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**Determinants of sustainability reporting practices of firms  
in developing countries: Evidence from Sub-Sahara Africa**

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## **Declaration**

I, Paul Arkoh, declare that this dissertation is entirely my work. It was submitted for the PhD in Management at Ca' Foscari University of Venice in Venice, Italy. This dissertation has never before been submitted for a degree or examination at another university.

Paul Arkoh

A handwritten signature in black ink, appearing to read 'Paul Arkoh', is positioned below the printed name.

## **Dedication**

I dedicate this work to my family, partner, and loved ones.

## **Acknowledgements**

I thank the Almighty God for His mercies, for seeing me through my PhD journey, and for all the successes achieved during this hectic period. I am also grateful to the Venice School of Management, especially the faculty of Management, for creating a wonderful research environment in which I can thrive. I got engaged with people who were always ready to help and challenge me to think critically. My heartfelt appreciation goes to my supervisor, Prof. Antonio Costantini and also Prof. Francesco Scarpa for their guidance, patience, coaching, advice, and encouragement in getting me to this point in my career. I am also extremely grateful to Marta Colombini, the Faculty Secretary, Prof. Francesco Zirpoli, the PhD program coordinator and Professor Anna Comacchio, the Director of Venice School of Management, for their support, guidance and patience during the difficult periods of the PhD program. My appreciation also goes to my friend Abubakari Sadick for his kind words and encouragement during the turbulent times of this incredible journey. To my beloved mother, Mrs. Comfort Ninson and my siblings, I say a “big thank” you for all your prayers and care. Finally, to Nana Konama Darteh, the love of my life and my everyday queen, thank you for being with me and enjoying this rollercoaster ride together all these years. May God richly bless you all!!!

## TABLE OF CONTENTS

Declaration .....	iii
Dedication .....	iv
Acknowledgements .....	v
Table of Figures .....	ix
List of Tables .....	x
Abstract .....	xi
CHAPTER I .....	2
Chapter I: Determinants of sustainability reporting: A systematic literature review .....	2
Abstract .....	4
1. Introduction .....	5
2. Literature review .....	8
3. Theoretical framework .....	9
4. Research methodology .....	11
4.1. Planning .....	12
4.2. Searching and selecting .....	12
4.3. Analysis .....	13
5. Findings .....	13
5.1. Descriptive analysis .....	14
5.1.1 Distribution over time .....	14
5.1.2 Distribution across journals .....	14
5.1.3 Distribution by industry and research method .....	15
5.1.4 Distribution across geographical settings .....	15
5.2. Determinants of sustainability reporting .....	17
5.2.1 Determinants under the Resource-Based View theory .....	17
5.2.2. Determinants under the Aggregate Entity theory .....	20
5.2.3 Determinants under Agency Theory .....	22
5.2.4 Determinants under the Real Entity theory .....	24
5.2.5 Determinants under Stakeholder theory .....	25
6. Future research avenue .....	26
7. Conclusion .....	27
References .....	30
CHAPTER II .....	51
Chapter II: Financial Institutions and Sustainability Reporting: Evidence from a Sub-Saharan African Country .....	51
Abstract .....	53
1. Introduction .....	54

<b>2. Background</b> .....	58
<b>3. Theoretical literature review</b> .....	60
3.1 Africapitalism theory .....	61
3.2 Stakeholder Theory .....	62
<b>4. Empirical literature review and hypotheses development</b> .....	63
<b>5. Research Design</b> .....	69
5.1 Sampling method .....	69
5.2 Data .....	70
5.3 Measurement of Variables .....	70
<b>5.3.1 Dependent Variable</b> .....	70
5.3.2 Independent variables .....	71
5.4 Model Specification .....	71
<b>6. Empirical results &amp; discussions</b> .....	72
6.1 Descriptive statistics .....	72
6.2 Correlation analysis .....	73
6.3 Multivariate regression analysis .....	74
<b>7. Summary and conclusions</b> .....	77
Limitations .....	79
References .....	81
Appendix 1. Disclosure items .....	96
<b>CHAPTER III</b> .....	98
Chapter III: Corporate Governance and Sustainability Reporting of Environmentally Sensitive Firms in Sub-Saharan Africa .....	98
Abstract .....	100
<b>1. Introduction</b> .....	101
<b>2. Theoretical review</b> .....	104
2.1 Stakeholder Theory .....	105
2.2 Africapitalism Theory .....	105
<b>3. Literature Review and Hypothesis Development</b> .....	107
<b>4. Methodology</b> .....	115
4.1 Sample Selection.....	116
4.2 Measurement of Variables .....	117
4.2.1. Dependent Variables .....	117
4.2.2. Independent Variables .....	118
4.2.3. Control Variables .....	118
<b>5. Results and Discussion</b> .....	119
5.2. Pairwise Correlation.....	119

5.3 Multivariate Analysis.....	120
5.4 Model Specification.....	120
5.5 Regression Results.....	121
5.6 GMM estimations to address possible endogeneity issues.....	122
5.7. Discussion.....	122
6. Conclusion.....	127
6.1 Managerial Implications and Policy Recommendations.....	128
6.2 Limitations and Future Research Opportunities.....	128
References.....	130
Appendix 1. Sustainability index Items.....	143

## Table of Figures

Figure 1 Sample selection Process.....	50
Figure 2 Distribution of articles over time.....	50
Figure 3 Distribution of articles across journals .....	51
Figure 4 Distribution of studies by countries.....	51
Figure 1 Sample selection Process.....	98

## List of Tables

Table.1 Top 5 most cited papers .....	41
Table 2 Distribution of articles by industry .....	41
Table 3 Distribution of articles by research methods .....	41
Table 4 Distribution of articles by continents .....	42
Table 5 The determinants of sustainability reporting .....	42
Table 1 Operationalisation of Variables .....	92
Table 2 Descriptive Statistics.....	93
Table 3 Average annual disclosure .....	93
Table 4 Correlation Matrix .....	94
Table 5 Regression Results.....	95
Table 6 Sensitivity analysis windows and regulatory windows.....	97
Table 1 Summary statistics.....	140
Table 2 Pairwise correlation matrix.....	141
Table 3 Fixed Effects regression results.....	142
Table 4 System GMM regression results.....	142

## Abstract

*The thesis explored the relationship between various selected corporate characteristics (mainly corporate governance mechanisms) and the extent of sustainability by firms in Sub-Saharan Africa. Specifically, the study examines the determinants of firms' sustainability reporting in Sub-Saharan Africa. The study was motivated by various reasons, the foremost being that various contextual factors influence organisational practices, including their decisions to engage in sustainability reporting and how extensive such reporting will be. The study started with a systematic literature review on the determinants of sustainability reporting from 2002-2021. The findings indicated that despite the rise in studies on the determinants of sustainability reporting over the years, many unexplored gaps still require academic attention. Precisely, findings show that sectors such as the financial and environmentally sensitive firms are yet to be explored. In addition, a few geographical jurisdictions like Africa, South America, and Oceania have been explored little. Also, content analysis was the dominant methodology in sustainability-reporting research. From this finding, the second paper for the thesis focused on exploring the determinants of the extent of sustainability reporting by examining the relationship between financial institutions' reputation, ownership structures (Foreign and government), board size and gender diversity and the extent of sustainability reporting by financial institutions in Ghana. Data for the study was gathered from annual and sustainability-related reports of 67 financial institutions from 2019-2021. Content analysis was used to analyse the reports. Panel data regression was used to test the study hypothesis. The findings showed that the extent of sustainability reporting is very low among financial institutions. Only reputation, foreign ownership, and government ownership have a significant positive relationship with the extent of sustainability reporting. The third study explored the nexus between corporate governance mechanisms and the extent of sustainability reporting of environmentally sensitive firms from 16 sub-Saharan African countries. Data was collected from the annual reports and sustainability-related reports of 49 environmentally sensitive firms through a content analysis technique. The findings indicated that the extent of sustainability reporting was moderate. System GMM estimations indicated that board gender diversity, the presence of an audit committee, a sustainability committee, and a risk committee, and the adoption of GRI guidelines exhibit a significant positive relationship with the extent of sustainability reporting. However, the influence of the variables changes when the sustainability reporting index is unpacked.*

**Keywords:** *Africapitalism; Sustainability Reporting; Corporate governance; Sub-Saharan Africa; Determinants.*

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# CHAPTER I.

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## **Chapter I: Determinants of sustainability reporting: A systematic literature review**

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## **Determinants of sustainability reporting: A systematic literature review**

### **Abstract**

*Sustainability reporting has been widely acknowledged as a crucial corporate sustainability practice and recently received increasing attention from regulators, standard-setters, practitioners, and researchers. Motivated by the abundance of work, and the variety of theoretical perspectives and existing evidence, this paper explores how the research on sustainability reporting determinants has developed over time and what is known and not known about this topic. To address this question, we conducted a systematic literature review of articles on sustainability reporting determinants published in ABS-ranked journals between 2002 and 2021. Building on Lozano et al. (2015) framework of corporate sustainability theories, our findings provide an updated overview of factors driving sustainability reporting and the determinants still under debate. Furthermore, to fill existing gaps and inspire future research developments, findings suggest further work focus on non-listed companies, environmentally sensitive industries, underexplored geographical areas, and qualitative methods. Finally, the paper has implications for managers and policymakers.*

**Keywords:** corporate sustainability, determinants, sustainability reporting, systematic literature review

## **1. Introduction**

Through sustainability reporting, companies publicly communicate their performance and impact on a wide range of economic, environmental, and social issues, and/or disclose how they manage the risks and opportunities that sustainability issues pose for their businesses (Sharma et al., 2020; Stiller & Daub, 2007).

