	.121551 5	1.77	0.07 7	-.023565 2	.452907 8
bind	- .041255 3	.089734 1	-0.46	0.64 6	-.217131	.134620 3
bown	-.110593	.131907 3	-0.84	0.40 2	-.369126 6	.147940 6
acsize	- .894024 7	.988657 6	-0.90	0.36 6	-.283175 8	1.04370 9
acind	.058985 3	.091158 3	0.65	0.51 8	-.119681 8	.237652 3
acmt	- .797062 8	1.06304 3	-0.75	0.45 3	-.288058 8	1.28646 2
rcsize	- 1.47186 8	1.22112 8	-1.21	0.22 8	-.386523 5	.921499 5
rcmt	.534079 1	.859458 6	0.62	0.53 4	-.115042 9	2.21858 7
rcind	.067820 5	.050794	1.34	0.18 2	-.031733 8	.167374 9
csrsize	- 1.03237 4	1.04254 1	-0.99	0.32 2	-.307571 7	1.01096 9
scind	- .010697 4	.069443 8	-0.15	0.87 8	-.146804 8	.12541
scgd	.200943	.101554	1.98	0.04	.001899	.399986

	2	7		8	7	7
csrbmt	- 1.36742 4	1.14231 5	-1.20	0.23 1	-3.60632	.871472 4
blkown	.378966 2	.404408 5	0.94	0.34 9	- .413659 9	1.17159 2
blkinsown	- .894080 9	.373076 9	-2.40	0.01 7	- 1.62529 8	- .162863 7
blkgovown	1.44019 1	.569544 2	2.53	0.01 1	.323905 2	2.55647 7
blkforown	13.4698	11.7791 9	1.14	0.25 3	- 9.61698 3	36.5565 8
blkown_bsize	- .043972 6	.025872 7	-1.70	0.08 9	- .094682 1	.006737
blkown_bfgd	- .003215 6	.006982 2	-0.46	0.64 5	- .016900 6	.010469 3
blkown_bind	.003652 6	.002357 9	1.55	0.12 1	- .000968 9	.008274
blkown_bown	- .001265 2	.002553 5	-0.50	0.62 0	- .006269 9	.003739 5
blkown_acsize	.004491 7	.026261 9	0.17	0.86 4	- .046980 6	.055964
blkown_acind	- .000691 6	.002076 1	-0.33	0.73 9	- .004760 7	.003377 5
blkown_acmt	- .005977 6	.029474 1	-0.20	0.83 9	- .063745 8	.051790 5
blkown_rcsize	.034891 6	.073118 2	0.48	0.63 3	- .108417 3	.178200 6
blkown_rcmt	- .010857 3	.040178 8	-0.27	0.78 7	- .089606 2	.067891 6
blkown_rcind	- .003307 7	.002526	-1.31	0.19 0	- .008258 6	.001643 2
blkown_csrsiz	.082588 9	.053306	1.55	0.12 1	-.021889	.187066 7

blkown_scind	.004224 5	.003434 2	1.23	0.21 9	- .002506 4	.010955 5
blkown_scgd	- .010530 6	.008261 1	-1.27	0.20 2	- .026722 1	.005661
blkown_csr bmt	- .028580 8	.149656 4	-0.19	0.84 9	-.321902	.264740 4
blkinsown_bsize	.042805 4	.026822 4	1.60	0.11 1	- .009765 6	.095376 4
blkinsown_bfgd	.005001 1	.006854 3	0.73	0.46 6	- .008433 2	.018435 3
blkinsown_bind	- .002346 6	.002238 2	-1.05	0.29 4	- .006733 3	.002040 2
blkinsown_bown	.002512 9	.002899 3	0.87	0.38 6	- .003169 6	.008195 4
blkinsown_acsize	.020738 2	.024574	0.84	0.39 9	- .027425 9	.068902 3
blkinsown_acind	.000215 5	.001622 9	0.13	0.89 4	- .002965 2	.003396 3
blkinsown_acmt	.043100 6	.027393 4	1.57	0.11 6	- .010589 5	.096790 7
blkinsown_rcsize	- .036100 8	.068617 5	-0.53	0.59 9	- .170588 5	.098387
blkinsown_rcmt	.004746 9	.039051 4	0.12	0.90 3	- .071792 5	.081286 3
blkinsown_rcind	.005474 9	.002375	2.31	0.02 1	.00082	.010129 8
blkinsown_csrsiz e	- .054777 9	.051638 3	-1.06	0.28 9	- .155987 1	.046431 3
blkinsown_scind	- .006079 9	.003404 2	-1.79	0.07 4	- .012752 1	.000592 3
blkinsown_scgd	.009116 4	.008190 7	1.11	0.26 6	- .006937 1	.025169 8

blkinsown_csrbmt	.023776 2	.148342 3	0.16	0.87 3	- .266969 4	.314521 9
blkgovown_bsize	.003350 9	.014005 5	0.24	0.81 1	- .024099 4	.030801 2
blkgovown_bfgd	-.001894	.004050 3	-0.47	0.64 0	- .009832 4	.006044 5
blkgovown_bind	- .012884 9	.003714 5	-3.47	0.00 1	- .020165 2	- .005604 6
blkgovown_bown	- .004933 9	.003924 7	-1.26	0.20 9	- .012626 2	.002758 4
blkgovown_acsize	-.070027	.033625 4	-2.08	0.03 7	- .135931 6	- .004122 5
blkgovown_acind	- .000384 2	.003071	-0.13	0.90 0	- .006403 2	.005634 8
blkgovown_acmt	- .019908 2	.020924 7	-0.95	0.34 1	- .060919 8	.021103 4
blkgovown_rcsize	- .001489 9	.022312 2	-0.07	0.94 7	-.045221	.042241 3
blkgovown_rcmt	- .035976 3	.028982 2	-1.24	0.21 4	- .092780 4	.020827 8
blkgovown_rcind	- .001053 6	.001708 7	-0.62	0.53 7	- .004402 7	.002295 4
blkgovown_csrsiz	.000775 5	.037091 3	0.02	0.98 3	- .071922 1	.073473 1
blkgovown_scind	.004438 6	.001935 1	2.29	0.02 2	.000645 8	.008231 4
blkgovown_scgd	- .004637 2	.004285 8	-1.08	0.27 9	- .013037 2	.003762 8
blkgovown_csrbmt	.050111	.033878 9	1.48	0.13 9	- .016290 5	.116512 4
blkforown_bsize	.033946 7	.464884 6	0.07	0.94 2	- .877210 4	.945103 9

blkforown_bfgd	- .320754 2	.122534 5	-2.62	0.00 9	- .560917 4	-.080591
blkforown_bind	- .049794 8	.100900 7	-0.49	0.62 2	- .247556 5	.147966 9
blkforown_bown	.073415 1	.124398 9	0.59	0.55 5	- .170402 3	.317232 5
blkforown_acsize	- .269887 7	1.04398 9	-0.26	0.79 6	- 2.31606 9	1.77629 3
blkforown_acind	- .132855 7	.078756 2	-1.69	0.09 2	- .287215 1	.021503 7
blkforown_acmt	.720540 8	1.01003 8	0.71	0.47 6	- 1.25909 7	2.70017 8
blkforown_rcsize	2.35239 9	.946494 4	2.49	0.01 3	.497304 4	4.20749 4
blkforown_rcmt	.787938 4	1.15634 1	0.68	0.49 6	- 1.47844 8	3.05432 5
blkforown_rcind	- .167546 5	.050421 9	-3.32	0.00 1	- .266371 6	- .068721 5
blkforown_csrsz	.688567 4	1.83651 8	0.37	0.70 8	- 2.91094 2	4.28807 7
blkforown_scind	.128341 8	.098522 5	1.30	0.19 3	- .064758 7	.321442 3
blkforown_scgd	.028984 7	.123719 2	0.23	0.81 5	- .213500 5	.271469 9
blkforown_csrbmt	.845824 9	3.07905 7	0.27	0.78 4	- 5.18901 7	6.88066 6
_cons	2.90012 7	13.3356 7	0.22	0.82 8	- 23.2373 1	29.0375

Warning: gmm two-step standard errors are biased; robust standard errors are recommended.
Instruments for differenced equation
GMM-type: L(2/.) .envdisclos

Standard: D.mbv D.dta D.bsize D.bfgd D.bind D.bown D.acsize
D.acind
D.acmt D.rcsize D.rcmt D.rcind D.csrsize D.scind D.scgd
D.csrbmt D.blkown D.blkinsown D.blkgovown D.blkforown
D.blkown_bsize D.blkown_bfgd D.blkown_bind D.blkown_bown
D.blkown_acsize D.blkown_acind D.blkown_acmt D.blkown_rcsize
D.blkown_rcmt D.blkown_rcind D.blkown_csrsize D.blkown_scind
D.blkown_scgd D.blkown_csrbmt D.blkinsown_bsize
D.blkinsown_bfgd D.blkinsown_bind D.blkinsown_bown
D.blkinsown_acsize D.blkinsown_acind D.blkinsown_acmt
D.blkinsown_rcsize D.blkinsown_rcmt D.blkinsown_rcind
D.blkinsown_csrsize D.blkinsown_scind D.blkinsown_scgd
D.blkinsown_csrbmt D.blkgovown_bsize D.blkgovown_bfgd
D.blkgovown_bind D.blkgovown_bown D.blkgovown_acsize
D.blkgovown_acind D.blkgovown_acmt D.blkgovown_rcsize
D.blkgovown_rcmt D.blkgovown_rcind D.blkgovown_csrsize
D.blkgovown_scind D.blkgovown_scgd D.blkgovown_csrbmt
D.blkforown_bsize D.blkforown_bfgd D.blkforown_bind
D.blkforown_bown D.blkforown_acsize D.blkforown_acind
D.blkforown_acmt D.blkforown_rcsize D.blkforown_rcmt
D.blkforown_rcind D.blkforown_csrsize D.blkforown_scind
D.blkforown_scgd D.blkforown_csrbmt mbv dta bsize bfgd bind
bown acsize acind acmt rcsize rcind csrsize
Instruments for level equation
Standard: _cons

Social Sustainability

```

Arellano-Bond dynamic panel-data estimation      Number of obs      =      1,963
Group variable: comp_id                          Number of groups   =      275
Time variable: year

Obs per group:
min =      1
avg =      7.138182
max =      8

Number of instruments =      125                  Wald chi2(77)      =      768.47
                                                Prob > chi2        =      0.0000

Two-step results