As a consequence of stakeholders' increased awareness of the relationship between businesses, society, and the environment, the demand for sustainability reporting has rapidly increased in recent years (Ribeiro et al., 2019; Arnold et al., 2012). For instance, investors demand sustainability reporting to integrate social and environmental concerns into their risk assessment process (Arnold et al., 2012), but also customers, employees, and suppliers care about and monitor a firm's sustainability performance to make informed decisions (Ribeiro et al., 2019).

Responding to these pressures, companies have voluntarily increased their engagement with sustainability, in the hope of benefiting from value creation (Klein et al., 2005), legitimacy (Lodhia et al., 2012; Mahadeo et al., 2011) and reputational gains (Hu & Karbhari, 2015), and build stronger stakeholder relationships (Deegan, 2014).

In this context, corporate sustainability has become a hot topic in the academic literature. In particular, sustainability reporting has been widely recognized as a relevant area of corporate sustainability and an expanding field of inquiry (Hahn & Kuhnen, 2013). To explain the heterogeneity of corporate reporting practices on sustainability issues, a prominent stream of research investigates the determinants of sustainability reporting (Ali et al., 2021; Nuskiya et al., 2021; Arena et al., 2020; Orazalin & Mahmood, 2020), exploring what affect the choice to publish a sustainability report, or that influence the level of disclosure or its quality.

The abundance of work, and the variety of theoretical perspectives and existing evidence, suggest that a comprehensive and systematic review of the determinants of sustainability reporting is much needed to understand the state-of-the-art, identify knowledge gaps and develop future research avenues.

Providing a systematic literature review on this topic not only contributes to academic research but makes significant practical implications for businesses, society, and policymakers. Being under increasing pressure to convey their sustainability performance, businesses may benefit from insights revealing the drivers to achieve better sustainability disclosure. Furthermore, policymakers, who are increasingly involved in the regulation to foster corporate sustainability reporting, need to understand which factors may help to achieve this purpose. Finally, such an engagement from businesses and policymakers may contribute to the realization of the UN Agenda 2020's Sustainable Development Goals (Khalid et al., 2020; Jaiyesimi, 2016).

Prior literature reviews on the determinants of sustainability reporting were conducted before 2017 (e.g., Hahn & Kuhnen, 2013; Huang & Watson, 2015; Dienes et al., 2016; Fifka, 2013), suggesting that, given the rapid growth of sustainability reporting practice and academic research, an up-to-date review is needed to broaden existing knowledge and inspire future research.

Therefore, this paper aims to explore how research into the determinants of sustainability reporting has developed over time and what is known and not known about this topic. To address this question, we conducted a systematic literature review of 101 articles on the determinants of sustainability reporting published in ABS-ranked journals between 2002 and 2021.

Our study makes three timely contributions to the literature on sustainability reporting.

First, we extend our understanding of the determinants of sustainability reporting (Dienes et al., 2016; Gurnardi et al., 2021), by providing a comprehensive framework of existing empirical evidence.

Building on Lozano et al.'s (2015) framework of corporate sustainability theories, we offer a theoretical categorization of the drivers of sustainability reporting, as emerging from existing empirical evidence, under the resource-based view theory (profitability, firm size, and firm age), aggregate entity (government ownership), agency theory (board size, board independence, board gender diversity, and board meeting frequency), real entity theory (compliance with regulations) and stakeholder theory (stakeholder pressure and industry membership).

Furthermore, we depict future research avenues to advance the debate, suggesting researchers focus on non-listed companies, environmentally sensitive industries, underexplored geographical areas, and the determinants on which there is still disagreement in the literature, as well as make use of qualitative methods.

A third contribution of our study lies in providing a geographical breakdown of the literature under investigation. Interestingly, we find that most studies on the determinants of sustainability reporting have been conducted in Asia, while Africa and Oceania have been mostly ignored, opening avenues for future research. This is an important issue to explore since the drivers of sustainability reporting may be affected by the institutional setting.

The remainder of the paper is organised as follows. Section 2 deals with prior literature reviews on the determinants of sustainability reporting, while Section 3 presents the theoretical framing guiding our work. Section 4 describes the research methodology and Section 5 analyzes our findings. Section 6 suggests future research avenues, while Section 7 concludes by discussing our contributions to research and practice.

## 2. Literature review

Prior literature reviews have been carried out to consolidate existing knowledge and inspire future research on the determinants of sustainability reporting (Hahn & Kuhnen, 2013; Tauringana, 2021; Gunardi et al., 2021; Velte et al, 2020; Dienes et al., 2016; Huang & Watson, 2015; Fifka, 2013). These reviews are characterized by high heterogeneity in approaches and findings since they were conducted at different times and built on different samples, methodologies, and objectives. For instance, using a sample of 186 empirical studies, Fifka (2013) categorized the determinants of sustainability reporting into internal (e.g., company size, company industry) and external (e.g., stakeholders, regulations, culture) drivers. Reviewing the literature on sustainability reporting from 1999 to 2011, Hahn and Kuhnen (2013) provide a broad overview of the (internal and external) sustainability reporting determinants and discuss potential relationships with theories. Huang & Watson (2015) use a sample of publications from 13 top accounting journals to show that the main drivers of CSR reporting are stakeholder efforts, the institutionalization of CSR and CSR efforts and management control systems. Drawing on a sample of 316 publications from 2000 to 2015, Dienes et al. (2016) show that firm size, media visibility, and ownership structure are the most significant drivers of sustainability reporting. More recently, Velte et al. (2020) focused only on corporate governance drivers using a sample of 73 quantitative studies, Gunardi et al. (2021) used a sample of 15 articles on Islamic banks, while Tauringana's (2021) review was only based on managerial perception-based determinants in developing countries.

Therefore, a comprehensive and up-to-date understanding of the determinants of sustainability reporting is lacking, since existing literature reviews:

- cover articles published before 2015 (Fifka, 2013; Huang & Watson, 2015; Dienes et al., 2016);

- ignore certain sectors, such as the financial sector (Kiliç et al., 2015; Andrikopoulos et al., 2014) and the energy sector (Alshbili et al., 2018);
- focus on specific determinants, such as governance factors (Velte et al., 2020) and managerial perception-based drivers (Tauringana, 2021), rather than offering a comprehensive examination.

More generally, the need for a more recent literature review is justified by anecdotal evidence revealing that recent years have been characterised by the increasing institutionalization of corporate reporting practices, the introduction of new mandatory reporting requirements, the implementation of the UN SDGs, and the growing importance of sustainability issues for all the economic actors (Alshhadat, 2023; Zampone et al., 2023).

In light of the above, a study that provides a comprehensive review and systematic assessment of the determinants of sustainability reporting within the past two decades is needed. This could yield new valuable evidence being ignored in prior studies with relevant practical implications to benefit companies and society and inspire future research.

The present study is therefore set to answer the following research question: *what is the state-of-the-art of literature on the determinants of sustainability reporting?*

### **3. Theoretical framework**

In order to map and categorize the determinants of sustainability reporting, we build on the framework of corporate sustainability theories developed by Lozano et al. (2015).

Given that a unique and widely used theory in this field does not exist, we decided to use Lozano et al.'s (2015) framework since it acknowledges and integrates a wide range of corporate sustainability theories, offering an appropriate conceptual framework to discuss the determinants of sustainability reporting.

Under Lozano et al. (2015), corporate sustainability theories are categorized into the following groups: i) corporate entity theories; ii) corporate nature theories; iii) corporate obligations theories.

Corporate entity theories - which include Artificial, Aggregate, and Real Entity theories - are based on “the incorporation of a company, and how it is viewed legally, within a state context” (Lozano et al., 2015, p. 434). These theories generally focus on a company’s personality and clarify how it is to be established legally and how this influences its relationships with the government. Although they do not explicitly address corporate sustainability, these theories primarily focus on the external stakeholders of social sustainability. In particular, the Real Entity theory considers a company’s responsibilities to society.

The Corporate Nature theories have been developed to explain the nature of a firm’s existence, and they comprise the Contractual theory of the firm - which includes the Agency theory - the Evolutionary theory of the firm, and the Resource Based View (RBV) theory. These theories provide a perspective on the company’s existence and how it deals with the nexus between competitors and its resources. They mainly focus on the economic sustainability dimension, although they also acknowledge other stakeholders’ needs and expectations, as reflected in the social dimension. The Evolutionary theory and the RBV also contribute to the time dimension since the former posits that the firm’s survival is an evolutionary process based on the interaction between innovation and profitability-driven natural selection, while the latter focuses on developing unique resources over time.

Finally, the Corporate obligation theories - including the Stockholder, Social Contract, and Stakeholder theories – emphasize firms’ obligations to different stakeholder groups. These theories contribute to explaining how and to what purpose a company functions and how managers determine corporate objectives. While the Stockholder theory focuses on the

economic dimension, the Social contract theory is mainly related to the social dimension, by postulating that a company has an obligation to society, which is responsible for giving or removing a ‘license to operate’. Finally, the Stakeholder theory contends that companies should balance the needs of multiple stakeholders, including the environment, instead of prioritizing financial issues.

#### 4. Research methodology

To address our research question, we use the systematic literature review (SLR) methodology. A SLR provides transparent, clear, accessible, and impartially inclusive coverage of a particular research area. Denyer and Tranfield (2009, p. 671) define SLR as a “specific methodology that locates existing studies, selects and evaluates contributions, analyses and synthesizes data, and reports the evidence in such a way that allows reasonably clear conclusions to be reached about what is and is not known”.

Different from a traditional literature review, an SLR is based on a scientific, detailed, transparent, and replicable process, which allows researchers to gain reliable and high-quality findings, reveal literature gaps and develop future research avenues (Denyer and Tranfield, 2009; Tranfield et al., 2003; Álvarez Jaramillo et al., 2019; Sivarajah et al., 2017).