```

Sdisclos	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Sdisclos						
L1.	.664640	.078859	8.4	0.00	.510078	.819202
	5	7	3	0	2	7
mbv	.003311	.001366	2.4	0.01	.000633	.005988
	2		2	5	9	6
dta	-	.000243	-	0.00	-	-.001152
	.001628	2	6.7	0	.002105	
	7		0		4	

bsize	.708606 4	.425052 5	1.6 7	0.09 5	- .124481 3	1.54169 4
bfgd	.128440 2	.097759 9	1.3 1	0.18 9	- .063165 7	.320046 1
bind	.088569 3	.060083 8	1.4 7	0.14 0	- .029192 7	.206331 3
bown	.002529 2	.076226 9	0.0 3	0.97 4	- .146872 7	.151931 1
acsize	1.35610 4	.645090 1	2.1 0	0.03 6	.091750 7	2.62045 8
acind	.080668 9	.059290 3	1.3 6	0.17 4	- .035537 8	.196875 7
acmt	.171008 3	.737806 6	0.2 3	0.81 7	- 1.27506 6	1.61708 3
rcsize	- .261174 3	.668175 1	- 0.3 9	0.69 6	- 1.57077 3	1.04842 5
rcmt	- .806852 2	.657205 9	- 1.2 3	0.22 0	- 2.09495 2	.481247 7
rcind	.061003 5	.039109 2	1.5 6	0.11 9	- .015649 1	.137656
csrsize	- .511283 6	.817976 3	- 0.6 3	0.53 2	- 2.11448 8	1.09192
scind	.032302 4	.041101 5	0.7 9	0.43 2	-.048255	.112859 8
scgd	.006950 1	.055173 5	0.1 3	0.90 0	-.101188	.115088 1
csrbmt	-2.06657	1.10461 1	- 1.8 7	0.06 1	- 4.23156 8	.098428 3
blkown	.063356 8	.256364 3	0.2 5	0.80 5	- .439107 9	.565821 6
blkinsown	.388737 9	.232003 6	1.6 8	0.09 4	- .065980 8	.843456 5
blkgovown	.136376 9	.388507 3	0.3 5	0.72 6	- .625083	.897837 3

					5	
blkforown	- 7.18168 5	9.04948 5	- 0.7 9	0.42 7	- 24.9183 5	10.5549 8
blkown_bsize	- .027683 8	.013688 9	- 2.0 2	0.04 3	- .054513 5	- .000854 1
blkown_bfgd	- .002216 9	.003090 6	- 0.7 2	0.47 3	- .008274 3	.003840 6
blkown_bind	.001944 2	.002170 6	0.9 0	0.37 0	-.00231	.006198 4
blkown_bown	.003171 1	.001731 6	1.8 3	0.06 7	- .000222 6	.006564 9
blkown_acsize	- .014808 7	.020323	- 0.7 3	0.46 6	- .054641 1	.025023 7
blkown_acind	-.000529	.001376 4	- 0.3 8	0.70 1	- .003226 8	.002168 8
blkown_acmt	- .004264 3	.022088 9	- 0.1 9	0.84 7	- .047557 8	.039029 1
blkown_rcsize	.047786 1	.026498 5	1.8 0	0.07 1	-.00415	.099722 3
blkown_rcmt	- .055130 2	.024221 5	- 2.2 8	0.02 3	- .102603 4	-.007657
blkown_rcind	- .000775 7	.001295	- 0.6 0	0.54 9	-.003314	.001762 5
blkown_csrsiz	.043747 6	.037577	1.1 6	0.24 4	- .029901 9	.117397 2
blkown_scind	-.001508	.002374 4	- 0.6 4	0.52 5	- .006161 8	.003145 9
blkown_scgd	.005118 9	.004470 5	1.1 5	0.25 2	- .003643 2	.013881
blkown_csrmt	- .003512 2	.060657 5	- 0.0 6	0.95 4	- .122398 8	.115374 3
blkinsown_bsize	.017263 3	.012786 2	1.3 5	0.17 7	- .007797 2	.042323 8

blkinsown_bfgd	.000082 9	.002348	0.0 4	0.97 2	- .004519 1	.004685
blkinsown_bind	- .003085 5	.002005 2	- 1.5 4	0.12 4	- .007015 6	.000844 7
blkinsown_bown	- .002767 8	.001496 7	- 1.8 5	0.06 4	- .005701 3	.000165 6
blkinsown_acsize	- .008203 2	.017916 4	- 0.4 6	0.64 7	- .043318 8	.026912 3
blkinsown_acind	- .000575 2	.001007 3	- 0.5 7	0.56 8	- .002549 4	.001399 1
blkinsown_acmt	- .000662 1	.017086 6	- 0.0 4	0.96 9	- .034151 2	.032827 1
blkinsown_rcsize	- .054300 1	.026693 8	- 2.0 3	0.04 2	- .106618 9	- .001981 3
blkinsown_rcmt	.073710 2	.022517 4	3.2 7	0.00 1	.029577	.117843 4
blkinsown_rcind	- .000386 7	.001228 9	- 0.3 1	0.75 3	- .002795 3	.002021 9
blkinsown_csrsz	- .046349 2	.034933 5	- 1.3 3	0.18 5	- .114817 6	.022119 3
blkinsown_scind	.000447 7	.002370 5	0.1 9	0.85 0	- .004198 4	.005093 8
blkinsown_scgd	- .005130 5	.004313 6	- 1.1 9	0.23 4	-.013585	.003323 9
blkinsown_csrbmt	.049077 8	.059007 4	0.8 3	0.40 6	- .066574 5	.164730 1
blkgovown_bsize	- .008246 1	.014055	- 0.5 9	0.55 7	- .035793 5	.019301 2
blkgovown_bfgd	- .000593 9	.003829 8	- 0.1 6	0.87 7	- .008100 2	.006912 3
blkgovown_bind	.000146 7	.003458 7	0.0 4	0.96 6	- .006632 3	.006925 7