Following Tranfield et al. (2003) and Sivarajah et al. (2017), our SLR involved the following phases:

- phase 1 *Planning*: the research objectives are defined, and the literature review protocol is developed (Section 4.1);
- phase 2 *Searching and selecting*: relevant studies are searched and collected to build the final sample (Section 4.2);
- phase 3 *Analysis*: sampled articles are analysed to address the research question (Section 4.3);

- phase 4 *Reporting and dissemination*: results are presented and discussed (Section 5), and future research avenues are developed (Section 6).

#### 4.1. Planning

Our SLR is driven by the following research question: *how is research for inquiring into the determinants of sustainability reporting developing?*

We are interested to understand what has been done in the field of sustainability reporting determinants, providing some reflections on the current state of research, and outlining future research avenues to advance the debate.

Our examination of the current state of research is driven by two precise research objectives. First, we provide a general and descriptive state-of-the-art of the literature, with a specific focus on the research geographical setting of empirical studies, as an aspect not examined by previous literature reviews. Second, we offer a comprehensive and up-to-date overview and categorization of the determinants of sustainability reporting, building on the theoretical framework by Lozano et al. (2015).

#### 4.2. Searching and selecting

To search and collect relevant publications in the field of sustainability reporting determinants, we followed the procedure adopted in prior SLRs (e.g., Alvarez Jaramillo et al., 2019; Sivarajah et al., 2017; Mio et al., 2022) that involved the following steps:

1. to access high-quality and peer-reviewed academic articles, we searched the Scopus database for articles published by ABS-ranked journals. Consistently with the purpose of our study, our search was limited to journals classified under the ‘Business, Management, and Accounting’ Scopus subject category;
2. for practical reasons, we limited our search to articles written in English;
3. we searched articles published between 2002 and 2021;

4. consistently with the comprehensive nature of SLRs (Tranfield et al., 2003), our search included empirical, theoretical, and review papers;
5. to collect relevant articles, we used keywords related to sustainability reporting determinants (see Figure 1), obtaining 1,750 articles. As a second step, we removed the duplicates and excluded irrelevant items by reading their abstracts (i.e., when the determinants of sustainability reporting were not specifically addressed). This initial screening yielded 165 articles;
6. as the final step, the full texts of the 165 remaining articles were read in-depth, and we excluded items not addressing our research objectives. By doing so, we obtained a final sample of 101 articles.

INSERT FIGURE 1 HERE

### **4.3. Analysis**

As the following step, we carried out a manual content analysis of the 101 sample articles, guided by two specific objectives:

- i. To depict the state-of-the-art of the research field, we coded some descriptive features of the articles: journal of publication and ABS ranking, publication year, research setting (i.e., industry and geographic location), research methodology, and citation counts;
- ii. to map and categorize the determinants of sustainability reporting, we content analysed articles to code the drivers of the publication, the level of disclosure, and the quality of sustainability reports, building on Lozano et al. (2015)'s theoretical framework.

Our insights and findings are discussed in the following sections.

## **5. Findings**

### 5.1. Descriptive analysis

The descriptive analysis provides useful insights into the formal aspect of the literature that investigates the determinants of sustainability reporting. Specifically, we present the distribution of articles by year of publications, journals, and research design (i.e., research methods, industry, and geographical location).

#### 5.1.1 Distribution over time

Figure 2 shows that the academic interest in sustainability reporting has continuously increased in the period under investigation. Considering the years from 2010 onwards, the number of publications has more than doubled from 2010-2013 to 2014-2018, and increased further in the latest period (2018-2021).

INSERT FIGURE 2 HERE

#### 5.1.2 Distribution across journals

Interestingly, the 101 sample articles have appeared in 49 academic journals. This suggests that the topic is of interest both to accounting and other interdisciplinary journals.

Journals with at least two publications are listed in Figure 3. Findings indicate that the *Social Responsibility Journal* (10.89% of articles) leads as the journal with the highest number of publications, followed by the *Accounting, Auditing & Accountability Journal* (6.93% of articles) and the *Journal of Cleaner Production* (6.93% of articles).

INSERT FIGURE 3 HERE

Table 1 shows the top five publications by citations. Two of the articles were published in the 3-ABS ranked *Accounting, Auditing & Accountability Journal* (Islam and Degan, 2007; O'Dwyer, 2002) while the other three articles were published in the 3-ABS ranked *Journals of Business Ethics* (Reverte et al., 2009) and *Business, Strategy and Environment* (Fifka, 2013), and in the 2-ABS ranked *Review of Managerial Science Journal* (Gamerschlag et al., 2011).

INSERT TABLE 1 HERE

#### 5.1.3 Distribution by industry and research method

Table 2 presents the research settings of the sample articles. We find that over 60% of the articles used a sample of listed firms and that most studies have examined financial institutions (16.83%), especially in recent years. Surprisingly, environmentally sensitive industries such as energy (3.96%) and mining and forestry (4.95%) remain poorly explored, suggesting the need for further research.

INSERT TABLE 2 HERE

Table 3 reveals that content analysis (67.30%) has been the dominant research method to investigate the determinants of sustainability reporting, while the use of interviews (5.90%) and surveys (7.90%) has been minimal. Thus, future studies are recommended to explore qualitative methods to achieve a more in-depth understanding of the drivers of sustainability reporting.

INSERT TABLE 3 HERE

#### 5.1.4 Distribution across geographical settings

The examination of the geographical settings of the empirical research (Table 4 and Figure 4) shows that most of the studies have been conducted in Asia (41.6%), followed by Europe (21.8%), America (7.9%), Africa (6.9%) and Oceania (5.9%). These findings are consistent with prior reviews (Dienes et al., 2016), even if we find a higher gap between Asia and Europe, that may be due to the large number of Asian studies published in the last 5 years.

INSERT TABLE 4 HERE

INSERT FIGURE 4 HERE

- *Asia*. Asia has the highest number of publications on the determinants of sustainability reporting (42). Most of the studies are conducted in Bangladesh (8), followed by Malaysia (4) and China (4).
- *Europe*. Europe has the second-highest number of articles (22). Many European studies are located in Italy (6), followed by Spain (3) and Turkey (2). Surprisingly, highly industrialised countries, such as the United Kingdom, France, and Germany, either had no studies or only one. This confirms the findings of Fifka (2013) who reported a small number of studies in some advanced economies in Europe.
- *America*. Eight studies are conducted in America: four studies in the USA (Giannarakis, 2013, 2014; Giannarakis et al 2014; Iyer and Lulseged, 2013), two studies in Canada (Thorne et al., 2014; Ben-Amar and McIlkenny, 2015), one study in Mexico (Arena et al., 2020), and one study in a multi-country context (Gomez and Garcia, 2020).
- *Africa*. Seven studies used a sample of African firms: three articles (Alshbili et al., 2020; 2021; Chakroun et al., 2017) from the North African region (Libya, Tunisia), two articles (Mahadeo et al., 2011; Tauringana, 2021) from East African countries and only one article (Agyei and Yankey, 2019) from a country in West Africa (Ghana). Tilt et al. (2021) use a sample of firms from 48 Sub-Saharan African countries.
- *Oceania*. Six studies use a sample of firms from Oceania: five studies are based in Australia (Ranking et al., 2011; Lodhia et al., 2012; Bhattacharyya, 2014; Murphy and McGrath, 2013; Imitiaz Ferdous et al., 2019) and one in New Zealand (Dobbs and Staden, 2016).
- *Cross-countries*. Sixteen studies use samples of firms from different continents. For instance, Campanella et al., (2021) sampled 540 companies from Forbes Global 2000 list. Uyar et al., (2020) based their studies on a sample of 214 countries. Farook and Ahlu (2017) examined multinational firms in the UK, Australia, and South Africa.

Other cross-countries studies include Boiral (2017), Legendre and Coderre (2013), Comyns (2016), Shynader et al. (2016), and Luo et al. (2012).

## 5.2. Determinants of sustainability reporting

As a further step of our analysis, we coded the determinants of sustainability reporting that are identified and discussed in the literature under review. Building on Lozano et al.'s (2015) theoretical framework, we categorized the determinants under the following theories of the firm (see Table 5):

- i. determinants under the Resource-Based View theory: profitability, firm age, leverage, and firm size;
- ii. determinants under Agency Theory: board size, board independence, board gender diversity, and board meeting frequency;
- iii. determinants under the Aggregate Entity theory: government ownership, foreign ownership, family ownership, and institutional ownership;
- iv. determinants under the Real Entity theory: compliance with the law;
- v. determinants under Stakeholder theory: stakeholder pressures and industry.

INSERT TABLE 5 HERE

### 5.2.1 Determinants under the Resource-Based View theory

Under the RBV theory, a firm is understood as a collection of productive resources and capabilities that are used to develop and implement its strategies. From this perspective, sustainability performance and reporting can be conceived as resulting from internal resources and capabilities that firms can leverage to become more sustainable. In the literature under investigation, we identify the following key internal resources that are found to drive sustainability reporting:

- Profitability.* The role of firm profitability in sustainability reporting has been explored in twenty-seven articles, but contrasting findings still exist. On the one hand, some studies find that firm profitability drives sustainability reporting (e.g., Orazalin and Mahmood, 2020; Kumar Saha, 2019; Giannarakis; 2013, 2014; Ali et al., 2021). For instance, Menassa and Dagher (2020) reveal that firms with higher ROA and ROE are more likely to make social disclosures. Similarly, Syed and Butt (2017) show that firms with higher ROE tend to disclose more sustainability information. On the other hand, some studies show a negative relationship between profitability and sustainability reporting (Kumar et al., 2021; Bhattacharyya, 2014; Esposito et al., 2020). For instance, Kumar et al. (2021), using a sample of Indian firms, find that more profitable firms are less likely to engage in sustainability disclosure. Finally, some studies did not find a significant relationship between profitability and sustainability reporting (e.g., Reverte, 2009; Habbash, 2016). Despite the existence of conflicting findings, most of the studies under investigation report that profitability has a positive influence on both the adoption and the disclosure level of sustainability reporting. Indeed, more profitable businesses have more financial resources to hire sustainability specialists and make any investment needed to prepare a sustainability report.
- Firm age.* The relationship between firm age and sustainability reporting is examined in eleven articles. Most studies show that the older the firm, the better its sustainability reporting. For instance, Kumar et al. (2021), using a sample of 75 non-banking firms, found that firm age is positively related to sustainability disclosure. Saha (2019) shows that CSR disclosure of banks in Bangladesh depends on the age of the bank, while Kilic and Kuzey (2019) find that climate change disclosures are significantly positively correlated with a bank's age. Also, Fahad and Nidheesh (2020) provide evidence that firm age has a significant positive relationship with sustainability reporting. This is

because older firms have acquired the necessary knowledge, capabilities, and resources needed to prepare and publish a sustainability report. Also, in some parts of the world, the ability of an organisation to survive for a long time implies its success and, then, the availability of more financial resources. Nevertheless, some studies report that firm age has no significant impact on sustainability reporting (e.g., Rahman, 2011; Garas and Elmassah, 2018; Menassa and Nancy, 2020).