blkgovown_bown	.007979 6	.004374 2	1.8 2	0.06 8	- .000593 7	.016552 8
blkgovown_acsize	- .055406 1	.020666 3	- 2.6 8	0.00 7	- .095911 2	-.014901
blkgovown_acind	- .004610 4	.002292 4	- 2.0 1	0.04 4	- .009103 5	- .000117 4
blkgovown_acmt	.016727 1	.011030 5	1.5 2	0.12 9	- .004892 2	.038346 4
blkgovown_rcsize	.006107 1	.014772 3	0.4 1	0.67 9	- .022846 1	.035060 2
blkgovown_rcmt	.007892 6	.016650 1	0.4 7	0.63 5	- .024740 9	.040526 1
blkgovown_rcind	.000403 9	.001436 9	0.2 8	0.77 9	- .002412 3	.003220 1
blkgovown_csrsize	.078719 7	.026595 5	2.9 6	0.00 3	.026593 5	.130846
blkgovown_scind	.001003 2	.001294 7	0.7 7	0.43 8	- .001534 5	.003540 8
blkgovown_scgd	- .003932 9	.002096 5	- 1.8 8	0.06 1	- .008042 1	.000176 2
blkgovown_csrmt	.018906 7	.027784 6	0.6 8	0.49 6	- .035550 2	.073363 6
blkforown_bsize	.079123	.425631 3	0.1 9	0.85 3	- .755099 1	.913345
blkforown_bfgd	.055647	.072917 2	0.7 6	0.44 5	-.087268	.198562
blkforown_bind	.032341 5	.055650 3	0.5 8	0.56 1	- .076731 1	.141414 1
blkforown_bown	- .058165 7	.070484 4	- 0.8 3	0.40 9	- .196312 6	.079981 1
blkforown_acsize	2.07239 8	.838090 1	2.4 7	0.01 3	.429771 4	3.71502 4
blkforown_acind	- .016596	.053485 4	- 0.3	0.75 6	- .121425	.088233

	4		1		7	
blkforown_acmt	- 1.27468 4	.682491 8	- 1.8 7	0.06 2	- 2.61234 4	.062975
blkforown_rcsize	.905155 6	.736676 4	1.2 3	0.21 9	- .538703 6	2.34901 5
blkforown_rcmt	- .153424 6	.638917 3	- 0.2 4	0.81 0	-1.40568	1.09883
blkforown_rcind	.043108 2	.034681 9	1.2 4	0.21 4	- .024867 1	.111083 4
blkforown_csrsz	.925292 7	1.28430 1	0.7 2	0.47 1	- 1.59189 2	3.44247 7
blkforown_scind	- .267107 8	.084498 5	- 3.1 6	0.00 2	- .432721 8	- .101493 9
blkforown_scgd	.316935 7	.097455 7	3.2 5	0.00 1	.125926	.507945 5
blkforown_csrmt	- 2.79946 5	2.13486 7	- 1.3 1	0.19 0	- 6.98372 8	1.38479 8
_cons	- 13.3055 1	10.2212 8	- 1.3 0	0.19 3	- 33.3388 5	6.72783 4

Warning: gmm two-step standard errors are biased; robust standard errors are recommended.
Instruments for differenced equation
GMM-type: L(2/.)sdisclos
Standard: D.mbv D.dta D.bsize D.bfgd D.bind D.bown D.acsize D.acind
D.acmt D.rcsize D.rcmt D.rcind D.csrsz D.scind D.scgd
D.csrmt D.blkown D.blkinsown D.blkgovown D.blkforown
D.blkown_bsize D.blkown_bfgd D.blkown_bind D.blkown_bown
D.blkown_acsize D.blkown_acind D.blkown_acmt D.blkown_rcsize
D.blkown_rcmt D.blkown_rcind D.blkown_csrsz D.blkown_scind
D.blkown_scgd D.blkown_csrmt D.blkinsown_bsize
D.blkinsown_bfgd D.blkinsown_bind D.blkinsown_bown
D.blkinsown_acsize D.blkinsown_acind D.blkinsown_acmt
D.blkinsown_rcsize D.blkinsown_rcmt D.blkinsown_rcind
D.blkinsown_csrsz D.blkinsown_scind D.blkinsown_scgd
D.blkinsown_csrmt D.blkgovown_bsize D.blkgovown_bfgd

D.blkgovown_bind D.blkgovown_bown D.blkgovown_acsize
D.blkgovown_acind D.blkgovown_acmt D.blkgovown_rcsize
D.blkgovown_rcmt D.blkgovown_rcind D.blkgovown_csrsize
D.blkgovown_scind D.blkgovown_scgd D.blkgovown_csrbmt
D.blkforown_bsize D.blkforown_bfgd D.blkforown_bind
D.blkforown_bown D.blkforown_acsize D.blkforown_acind
D.blkforown_acmt D.blkforown_rcsize D.blkforown_rcmt
D.blkforown_rcind D.blkforown_csrsize D.blkforown_scind
D.blkforown_scgd D.blkforown_csrbmt mbv dta bsize bfgd bind
bown acsize acind acmt rcsz rcind cszsz
Instruments for level equation
Standard: _cons

```

Arellano-Bond dynamic panel-data estimation      Number of obs      =      1,963
Group variable: comp_id                          Number of groups   =       275
Time variable: year

Obs per group:
    min =      1
    avg =    7.138182
    max =      8

```

```

Number of instruments =    125                Wald chi2(77)      =    184.43
                                                Prob > chi2        =    0.0000

```

One-step results

sdisclos	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
sdisclos						
L1.	.529786 8	.062079 8	8.5 3	0.00 0	.408112 6	.651460 9
mbv	.002151 8	.006708 4	0.3 2	0.74 8	- .010996 5	.015300 1
dta	- .001581 4	.001892 2	- 0.8 4	0.40 3	- .005290 1	.002127 3
bsize	.945186	.529952 7	1.7 8	0.07 5	- .093502 3	1.98387 4
bfgd	.142695 3	.103257 3	1.3 8	0.16 7	- .059685 2	.345075 8
bind	.051801 3	.087548 9	0.5 9	0.55 4	- .119791 4	.223393 9

bown	.066745 4	.082362 4	0.8 1	0.41 8	-.094682	.228172 7
acsize	1.21390 6	.843105 4	1.4 4	0.15 0	-.438550 7	2.86636 2
acind	.077940 7	.059726 6	1.3 0	0.19 2	-.039121 3	.195002 7
acmt	-.962816 9	.850009 8	-1.1 3	0.25 7	-2.62880 5	.703171 6
rsize	.612377 4	.924716 3	0.6 6	0.50 8	-1.20003 3	2.42478 8
rcmt	-.879085 3	.780267 6	-1.1 3	0.26 0	-2.40838 2	.650211
rcind	.062964 2	.049340 7	1.2 8	0.20 2	-.033741 8	.159670 2
csrsize	1.18640 4	.912356 8	1.3 0	0.19 3	-.601782 3	2.97459 1
scind	-.006572 4	.061700 4	-0.1 1	0.91 5	-.127503 1	.114358 2
scgd	.097602 4	.082642	1.1 8	0.23 8	-.064372 9	.259577 7
csrbmt	-2.21611 2	1.32988 1	-1.6 7	0.09 6	-4.82263	.390406
blkown	-.263897 9	.394709	-0.6 7	0.50 4	-1.03751 3	.509717 5
blkinsown	.584509	.375056 5	1.5 6	0.11 9	-.150588 3	1.31960 6
blkgovown	1.00329 3	.560412 3	1.7 9	0.07 3	-.095094 6	2.10168 1
blkforown	4.92482 6	10.1016 3	0.4 9	0.62 6	-14.874	24.7236 5
blkown_bsize	-.020362 4	.022399	-0.9 1	0.36 3	-.064263 6	.023538 9
blkown_bfgd	-.001377	.004069	-	0.73	-	.006598

		2	0.3 4	5	.009352 5	5
blkown_bind	.002669 3	.003252 7	0.8 2	0.41 2	- .003705 8	.009044 4
blkown_bown	.002341 5	.002642 3	0.8 9	0.37 6	- .002837 3	.007520 2
blkown_acsize	- .008498 3	.035477 4	- 0.2 4	0.81 1	- .078032 7	.061036 1
blkown_acind	.000076 9	.001938 9	0.0 4	0.96 8	- .003723 2	.003877
blkown_acmt	.021598 4	.032887 9	0.6 6	0.51 1	- .042860 6	.086057 5
blkown_rcsize	5.67e-06	.044505 3	0.0 0	1.00 0	- .087223 2	.087234 5
blkown_rcmt	- .023156 9	.043385 8	- 0.5 3	0.59 4	- .108191 4	.061877 6
blkown_rcind	.000560 6	.001880 2	0.3 0	0.76 6	- .003124 6	.004245 7
blkown_csrsiz	- .032637 6	.055575 6	- 0.5 9	0.55 7	- .141563 8	.076288 6
blkown_scind	.001615 2	.003451 2	0.4 7	0.64 0	- .005149 1	.008379 4
blkown_scgd	.001052 9	.007544 6	0.1 4	0.88 9	- .013734 2	.01584
blkown_csrmt	.043784 1	.108551	0.4 0	0.68 7	-.168972	.256540 2
blkinsown_bsize	.006487 7	.022072 2	0.2 9	0.76 9	-.036773	.049748 4
blkinsown_bfgd	- .000163 7	.003904 4	- 0.0 4	0.96 7	- .007816 2	.007488 8
blkinsown_bind	- .003264 9	.003084 4	- 1.0 6	0.29 0	- .009310 2	.002780 4
blkinsown_bown	- .002663	.002562 1	- 1.0	0.29 9	-.007685	.002358 4

	3		4			
blkinsown_acsize	- .006065 6	.033681 3	- 0.1 8	0.85 7	- .072079 8	.059948 6
blkinsown_acind	- .000621 8	.001717 5	- 0.3 6	0.71 7	- .003988 1	.002744 5
blkinsown_acmt	- .007517 5	.030709 7	- 0.2 4	0.80 7	- .067707 5	.052672 5
blkinsown_rcsize	- .015449 5	.044192 6	- 0.3 5	0.72 7	- .102065 5	.071166 5
blkinsown_rcmt	.036501 1	.042056 6	0.8 7	0.38 5	- .045928 4	.118930 6
blkinsown_rcind	- .001558 2	.001776 9	- 0.8 8	0.38 1	- .005040 9	.001924 5
blkinsown_csrsz	.015832 4	.053904 9	0.2 9	0.76 9	- .089819 3	.121484 1
blkinsown_scind	- .001924 6	.003362 6	- 0.5 7	0.56 7	- .008515 2	.004666
blkinsown_scgd	- .002358 2	.007455 1	- 0.3 2	0.75 2	- .016969 8	.012253 5
blkinsown_csrbmt	- .001883 2	.106248 1	- 0.0 2	0.98 6	- .210125 6	.206359 2
blkgovown_bsize	- .020624 3	.019081 2	- 1.0 8	0.28 0	- .058022 7	.016774 1
blkgovown_bfgd	.003028 8	.004196	0.7 2	0.47 0	- .005195 2	.011252 9
blkgovown_bind	- .005413 1	.004384 4	- 1.2 3	0.21 7	- .014006 4	.003180 3
blkgovown_bown	.002865 2	.004763 6	0.6 0	0.54 8	- .006471 3	.012201 7
blkgovown_acsize	- .042916 2	.030503 2	- 1.4 1	0.15 9	- .102701 4	.016869
blkgovown_acind	-	.003222	-	0.59	-	.004595