- *Leverage*. Eighteen studies have examined the role of leverage as a driver of sustainability reporting, gaining contrasting findings. Five studies found that leverage has a positive impact on sustainability reporting (e.g., Chakroun et al., 2014; Ahmed et al., 2021; Mahadeo et al., 2011; Andrikopoulos et al., 2014). For instance, Andrikopoulos et al. (2014) found that financial firms with high leverage disclose more sustainability information. Chakroun et al. (2014) report a positive relationship between leverage and sustainability reporting using a sample of companies from Tunisia. Conversely, six studies found a negative relationship between leverage and sustainability reporting (e.g., Sharma et al., 2020; Kumar et al., 2021; Giannarakis, 2013; 2014). For instance, Sharma et al. (2020), using a sample of Indian-listed firms, reveal that leverage has a negative impact on sustainability disclosure. Similarly, Giannarakis (2013; 2014) reports a negative relationship between leverage and CSR disclosure among US-based companies. Finally, some studies do not find a significant relationship between leverage and sustainability reporting (Giannarakis et al., 2014; Garas and Elmassah, 2018; Reverte, 2009; Luo et al., 2012; Coluccia et al., 2017). Despite the existence of contrasting findings, literature suggests that companies with high leverage prefer to use their resources to settle their debts, rather than engage in apparently costly activities, like sustainability reporting.

- *Firm size.* Thirty-six studies analyse the role of firm size as a determinant of sustainability reporting and consistent findings document that firm size has a positive impact on sustainability reporting. No study reports a negative association between firm size and sustainability disclosures, making firm size the determinant with the highest level of agreement in the literature. For instance, Orazalin and Mahmood (2020) reveal that firm size is a substantial driver of sustainability reporting among Kazakhstani public trading companies. Reverte (2009) examines a sample of 35 Spanish-listed firms' annual reports to conclude that larger firms have better sustainability ratings. Andrikopoulos et al. (2014) show that large European financial firms disclose more sustainability information. Thorne et al. (2014) conducted some interviews in Canada revealing that companies that issue sustainability reports are bigger than those that do not. Nuskiya et al. (2021) report that firm size is positively related to corporate environmental disclosure in Sri Lanka. The widely documented positive influence of firm size on sustainability reporting is generally explained by the significant amount of resources that large companies can leverage on to engage in sustainability initiatives and reporting, including public and media visibility and financial profitability.

#### 5.2.2. Determinants under the Aggregate Entity theory

The Aggregate Entity theory views the corporation as an extension of its shareholders. This implies that corporations are considered to be means for the exclusive benefit of the shareholders. For this reason, we categorized under this theory all the determinants which are related to a firm's ownership structure. From this perspective, the practice of sustainability reporting is influenced by the type of shareholders.

- *Government ownership.* Eight studies provide evidence that sustainability reporting is driven by government ownership. This relationship held valid in different contexts, such as Bangladesh (Saha, 2019), Indonesia (Surmata et al., 2021), Lebanon (Alshibili

et al., 2018), Italy (Fontana, 2015), India (Kumar et al., 2021). Only Garde Sánchez et al. (2017) find no relationship between government ownership and sustainability reporting. Interestingly, most of the evidence on the driving role of government ownership in sustainability reporting comes from developing countries. This is not surprising as developing countries' governments have led the sustainable development agenda (Hect, 1999) and could lead by example by ensuring government-owned firms issue sustainability reports.

- *Foreign ownership.* Nine studies investigate the role of foreign ownership as a determinant of sustainability reporting, yielding conflicting and mixed results. While some studies report a negative relationship between foreign investment and sustainability disclosures (Sharma et al., 2020; Arena et al., 2020), others find the opposite relationship (Sumarta, et al., 2021; Amidjaya and Widagdo, 2020; Fahad and Nidheesh, 2020). Some studies even find no significant relationship (Chakroun et al., 2017; Matuszak and Róžańska, 2020; Ahmed et al., 2021) between sustainability reporting and foreign shareholding. These conflicting findings point to the need for further research on this topic.
- *Family ownership.* Despite the topic has been addressed by six studies, there is still much disagreement in the literature about the role of family ownership as a driver of sustainability reporting. While some studies report a positive relationship between family ownership and sustainability disclosure (Habbash, 2016; Amidjaya and Widagd, 2020; Syed and Butt, 2017), others reveal a negative (Muttakin and Khan (2014) or a not significant relationship (Sumarta et al., 2021). Therefore, further research is recommended.

- *Institutional ownership.* Among the five studies covering this topic, most of them have found that institutional ownership is not a significant driver of sustainability reporting (Ahmed et al., 2021; Habbash, 2016; Ullah et al., 2019; Al Farooque and Ahulu, 2011).

### 5.2.3 Determinants under Agency Theory

Agency theory explains the conflicted relationship between managers and stakeholders, assuming the conflicts of interest between the principal (ownership) and agent (managers) and the presence of opportunistic behaviour of agents. From the perspective of corporate sustainability, corporate governance has a key role to curb managers' opportunism and to ensure that agents act in the interest of a wide variety of stakeholders. Therefore, a wealth of literature has investigated the effectiveness of various board characteristics to drive sustainability reporting:

- *Board size.* Fourteen publications study the role of board size as a determinant of sustainability reporting. Findings suggest that firms with larger board size tend to disclose more sustainability information. Large boards can help in mitigating opportunistic behaviour of management and they also benefit from different expertise and knowledge of which sustainability could be part hence resulting in higher disclosure (Campanella et al., 2021). Indeed, eight articles report a positive relationship between board size and sustainability reporting in different countries, such as Sri Lanka (Nuskiya et al., 2021), Pakistan (Ahmed et al., 2021), Europe (Fatma and Chouaibi, 2021), Gulf Countries (Harun et al., 2020) and Palestine and Jordan (Barakat et al., 2014). Conversely, few articles do not find any significant relationship between board size and sustainability reporting (Alshbili et al., 2018; Campanella et al., 2021; Giannarakis, 2013; 2014), while no study reports a negative relationship.
- *Board independence.* The role of board independence (i.e., the number of independent non-executive board members) in sustainability reporting is investigated in fourteen

studies. Despite few exceptions, revealing a negative (Nugraheni and Khasanah, 2019) or not significant relationship (Baraket et al., 2014), most studies show that firms with more independent boards tend to engage more in sustainability reporting (e.g., Nuskiya et al., 2021; Chouaibi, 2021; Al Farooque and Ahulu, 2017; Bhatia & Makkar, 2019; Campanella et al., 2021; Cucari et al., 2018). Indeed, independent board members can enhance the adoption, level, and quality of corporate disclosures, including sustainability reporting, in which management might not be interested. Also, more independent board members increase the overall board size.

- *Board gender diversity.* Nine studies examine the role of board gender diversity (i.e., the ratio of the number of female directors to board size) as a determinant of sustainability reporting. Results provide consistent evidence that firms with more female boards are more likely to engage in sustainability reporting (Ali et al., 2021; Ben Fatma & Chouaibi, 2021; Ullah et al., 2019; Campanella et al., 2021). This relationship held is valid in different countries including Pakistan (Ali et al., 2021), Bangladesh (Ullah et al., 2019), and also in Europe, (Fatma & Chouaibi, 2021) with only limited contrasting evidence (Cucari et al., 2018). Based on the literature, board gender diversity can be considered a significant determinant of sustainability reporting, because women tend to be more protective and sensitive toward social and environmental issues compared to men (Desrochers et al., 2019; Milfont & Sibley, 2016).
- *Board meeting frequency.* Most of the studies suggest that more frequent board meetings have a positive impact on sustainability reporting (Nuskiya et al., 2021; Nugraheni and Khasanah, 2019; Alshbili et al., 2018; Campanella et al., 2021). Nonetheless, few studies report a not significant (Giannarakis, 2013; Hussainey, 2016) or negative relationship (Harun et al., 2020).

#### 5.2.4 Determinants under the Real Entity theory

According to the Real Entity theory, firms are considered autonomous actors in their own right and not as an extension of their shareholders or the government. Lozano et al. (2015) suggest that the principles of the Real Entity theory are implicitly related to corporate sustainability by compliance with the law. Indeed, “company leaders have the responsibility to ensure that the company and its employees comply with the law(s) which provide(s) them the opportunity to engage and empower different groups to better contribute to sustainability” (Lozano et al., 2015, p. 433).

For these reasons, we categorize under this theory seventeen articles that analyze the influence of regulation on firms’ sustainability reporting. Findings indicate that regulations or the need to comply with the laws tend to have a positive influence on sustainability reports. For instance, Hossain et al. (2015) suggest that the lack of a regulatory framework explains the low level of sustainability disclosures among listed firms in Bangladesh. Fontana (2015) shows a positive influence of environmental disclosure law in Italy, while Barakat et al. (2014) document a positive association between a legal system and corporate social disclosures in Jordan and Palestine. Similarly, Comyns (2016) reports that regulations under the EU emissions trading scheme facilitate the production of high-quality and extensive reporting by oil and gas companies. Also, Qian et al. (2020) reveal that regulatory requirements are one of the main motivations for sustainability reporting in the Indo-Pacific region of Asia. Conversely, only three studies found no relationship between regulations/legal compliance and sustainability reporting (Gunawan, 2007; Tauringana, 2021; Amidjaya and Widagdo, 2020), and no study reported a negative relationship. Based on these findings, it is reasonable to conclude that regulations and legal compliance play a significant role as determinants of sustainability reporting.

### 5.2.5 Determinants under Stakeholder theory

The main principle under Stakeholder Theory is that a corporation should consider and balance the needs of multiple stakeholders to succeed and survive over time. From this perspective, firm engagement with sustainability can be seen as driven by stakeholders' social and environmental concerns and demands.

Fourteen studies focus on the role of stakeholder pressure as a determinant of sustainability reporting. While Tauringana (2021) finds that the absence of stakeholder pressure does not significantly affect the adoption of the sustainability report, Islam and Deegan (2007) report that stakeholder pressure is a key driver of social and environmental disclosure in Bangladesh. Similarly, Oliver and Boiral (2017) report that forestry and mining companies use sustainability reports to improve their relationship with their stakeholders. Hossain et al. (2017) suggest that external stakeholder pressure (international buyers and government agencies) impacts corporate social and environmental reporting in Bangladesh. According to the findings of Belal and Owen (2007), companies engage in sustainability reporting to manage powerful stakeholders such as shareholders/investors, government agencies, or local communities in developing countries, who have significant influence on the company. Overall, these findings suggest that stakeholders can be considered a key determinant of sustainability reporting.

Linked to stakeholder theory is the role of industry membership as a driver of sustainability reporting, which has been examined in twenty-five studies. Industries are characterized by different stakeholder needs and expectations when it comes to sustainability reporting, which can impair firms' practices. Indeed, most of the existing studies report a positive influence of industry affiliation on sustainability reports. For instance, Tarquinio and Rossi (2017) show that industrial affiliation is a significant driver of CSR disclosures, and Giannarakis et al. (2014) reveal that a company's industry profile influences its sustainability disclosures. Nevertheless, few studies report that industry has no impact on firms' sustainability disclosures

(Kolsi and Attayah, 2018; Habbash, 2016), while no study reports a negative relationship between industry affiliation and sustainability reporting. Overall, existing literature confirms that industry membership is a determinant of sustainability reporting: companies operating in more sensitive industries have more incentives to disclose sustainability information in order to avoid any impending cost which might be imposed by society.

## 6. Future research avenue

Our findings indicate that further research is needed to advance the understanding of the determinants of sustainability-related reporting. We suggest some avenues to guide future academic work on this topic.

First, we find that most of the existing studies build on samples of listed companies (e.g., Nuskiya et al., 2021; Ahmed et al., 2021; Tarquinio & Rossi, 2017) at the expense of non-listed companies. As the number of non-listed firms is higher than listed firms in most economies, excluding the formers from the examination may prevent achieving a comprehensive framework of sustainability reporting determinants. Then, future studies are recommended to investigate what drives sustainability reporting practices in the context of non-listed firms (Gnanaweera & Kunori, 2018; Fontana, 2015; Barakat et al., 2014).

Additionally, most studies under review use a sample of firms from different industries (e.g., Kumar et al., 2021; Khan et al., 2020; Hossain et al., 2015; Bernard et al., 2018), while more industry-specific research would be worthwhile (Alotaibi & Hussainey, 2016). Some industries are considered environmentally sensitive areas, since they have a high potential for pollution and resource depletion, face significant challenges related to environmental concerns, and are subject to growing stakeholder pressure on environmental issues (Radhouane et al., 2020). However, our findings suggest that the determinants of sustainability reporting are poorly explored in environmentally sensitive industries, especially in the aviation, automotive, and food and beverage industries.

Furthermore, our results suggest that some geographical areas are still underexplored, such as Africa, Oceania, and some European and Latin American countries. Hence, further research is recommended to focus on these underexplored institutional settings, in order to better understand how sustainability reporting is affected by country-level institutions and national cultures.

We also recommend that further research investigate the role of the determinants still under debate in the literature, namely foreign ownership, family ownership, and leverage. Furthermore, our review indicates that most of the studies have focused on the drivers of the adoption or the extent of sustainability reporting, while the knowledge of the drivers of the quality of sustainability reporting is still scarce.

A final avenue for future research is related to the research method. Given the prevalence of quantitative studies in the literature, there is a need that future research to employ qualitative methods (e.g., interviews, surveys, or case studies) to provide a more in-depth examination of the motivations and barriers to sustainability reporting. Finally, there is a call to adopt mixed methods (Amidjaya & Widagdo, 2020), given the paucity of studies.

## 7. Conclusion

Using the SLR methodology, our paper offers some timely contributions to the literature on the determinants of sustainability reporting.

First, based on research empirical evidence, we provide a comprehensive framework of the drivers of sustainability reporting. An updated overview of sustainability reporting determinants was needed for different reasons, both related to gaps in previous literature reviews and the ongoing evolution of the sustainability reporting institutional landscape.

The main novelty of our contribution lies in the use of Lozano et al.'s (2015) framework on corporate sustainability theories to analyse and categorize the determinants of sustainability

reporting, as emerging from existing empirical evidence. Our theoretically driven categorization may help to better understand and navigate current research and empirical insights on this topic. Further, our approach is in line with Hahn and Kuhnen's (2013) call for linking sustainability reporting studies to theories.

Some determinants are categorized under the resource-based view theory, since they pertain to internal resources and capabilities that firms can leverage to become more transparent in sustainability, namely profitability, firm size, and firm age. Only one determinant is found under the aggregate entity theory (government ownership), which relates to a firm's ownership structure as a driver of sustainability reporting. Furthermore, under the agency theory we classified some determinants (i.e., board size, board independence, board gender diversity, and board meeting frequency) that pertain to the characteristics of the board of directors to curb managers' opportunism and to ensure that agents act in the interest of a wide variety of stakeholders, including reporting on sustainability. Finally, we found compliance with regulations as the determinant linked to the real entity theory, and stakeholder pressure and industry membership as determinants that relate to stakeholder theory, according to which firm engagement with sustainability reporting can be seen as driven by stakeholder social and environmental concerns and demands.

Second, we offer an examination of the geographical setting of the literature under review. Our findings suggest that most studies on the determinants of sustainability reporting are conducted in Asia and Europe, while Africa and Oceania are mostly ignored, opening relevant avenues for future research. This indicates that the perspective of developing economies has been dominant, while the practice of sustainability reporting in developing countries is still poorly understood. For instance, it would be interesting if further research focus on multinationals that have subsidiaries in Africa.

Furthermore, we find that, despite the hike in research, much needs to be done to consolidate our understanding of the determinants of sustainability reporting. Therefore, based on the identified literature gaps, we provide some suggestions to guide the development of this research field. In particular, we recommend that future work analyse non-listed companies, environmentally sensitive industries, underexplored geographical areas, and the determinants on which there is still disagreement in the literature, as well as employ qualitative methods.

Our work may be of interest to managers and policymakers. Under increasing pressure to convey their sustainability performance, businesses may benefit from our insights revealing the drivers helping to achieve better sustainability-related disclosure. Additionally, policymakers may use our insights in their process of regulation of corporate sustainability reporting, to strengthen the transparency of companies and the economic system in general.

Like all research, this study has limitations. In particular, the protocol used to search the literature (e.g., keywords, databases and journals searched, and the language of publications) may have excluded potentially relevant contributions and affected our findings. Furthermore, the manual content analysis to code and categorize papers may have limited the identification of relevant topics.

Despite these limitations, we are confident that this paper offers relevant contributions to research and practice on sustainability reporting and inspires future developments.

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Figure 4. Sample Selection Process

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## TABLES

**Table 1.** Top 5 most cited papers

Authors	Year	Total Citations	Citations per year	Journal (ABS ranking)
Reverte	2009	556	42.77	Journal of Business Ethics (3)
Gamerschlag et al.	2011	393	35.72	Review of Managerial Science (2)
Islam and Degan	2007	328	21.87	Accounting, Auditing & Accountability Journal (3)
Fifka	2013	313	34.78	Business Strategy and the Environment (3)
O'Dwer	2002	302	15.1	Accounting, Auditing & Accountability Journal (3)

*Source:* Elsevier Scopus, Citations updated on 7<sup>th</sup> February, 2022

**Table 2.** Distribution of articles by industry

Industry	2002-2005	2007-2011	2012-2016	2017 -2021	Total	%
Energy			1	3	4	3.96
Financial Institutions			2	15	17	16.83
Tourism & Hospitality			2	1	2	1.98
Manufacturing		1	1	2	4	3.96
Public Sector		1	3	3	7	6.93
Mining and Forestry			2	3	5	4.95
Others*	1	9	22	30	62	61.34
<b>Total</b>	<b>1</b>	<b>11</b>	<b>32</b>	<b>57</b>	<b>101</b>	<b>100</b>

\*Studies with samples from different industries.