	.001720 3	2	0.5 3	3	.008035 8	1
blkgovown_acmt	.014720 2	.016461 6	0.8 9	0.37 1	- .017543 9	.046984 4
blkgovown_rcsize	.007224 4	.026418 6	0.2 7	0.78 5	- .044555 2	.059003 9
blkgovown_rcmt	.00871	.018078 5	0.4 8	0.63 0	- .026723 3	.044143 3
blkgovown_rcind	- .001385 8	.001711	- 0.8 1	0.41 8	- .004739 4	.001967 7
blkgovown_csrsiz e	.031945 3	.028454 9	1.1 2	0.26 2	- .023825 3	.087715 9
blkgovown_scind	- .001028 9	.002084 7	- 0.4 9	0.62 2	- .005114 9	.003057
blkgovown_scgd	- .005434 2	.003645 8	- 1.4 9	0.13 6	- .012579 8	.001711 4
blkgovown_csrbm t	.02389	.034847 5	0.6 9	0.49 3	-.04441	.092189 9
blkforown_bsize	.042083 8	.536727 6	0.0 8	0.93 8	- 1.00988 3	1.09405 1
blkforown_bfgd	.023365	.104880 3	0.2 2	0.82 4	- .182196 7	.228926 6
blkforown_bind	.023965	.082825 2	0.2 9	0.77 2	- .138369 4	.186299 3
blkforown_bown	-.071959	.101847 8	- 0.7 1	0.48 0	- .271576 9	.127659
blkforown_acsize	1.76218	.97388	1.8 1	0.07 0	- .146590 1	3.67094 9
blkforown_acind	- .061638 9	.051481 1	- 1.2 0	0.23 1	- .162540 1	.039262 3
blkforown_acmt	- 1.35923 4	.986350 5	- 1.3 8	0.16 8	- 3.29244 6	.573977 1
blkforown_rcsize	.057505	.990368	0.0	0.95	-	1.99859

		9	6	4	1.88358 2	2
blkforown_rcmt	.427669 9	.743176 7	0.5 8	0.56 5	-1.02893	1.88426 9
blkforown_rcind	.032572 4	.046422 3	0.7 0	0.48 3	- .058413 6	.123558 5
blkforown_csrsz	- .349375 2	1.98554 9	- 0.1 8	0.86 0	-4.24098	3.54222 9
blkforown_scind	- .212712 5	.126993 5	- 1.6 7	0.09 4	- .461615 2	.036190 1
blkforown_scgd	.383674 7	.125461 6	3.0 6	0.00 2	.137774 5	.629574 9
blkforown_csrmt	- 3.60172 9	3.08713 7	- 1.1 7	0.24 3	- 9.65240 6	2.44894 8
_cons	- 9.95049 6	10.7803 3	- 0.9 2	0.35 6	- 31.0795 5	11.1785 5

Instruments for differenced equation
GMM-type: L(2/.)sdisclos
Standard: D.mbv D.dta D.bsize D.bfgd D.bind D.bown D.acsize D.acind
D.acmt D.rcsize D.rcmt D.rcind D.csrsz D.scind D.scgd
D.csrmt D.blkown D.blkinsown D.blkgovown D.blkforown
D.blkown_bsize D.blkown_bfgd D.blkown_bind D.blkown_bown
D.blkown_acsize D.blkown_acind D.blkown_acmt D.blkown_rcsize
D.blkown_rcmt D.blkown_rcind D.blkown_csrsz D.blkown_scind
D.blkown_scgd D.blkown_csrmt D.blkinsown_bsize
D.blkinsown_bfgd D.blkinsown_bind D.blkinsown_bown
D.blkinsown_acsize D.blkinsown_acind D.blkinsown_acmt
D.blkinsown_rcsize D.blkinsown_rcmt D.blkinsown_rcind
D.blkinsown_csrsz D.blkinsown_scind D.blkinsown_scgd
D.blkinsown_csrmt D.blkgovown_bsize D.blkgovown_bfgd
D.blkgovown_bind D.blkgovown_bown D.blkgovown_acsize
D.blkgovown_acind D.blkgovown_acmt D.blkgovown_rcsize
D.blkgovown_rcmt D.blkgovown_rcind D.blkgovown_csrsz
D.blkgovown_scind D.blkgovown_scgd D.blkgovown_csrmt
D.blkforown_bsize D.blkforown_bfgd D.blkforown_bind
D.blkforown_bown D.blkforown_acsize D.blkforown_acind
D.blkforown_acmt D.blkforown_rcsize D.blkforown_rcmt
D.blkforown_rcind D.blkforown_csrsz D.blkforown_scind
D.blkforown_scgd D.blkforown_csrmt mbv dta bsize bfgd bind

bown acsize acind acmt rcsz rcind csrsz
Instruments for level equation
Standard: _cons

Arellano-Bond dynamic panel-data estimation Number of obs = 1,963
Group variable: comp_id Number of groups = 275
Time variable: year