**Table 3.** Distribution of articles by research method

Research Method	2002 -2005	2006-2011	2012-2016	2017-2021	Total	%
Conceptual /Literature Review			4	3	7	6.9
Mixed Methods		3	2	7	12	11.9
Survey Method			5	3	8	7.9
Interview	1	2		3	6	5.9
Content Analysis		6	21	41	68	67.3
<b>Total</b>	<b>1</b>	<b>11</b>	<b>32</b>	<b>57</b>	<b>101</b>	<b>100</b>

**Table 4.** Distribution of articles by continent

Continent	No. of articles last 5 years	No. of articles last 10 years	No. of articles total	No. of articles total (%)
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<b>Africa</b>	6	7	7	6.9
<b>Asia</b>	33	39	42	41.6
<b>Europe</b>	15	19	21	20.8
<b>America</b>	2	8	8	7.9
<b>Australia</b>	2	5	6	5.9
<b>Global</b>	10	12	17	16.8
<b>Total</b>	<i>69</i>	<i>91</i>	<i>101</i>	<i>100</i>

**Table 5.** The determinants of sustainability reporting

<b>Determinant</b>	<b>No of articles</b>	<b>Impact on sustainability reporting</b>	<b>Articles</b>	<b>Conclusion</b>
Profitability	27	Adoption	Legendre and Coderre, 2013 (+) Thorne et al., 2014 (x) Orazalin and Mahmood, 2020 (+) Ali et al., 2021(+) Kuzey and Uyar, 2017 (-) Coluccia et al., 2017 (-)	Predominantly positive relationship
		Extent/disclosure level	Nuskiya et al., 2021 (+) Kumar et., 2021 (-) Ahmed et., 2021 (+) Ali et al., 2021 (+) Orazalin and Mahmood, 2020 (+) Sharma et al., 2020 (+) Amidjaya and Widagdo, 2020 (+), Menassa and Dagher, 2020 (+) Esposito et al., 2020 (-) Kumar Saha, 2019, (+) Kilic and Kuzey, 2019 (+) Kolsi and Attayah, 2018 (x) Gnanaweera and Kunori, 2018 (x) Kuzey and Uyar, 2017 (-) Syed and Butt, 2017 (+) Chakroun et al., 2017 (-) Coluccia et al., 2017 (-) Habbash, 2016 (x) Bhattacharyya, 2014 (-) Andrikopoulos et al., 2014 (x) Giannarakis, 2014 (+) Giannarakis, 2013 (+) Gamerschlag et al, 2011 (+) Mahadeo et al., 2011 (x)	Predominantly positive relationship

			Reverte, 2009 (x) Altaibi and Hussainey, 2016 (x)	
		Quality	Orazalin and Mahmood, 2020 (+) Alotaibi and Hussainey, 2016 (-)	Positive but underexplored relationship
Industry	25	Adoption	Hassan et al., 2020 (+) Agyei and Yankey, 2019 (+) Tarquinio and Rossi, 2017 (+)	Positive but underexplored relationship
		Extent/Disclosure level	Nuskiya et al., 2021 (+) Uyar et al., 2021 (+) Arena et., 2020 (+) Gómez and García, 2020 (+) Sharma et al., 2020 (x) Bhatia and Makkar, 2019 (+) Kolsi and Attayah, 2018 (x) Al Farooque and Ahulu, 2017 (+) Syed and Butt, 2017 (+) Garde Sánchez et al. 2017 (+) Habbash, 2016 (x) Fontana et a., 2015 (+) Giannarakis et al., 2014 (+) Muttakin and Khan, 2014 (+) Bhattacharyya, 2014 (+) Legendre and Coderre, 2013 (+) Luo et al. 2012 (+) Amran and Haniffa, 2011 (+) Mahadeo et al., 2011 (x) Gamerschlag et al., 2011 (+) Rankin et al., 2011 (+) Reverte, 2009 (+)	Predominantly positive relationship
		Quality	Rankin et al., 2011 (+)	Positive but underexplored Relationship
Firm age	12	Adoption	No studies	
		Extent	Kumar et., 2021 (+) Menassa and Dagher, 2020 (x)	Positive relationship

			<p>Fahad and Nidheesh, 2020 (+)  Saha, 2019 (-)  Garas and Elmassah, 2018 (x)  Coluccia et al., 2017 (+)  Garde Sa´nchez et al. 2017 (+)  Bhattacharyya, 2014 (x)  Rahman, 2011 (x)  Kilic and Kuzey, 2019 (+)  Habbash, 2016 (+)</p>	
		Quality	Coluccia et al.2017 (+)	Positive but underexplored relationship
Leverage	18	Adoption	Luo et al., 2012 (x)	Positive but underexplored relationship
		Extent	<p>Reverte, 2009 (x)  Mahadeo et al., 2011 (+)  Rahman et al., 2011 (x)  Giannarakis, 2013 (-)  Giannarakis, 2014 (-)  Giannarakis, 2014 et al. (x)  Andrikopoulos et al., 2014 (+)  Habbash, 2016 (-)  Coluccia et al.2017 (-)  Syed and Butt, 2017 (-)  Chakroun et al., 2017 (+)  Kuzey &amp; Uyar, 2017 (-)  Garas and Elmassah, 2018 (x)  Fahad and Nidheesh, 2020 (+)  Sharma et al., 2020 (-)  Kumar et., 2021 (-)  Alotaibi and Hussainey, 2016 (-)  Ahmed et., 2021 (+)</p>	Mixed results
		Quality	Alotaibi and Hussainey, 2016 (+)	
Regulations	19	Adoption	<p>Tauringana, 2021 (x)  Alshbili et al. 2021 (+)  Amidjaya and Widagdo, 2020 (x)  Qian et al., 2020 (+)</p>	Positive relationship

			Ferdous et al., 2019 (+) Arena et al., 2020 (+) Shnayder et al. 2016 (+) Dong and Xu., 2016 (+) Barakat et al., 2014 (+)	
		Extent	Saha, 2019 (+) Oliveira et al., 2019 (+) Arena et al., 2020 (+) Hossaian et al., 2017 (+) Comyns, 2016 (+) Barakat et al., 2014 (+) Fontana et al., 2015 (+) Lodhia et al., 2012 (+) Gunawan, 2007 (x)	Positive relationship
		Quality	Comyns, 2016 (+)	Positive but underexplored relationship
Firm Size	36	Adoption	Thorne et al., 2014 (+) Legendre and Coderre, 2013 (+) Orazalin and Mahmood, 2020 (+) Coluccia et al., 2017 (+) Luo et al., 2012 (+) Kuzey & Uyar, 2017 (+)	Positive relationship
		Extent	Ahmed et al. 2021 (x) Nuskiya et al 2021(+) Kumar et al., 2021(+) Esposito et al., 2020 (+) Matuszak & Rozanska 2020 (+) Menassa and Dagher, 2020 (+) Fahad and Nidheesh, 2020 (+) Orazalin and Mahmood, 2020 (+) Amidjaya and Widagdo, 2020 (+) Khan et al., 2020 (x) Sharma et al., 2020 (+) Kilic and Kuzey, 2019 (+) Gnanaweera and Kunori, 2018 (+) Garas and Elmassah, 2018 (+) Kolsi and Attayah, 2018 (+) Tarquinio and Rossi, 2017 (+) Kuzey & Uyar, 2017 (+)	Positive relationship

Coluccia et al., 2017; (+)  
 Garde Sa´nchez et al.,2017 (+)  
 Syed and Butt, 2017 (+)  
 Chakroun et al. 2017 (x)  
 Al Farooque and Ahulu, 2017 (+)  
 Habbash, 2016 (+)  
 Fontana, 2015 (+)  
 Muttakin & Khan, 2014(+)  
 Bhattacharyya, 2014(+)  
 Andrikopoulos et.al, 2014 (+)  
 Giannarakis, 2014 (+)  
 Garcıa-Sa´nchez et al., 2013 (+)  
 Giannarakis, 2013 (+)  
 Mahadeo et al., 2011 (+)  
 Rahman, 2011(+)  
 Rankin et al., 2011 (+)  
 Gamerschlag et al., 2011(+)  
 Amran and Haniffa, 2011 (+)  
 Reverte, 2009 (+)  
 Saha, 2019 (x)  
 Alotaibi and Hussainey, 2016 (+)

Quality

Orazalin and Mahmood, 2020 (+)  
 Rankin et al., 2011 (+)  
 Ben-Amar and McIlkenny,2015(+)  
 Alotaibi and Hussainey, 2016 (+)

Positive but underexplored relationship

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Government Ownership	8	Adoption	No studies	
		Extent/Level	Sumarta et al.,2021 (+) Kumar et al., 2021(+) Saha, 2019 (+) Kolsi and Attayah, 2018 (+) Alshbili et al., 2018 (+) Garde Sa´nchez et al., 2017 (x) Habbash, 2016 (+) Alotaibi and Hussainey, 2016 (-) Fontana, 2015 (+)	Positive relationship
		Quality	Alotaibi and Hussainey, 2016 (x)	
	9	Adoption	No studies	

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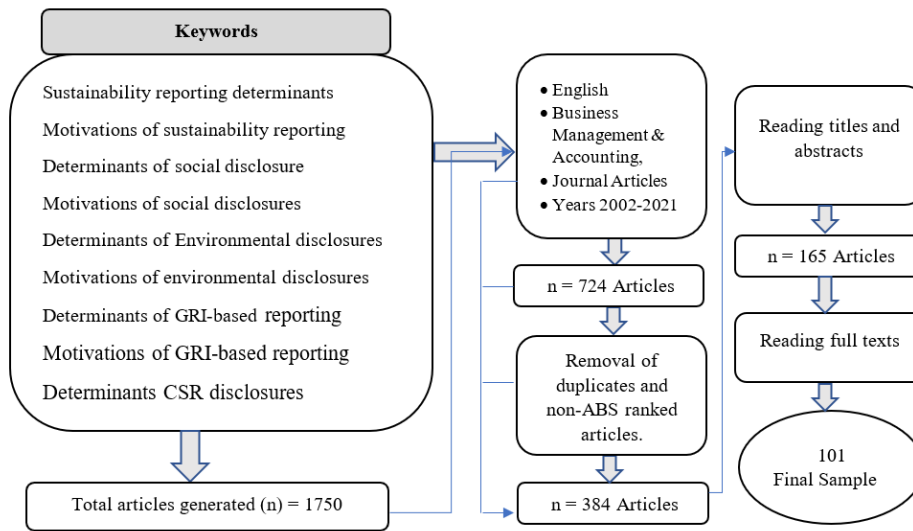
Foreign Ownership		Extent/Level	Sharma et al., 2020 (-) Arena et al., 2020 (-) Sumarta et al., 2021 (+) Amidjaya and Widagdo, 2020 (+) Fahad and Nidheesh, 2020 (-) Chakroun et al. 2017 (x) Matuszak and Róžańska, 2020 (x) Ahmed et al., 2021 (x) Amran and Haniffa, 2011 (-)	Mixed results
		Quality	No studies	
Family Ownership	6	Adoption	Iyer & Lulseged, 2013 (x)	
		Extent/Level	Sumarta et.al, 2021 (x) Amidjaya & Widagdo, 2020 (+) Syed & Butt, 2017 (+) Habbash, 2016 (+) Muttakin & Khan, 2014 (-)	Mixed results
		Quality	No studies	
Institutional Ownership	5	Adoption	No studies	
		Extent/Level	Ahmed et al., 2021 (x) Harun et al., 2021 (+) Ullah et al., 2019 (x) Al Farooque & Ahulu, 2017 (x) Habbash, 2016 (x)	Not significant driver
		Quality	No studies	
Board Size	14	Adoption	No studies	
		Extent/Level	Nuskiya et al 2021 (+) Fatma and Chouaibi, 2021 (+) Ali et al., 2021 (+) Campanella et al., 2021 (x) Ahmed et al. 2021 (+) Harun et al., 2020 (+) Bhatia and Makkar, 2019 (+)	Predominantly positive influence

			Nugraheni and Khasanah, 2019 (+) Alshbili et al., 2018 (x) Kolsi and Attayah, 2018 (+) Baraket et al., 2014 (+) Giannarakis, 2013 (x) Giannarakis 2014 (x) Alotaibi and Hussainey, 2016 (+) Mohd-Said et al., 2018 (+)	
		Quality	Alotaibi and Hussainey, 2016 (+)	
Board Independence	14	Adoption	Bhatia & Makkar, 2019 (+) Baraket et al., 2014 (x)	Underexplored relationship
		Extent	Nuskiya et al., 2021 (+) Fatma & Chouaibi, 2021 (+) Campanella et al., 2021 (+) Arena et al., 2020 (+) Bhatia and Makkar, 2019 (+) Ullah et al., 2019 (+) Nugraheni and Khasanah, 2019 (-) Cucari et al., 2018 (+) Garas and Elmassah, 2018 (+) Mohd-Said et al., 2018 (+) Al Farooque, 2017 (+) Alotaibi and Hussainey, 2016 (x) Habbash, 2016 (+) Baraket et al., 2014 (-)	Positive relationship
		Quality	Alotaibi and Hussainey, 2016 (-)	
Board gender diversity	9	Adoption	Ali et al., 2021 (+)	
		Extent/Level	Fatma & Chouaibi, 2021 (+) Ali et al., 2021 (+) Campanella et al., 2021 (+) Arena et al., 2020 (+) Ullah et al., 2019 (+) Mohd-Said et al., 2018 (+) Cucari et al., 2018 (-) Giannarakis et al., 2014 (+) Giannarakis, 2014 (+)	Positive relationship

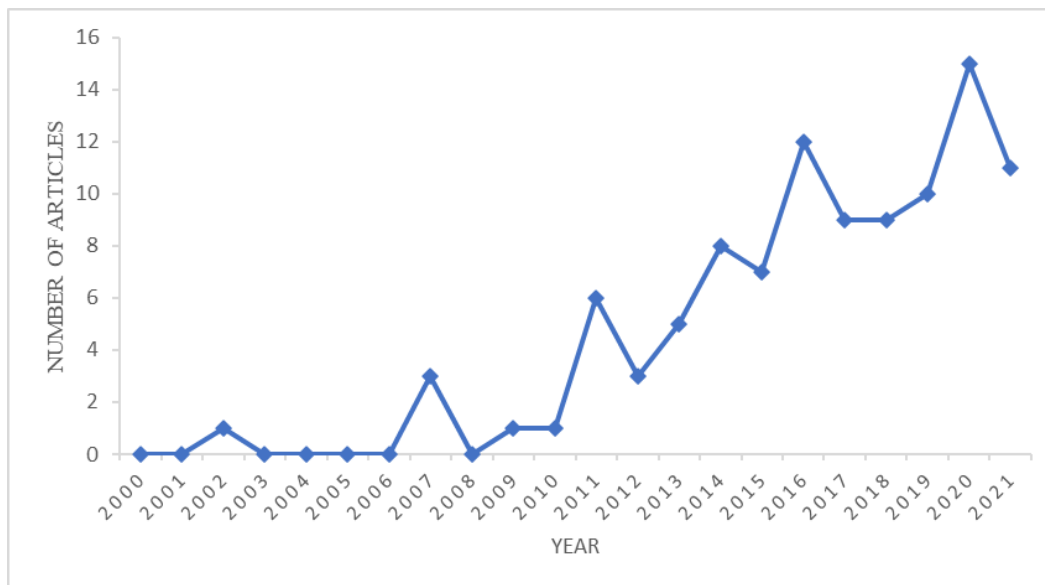
		Quality	No studies	
Board meeting frequency	7	Adoption	No studies	
		Extent/Level	Nuskiya et al 2021 (+) Campanella et al., 2021 (+) Harun et al.,2020 (-) Nugraheni & Khasanah, 2019 (+) Alshbili et al., 2018 (+) Giannarakis, 2013 (x) Alotaibi & Hussainey, 2016 (x)	Predominantly positive relationship
		Quality	Alotaibi & Hussainey, 2016 (x)	
Stakeholders	13	Adoption	Tauringana, 2021 (-) Ferdous et al., 2019 (+) Alshbili et.al., 2021 (-) Agyei & Yankey, 2019 (+) Oliveira et al., 2019 (+) Oliver & Boiral, 2017 (+) Dobbs & Staden, 2016 (+) Gunawan, 2015 (+) Liesen et al., 2015 (+) Islam & Deegan, 2007 (+) Belal & Owen, 2007 (+)	Predominantly positive relationship
		Extent/Level	Liesen et al., 2015 (+) Gunawan, 2007 (+)	Positive but underexplored relationship
		Quality	No studies	

## FIGURES

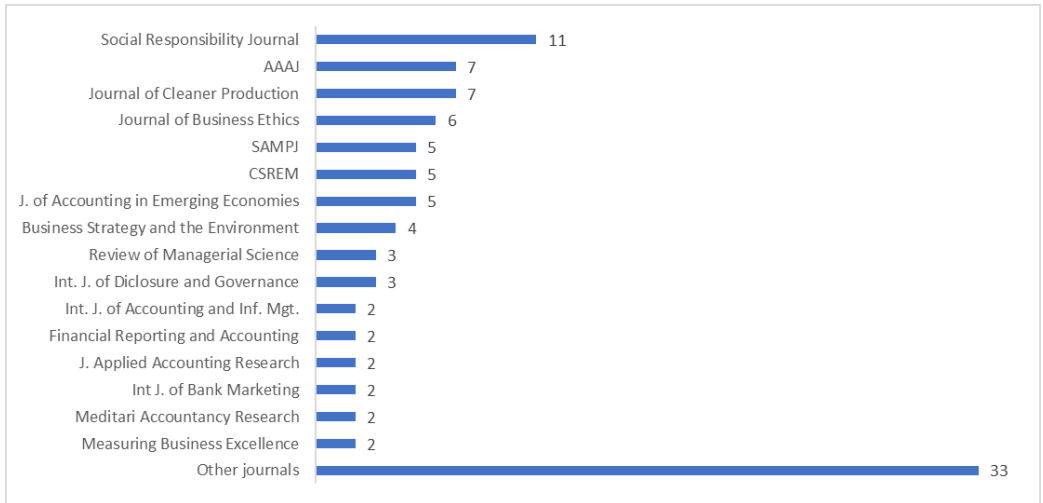
**Figure 1.** Sample selection process



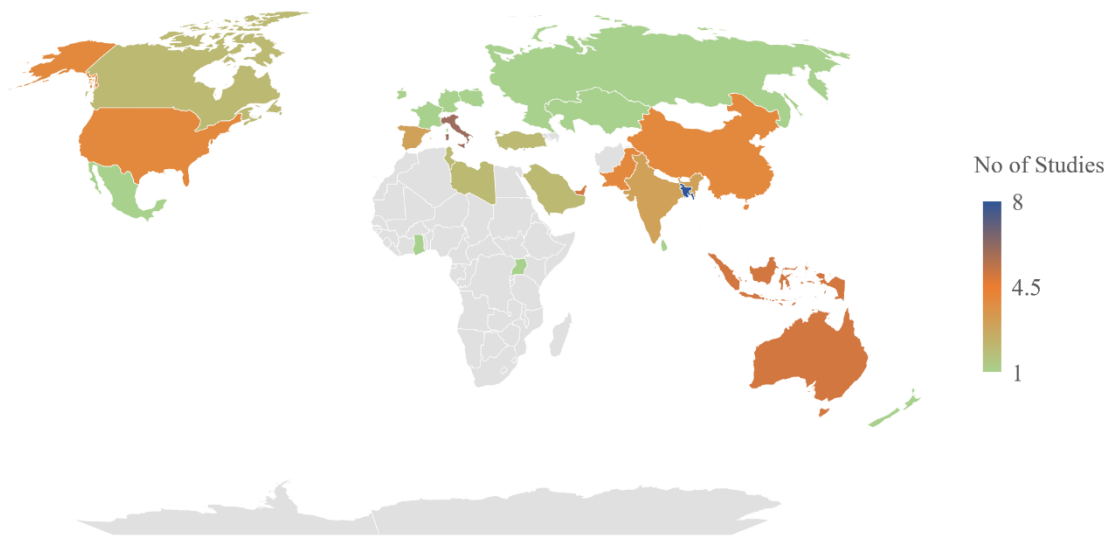
**Figure 2.** Distribution of articles over time