Obs per group:
min = 1
avg = 7.138182
max = 8

Number of instruments = 69 Wald chi2(21) = 121.05
Prob > chi2 = 0.0000

One-step results

sdisclos	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
sdisclos						
L1.	.569525	.0610632	9.33	0.000	.4498433	.6892067
mbv	.002298	.0068323	0.34	0.737	-.0110929	.015689
dta	-.0015519	.0019126	-0.81	0.417	-.0053005	.0021967
bsize	.1152658	.2319968	0.50	0.619	-.3394397	.5699712
bfgd	.0638607	.0410364	1.56	0.120	-.0165692	.1442906
bind	.0192513	.0172871	1.11	0.265	-.0146308	.0531334
bown	.0451703	.0369019	1.22	0.221	-.027156	.1174966
acsize	.3183823	.3276818	0.97	0.331	-.3238623	.9606269
acind	.0168734	.0221173	0.76	0.446	-.0264757	.0602225
acmt	-.1306366	.3326707	-0.39	0.695	-.7826591	.521386
rsize	-.2959834	.3873906	-0.76	0.445	-1.055255	.4632881
rcmt	.1253324	.3095041	0.40	0.686	-.4812844	.7319493
rcind	.0210904	.0207019	1.02	0.308	-.0194845	.0616654
csrsz	.9833286	.4812208	2.04	0.041	.0401531	1.926504
scind	-.0486942	.0287383	-1.69	0.090	-.1050202	.0076318
scgd	.0592281	.0384008	1.54	0.123	-.0160361	.1344923
csrbmt	-.2581745	.607504	-0.42	0.671	-1.44886	.9325115
blkown	-.1540687	.0697621	-2.21	0.027	-.2907999	-.0173375
blkinsown	.1116773	.0675383	1.65	0.098	-.0206953	.2440498
blkgovown	.0992414	.0981483	1.01	0.312	-.0931257	.2916085
blkforown	4.050618	3.301116	1.23	0.220	-2.419451	10.52069
_cons	11.17821	4.688505	2.38	0.017	1.988905	20.36751

Instruments for differenced equation
GMM-type: L(2/.)sdisclos
Standard: D.mbv D.dta D.bsize D.bfgd D.bind D.bown D.acsize D.acind
D.acmt D.rcsize D.rcmt D.rcind D.cssize D.scind D.scgd
D.csrbmt D.blkown D.blkinsown D.blkgovown D.blkforown mbv
dta bsize bfgd bind bown acsize acind acmt rsize rcind
Cssize
Instruments for level equation
Standard: _cons

Arellano-Bond dynamic panel-data estimation Number of obs = 1,963
Group variable: comp_id Number of groups = 275
Time variable: year

Obs per group:
min = 1
avg = 7.138182
max = 8

Number of instruments = 69 Wald chi2(21) = 314.67
Prob > chi2 = 0.0000

Two-step results

sdisclos	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
sdisclos						
L1.	.6772082	.080012	8.46	0.000	.5203875	.8340289
mbv	.0026874	.0014604	1.84	0.066	-.0001749	.0055498
dta	-.0016168	.0001985	-8.15	0.000	-.0020058	-.0012278
bsize	.0476308	.1665084	0.29	0.775	-.2787197	.3739813
bfgd	.0289677	.0326873	0.89	0.376	-.0350981	.0930336
bind	.0194647	.0090549	2.15	0.032	.0017175	.0372119
bown	.0562157	.0260673	2.16	0.031	.0051248	.1073066
acsize	.030993	.2625898	0.12	0.906	-.4836736	.5456595
acind	.002732	.0215473	0.13	0.899	-.0395	.044964
acmt	.0548815	.2782134	0.20	0.844	-.4904067	.6001697
rcsize	-.4140319	.3212935	-1.29	0.198	-1.043756	.2156918
rcmt	.2256453	.2525517	0.89	0.372	-.2693469	.7206375
rcind	.0193042	.0160027	1.21	0.228	-.0120605	.0506689
cssize	.2395257	.3961807	0.60	0.545	-.5369742	1.016025
scind	-.0259696	.0210232	-1.24	0.217	-.0671743	.0152352
scgd	.0353805	.023039	1.54	0.125	-.0097751	.080536
csrbmt	.0974567	.575142	0.17	0.865	-1.029801	1.224714

blkown	-.1000049	.0463677	-2.16	0.031	-.190884	-.0091258
blkinsown	.0702813	.0405857	1.73	0.083	-.0092651	.1498278
blkgovown	-.0812409	.1083555	-0.75	0.453	-.2936138	.1311321
Blkforown	-5.549263	3.552984	-1.56	0.118	-12.51298	1.414459
_cons	12.42108	4.600357	2.70	0.007	3.404549	21.43762

Warning: gmm two-step standard errors are biased; robust standard errors are recommended.
Instruments for differenced equation
GMM-type: L(2/.)sdisclos
Standard: D.mbv D.dta D.bsize D.bfgd D.bind D.bown D.acsize D.acind
D.acmt D.rcsize D.rcmt D.rcind D.cssize D.scind D.scgd
D.csrbmt D.blkown D.blkinsown D.blkgovown D.blkforown mbv
dta bsize bfgd bind bown acsize acind acmt rsize rcind
Cssize
Instruments for level equation
Standard: _cons

```

Arellano-Bond dynamic panel-data estimation      Number of obs   =       1,968
Group variable: comp_id                          Number of groups =         275
Time variable: year

Obs per group:
    min =          1
    avg =    7.156364
    max =          8

Number of instruments =          65                Wald chi2(17)    =       309.99
                                                    Prob > chi2      =       0.0000

```

Two-step results

sdisclos	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]
sdisclos					
L1.	.6996375	.0784018	8.92	0.000	.5459729 .8533021
mbv	.0029358	.0014431	2.03	0.042	.0001074 .0057641
dta	-.0015652	.0001798	-8.71	0.000	-.0019176 -.0012128
bsize	.0768807	.1742843	0.44	0.659	-.2647102 .4184716
bfgd	.034514	.0324858	1.06	0.288	-.0291569 .098185
bind	.0187065	.0082736	2.26	0.024	.0024905 .0349224
bown	.0558144	.025396	2.20	0.028	.0060392 .1055897
acsize	-.0315687	.2611761	-0.12	0.904	-.5434644 .480327
acind	.0008058	.0210109	0.04	0.969	-.0403749 .0419865
acmt	.0064636	.2691252	0.02	0.981	-.5210121 .5339392
rcsize	-.4865206	.3232443	-1.51	0.132	-1.120068 .1470266
rcmt	.2038108	.2531636	0.81	0.421	-.2923808 .7000024
rcind	.0213877	.016214	1.32	0.187	-.0103912 .0531666

csrsize	.1367535	.3955558	0.35	0.730	-.6385216	.9120286
scind	-.0254252	.0209005	-1.22	0.224	-.0663895	.0155391
scgd	.0368951	.0228902	1.61	0.107	-.007969	.0817591
csrbmt	.0654195	.5681505	0.12	0.908	-1.048135	1.178974
_cons	8.60529	4.163231	2.07	0.039	.4455069	16.76507

Warning: gmm two-step standard errors are biased; robust standard errors are recommended.						
Instruments for differenced equation						
GMM-type: L(2/.)sdisclos						
Standard: D.mbv D.dta D.bsize D.bfgd D.bind D.bown D.acsize D.acind						
D.acmt D.rcsize D.rcmt D.rcind D.csrsize D.scind D.scgd						
D.csrbmt mbv dta bsize bfgd bind bown acsize acind acmt						
rcsize rcind csrsize						
Instruments for level equation						
Standard: _cons						

```

Arellano-Bond dynamic panel-data estimation      Number of obs   =       1,968
Group variable: comp_id                        Number of groups =        275
Time variable: year

Obs per group:
    min =          1
    avg =       7.156364
    max =          8

Number of instruments =      65                Wald chi2(17)   =       119.36
                                                Prob > chi2     =        0.0000

One-step results

```

sdisclos	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]
sdisclos					
L1.	.5839394	.0609916	9.57	0.000	.4643981 .7034808
mbv	.0023609	.0068862	0.34	0.732	-.0111358 .0158576
dta	-.0015737	.001927	-0.82	0.414	-.0053505 .0022031
bsize	.1797353	.2334109	0.77	0.441	-.2777418 .6372123
bfgd	.0740549	.0411886	1.80	0.072	-.0066733 .154783
bind	.0170563	.017416	0.98	0.327	-.0170784 .051191
bown	.0442242	.0372449	1.19	0.235	-.0287744 .1172228
acsize	.3181885	.328219	0.97	0.332	-.3251089 .9614858
acind	.0182393	.0220532	0.83	0.408	-.0249842 .0614629
acmt	-.0910138	.3336092	-0.27	0.785	-.7448757 .5628482
rcsize	-.3047241	.3900393	-0.78	0.435	-1.069187 .4597389
rcmt	.1330091	.3114483	0.43	0.669	-.4774184 .7434365
rcind	.0214806	.0208494	1.03	0.303	-.0193835 .0623446
csrsize	.9647259	.48227	2.00	0.045	.019494 1.909958
scind	-.0443325	.0289242	-1.53	0.125	-.101023 .0123579
scgd	.061121	.0386847	1.58	0.114	-.0146997 .1369417

csrbmt	-.2799132	.6113375	-0.46	0.647	-1.478113	.9182863
_cons	8.258161	4.452386	1.85	0.064	-.4683558	16.98468

Instruments for differenced equation
GMM-type: L(2/.)sdisclos
Standard: D.mbv D.dta D.bsize D.bfgd D.bind D.bown D.acsize D.acind
D.acmt D.rcsize D.rcmt D.rcind D.cssize D.scind D.scgd
D.csrbmt mbv dta bsize bfgd bind bown acsize acind acmt
rcsize rcind cssize
Instruments for level equation
Standard: _cons

APPENDIX 2: ETHICS CLEARANCE



MANAGEMENT SCIENCES: FACULTY RESEARCH ETHICS COMMITTEE (FREC)

21 August 2023

Student No: 22175075

Dear Mr Blay

DOCTOR OF PHILOSOPHY IN MANAGEMENT SCIENCES: BUSINESS ADMINISTRATION

TITLE:

Sustainability Reporting in Sub-Saharan Africa: A Corporate Governance and Ownership Structure Perspective

Please be advised that the FREC Committee has reviewed your proposal and the following decision was made: **Approved – Ethics Level 1**

Date of FRC Approval: 23 February 2022

Approval has been granted for a period of two years from the above FRC date, after which you are required to apply for safety monitoring and annual recertification. Please use the form located at the Faculty. This form must be submitted to the FREC at least 3 months before the ethics approval for the study expires.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the FREC according to the FREC SOP's. Please note that ANY amendments in the approved proposal require the approval of the FREC as outlined in the FREC SOP's.

Yours sincerely

Prof Shalini Singh

Chairperson: Faculty Research Ethics Committee

APPENDIX 3: TURN IT IN REPORT

Sustainability Reporting in Sub-Saharan Africa: A Corporate Governance and Ownership Structure Perspective _Marshall Wellington Blay

ORIGINALITY REPORT

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4	Peter Nderitu Githaiga, James Kibet Kosgei. "Board characteristics and sustainability reporting. A case of listed firms in East Africa", <i>Corporate Governance: The International Journal of Business in Society</i> , 2022 Publication	<1%
5	Gibson Munisi, Trond Randøy. "Corporate governance and company performance across Sub-Saharan African countries", <i>Journal of Economics and Business</i> , 2013	<1%

APPENDIX 4: EDITORS CERTIFICATE

ETHEL ROSS

English language editing and proofreading

15 August 2023

To whomever it may concern:

This letter serves to confirm that I worked as the proofreader and language editor on Marshall Wellington Blay's Ph.D. thesis:

Sustainability Reporting in Sub-Saharan Africa: A Corporate Governance and Ownership Structure Perspective

In no way did I change the content.

Yours faithfully

Ethel Ross (BA Hons; H Dip Ed)

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Tel: 083 954 5412