**Figure 3.** Distribution of articles across journals



**Figure 4** Distribution of studies by countries





## CHAPTER II.

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### **Chapter II: Financial Institutions and Sustainability Reporting: Evidence from a Sub-Saharan African Country**

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- I ISCTE Doctoral Colloquium in Accounting Research
- 8th North America CSEAR Congress, Toronto, Canada



# **Financial Institutions and Sustainability Reporting: Evidence from a Sub-Saharan African Country**

## **Abstract**

**Purpose** – *To examine the extent of sustainability reporting and the relationship between reputation, government ownership, foreign ownership, board size, board gender diversity, and the extent of sustainability reporting by financial institutions in Ghana using the concept of Africapitalism and stakeholder theory.*

**Research design/methodology.**

*Annual reports and sustainability-related reports of 67 financial institutions in Ghana from 2019 to 2021 were analysed through content analysis and robust panel data analysis.*

**Findings** – *The extent of sustainability reporting by financial institutions in Ghana is very low. The environmental and energy-related items are the least disclosed. Reputation, government ownership, and foreign ownership have a significant positive relationship with the extent of sustainability reporting. Board size and board gender diversity did not show any significant relationship with the extent of sustainability reporting. Furthermore, the impacts of the determinants vary when examined on the respective dimensions of sustainability index.*

**Research limitations/implications** - *Many financial institutions were excluded from the study due to unpublished annual reports and inactive websites.*

**Practical implications** – *Corporate governance tools and firm features alone cannot improve sustainability reporting. Strong regulations are needed to improve the level of reporting.*

**Originality** – *To the best of our knowledge, the study is the first to apply the Africapitalism concept to study African firms' sustainability reporting. It thus contributes to developing this theory and the decolonisation of sustainability research. It also extends the literature on sustainability reporting of unlisted financial institutions, especially in emerging economies.*

**Keywords:** Sustainability reporting, Sustainable disclosure, Ghana, Africapitalism, Stakeholder theory.

## 1. Introduction

Sustainable development has gained popularity among governments, international organisations, civil societies, and scholars in recent years (Adu, 2022; Tilt et al., 2021) due to rising global issues such as climate change, poverty, hunger, etc. Stakeholders now demand sustainable actions and information from companies on their operations' social and environmental impacts (Abang'a & Tauringa, 2024). Therefore, companies are encouraged to commit to sustainable development and implement initiatives aligning with these trends. In response, firms now make sustainability disclosures to communicate their sustainable initiatives to their stakeholders (Sharma et al., 2020; Stiller & Daub, 2007). This helps firms manage their stakeholders effectively, access affordable capital, manage reputational risks, and increase shareholder value. Consequently, discussions on sustainability reporting have peaked globally in recent years (Arkoh et al., 2023).

Financial institutions are important in this debate because they are essential in promoting sustainable business practices across various industries through lending powers (Matuszak et al., 2019) to influence clients to be more responsible, especially in emerging economies where sustainability reporting is voluntary and institutional mechanisms are weak. Moreover, despite not being an environmentally sensitive industry (Liljeblom et al., 2024), financial institutions indirectly influence the environment and society as some of their clients are engaged in environmentally destructive activities. Also, in several economies in Sub-Sahara Africa (hereafter SSA), where power supply seems problematic, financial institutions may use power plants that could emit pollutants into the environment and affect air quality. This makes financial institutions key in the sustainability practices discourse (Liljeblom et al., 2024).

Despite their shaping role in a country's sustainability development goals, the sector has not been explored much in sustainability reporting (Matuszak et al., 2019). The extant studies mainly focused

on large-listed financial institutions and ignored unlisted ones. This has resulted in a lack of empirical evidence on the sustainability reporting practices of unlisted firms. Listed firms have extra regulations, unlike unlisted ones. Therefore, applying findings on listed financial firms to unlisted ones could be contentious. For instance, it is reported that listing status drives the sustainability of financial firms (Kılıç & Kuzey, 2019). Therefore, a study that draws much of its sample from unlisted financial firms is thus vital to fill this gap.

Moreover, the few existing studies on financial institutions mainly concentrated on countries outside SSA (Sumarta et al., 2021; Saha, 2019; Amidjaya & Widagdo, Kılıç & Kuzey, 2019; Matuszak et al., 2019) with a few on SSA countries (Barako & Brown, 2008). SSA countries like Ghana merit special attention as they are characterised by weak corporate governance, regulatory frameworks, and disclosure requirements. They have cultures different from those in the global north and other emerging economies where extant studies have concentrated. Also, many SSA countries, just like Ghana, operate multi-tiered financial sectors with many unlisted financial institutions, and many practice voluntary sustainability reporting regimes (Abang'a & Tauringana, 2024). These contextual factors can influence the sustainability reporting practices of firms (Tilt, 2016) and in specific industries and produce outcomes that are different from those found in other jurisdictions (Abang'a & Tauringana, 2024). To address the sustainable development challenges comprehensively, it is important to understand how these issues unfold in specific countries and industries to serve as a roadmap to address sustainability challenges on a sectoral and regional basis (Arkoh et al., 2023).

Also, while previous research has looked at corporate sustainability's impact on a firm's reputation (Hsu, 2012; Hult et al., 2018; Melo and Garrido-Morgado, 2012), there is a dearth of studies on the reverse relationship. This reverse relationship is significant to be examined because firms in emerging markets are profit-oriented (Yoon et al., 2018) and usually rely on their good reputation to price their products highly to achieve high financial performance (Bashir et al., 2023; Fombrun and Shanley, 1990). It is, therefore, important to know whether reputation will also drive sustainability reporting.

Again, ownership structures are reported to influence the performance of finance firms in Ghana in diverse ways (Boachie, 2023). However, empirical evidence of the nexus between ownership structure and financial institutions' sustainability reporting is scant (Matuszak et al., 2019). Financial institutions in most SSA countries are privately owned and have a good proportion of foreign ownership. They usually have financial targets imposed on them by these foreign or private owners, which could lead to prioritising profits over sustainability outcomes. We empirically test the nexus between ownership structures and sustainability disclosures in the financial sector. Finally, while previous studies mostly used traditional Western-oriented theories such as stakeholder and agency theories, researchers are encouraged to use new theories to examine a firm's sustainability reporting practices (Tsang et al., 2023), especially geographic-context theories to bring new insights, fortify the literature and decolonise sustainability reporting research.

The research focuses on the financial sector of Ghana for various reasons. Foremost, Ghana's financial sector is multitiered and hugely dominated by unlisted financial institutions. It, therefore, offers the opportunity to provide empirical evidence on unlisted firms' sustainability reporting, with the findings generalisable to the financial sector of many SSA countries. Secondly, previous research on determinants of sustainability reporting in Ghana focused mainly on industries such as mining (Amoako et al., 2022), energy (Rahaman, 2000; Rahaman et al., 2004), timber sector (Agyei & Yankey, 2019), universities (Amoako, 2023), telecommunication (Abukari & Abdul-Hamid, 2018) or on a general sample of firms from various sectors (Owusu et al., 2025; Welbeck, 2017) with less focus on the financial sector. Third, corporate governance has been an issue in Ghana for a long time. For instance, board appointments are influenced by nepotism and favouritism, which affect important initiatives. Nonetheless, these prior studies hardly paid attention to corporate governance mechanisms and their relationship with the extent of sustainability reporting (Rahaman et al., 2004; Amoako et al., 2022; Amoako, 2023). Finally, the financial sector in Ghana underwent a serious crisis in the past few years. After the crisis, several regulatory and policy reforms were made, including increased capital requirements by more than 200%, a new capital adequacy ratio of 10% and a 3% capital buffer.

Firms would likely focus on solidifying their existence by meeting these regulatory demands and focusing less on sustainability. A well-functioning and stable financial sector could play a shaping role in Ghana's sustainable development. However, quality corporate governance will be needed. Accordingly, the relationship between corporate governance mechanisms, other firm features, and sustainability reporting merits attention.

This study addresses these identified lapses in the literature by utilising the Africapitalism concept and stakeholder theory to examine (1) the extent of sustainability reporting, (2) the relationship between reputation, foreign ownership, government ownership, board size, board gender diversity and the extent of sustainability reporting by financial institutions in Ghana.

To achieve these objectives, data was gathered from the annual and sustainability-related reports of 67 financial institutions in Ghana from 2019-2021. The random effects regression technique was used to test the various hypotheses of the study. Profitability, size of a financial institution, leverage, age and deposits were also included as control variables for the study. The empirical results show that the extent of sustainability reporting by financial institutions is very low. The environmental and energy-related items are the least reported. Regarding the variables, reputation, government ownership, and foreign ownership have a significant positive relationship with the extent of sustainability reporting. However, board size and gender diversity did not show any significant relationship with the extent of sustainability reporting. Nonetheless, the relationship between the predictors and the extent of sustainability reporting varies when the sustainability reporting index is unpacked into various dimensions.

This study contributes to the literature in several ways. First, it applies Africapitalism, a concept underexplored in the literature, to investigate why African firms engage in sustainability reporting. This study is among the first to do so, thus enriching the discourse and development of this emerging theory and aiding the decolonisation of sustainability research. Secondly, the study is among the few that have examined the financial sector of SSA countries. This sector has generally been less explored

(Buallay & Al-Ajmi, 2019), especially in SSA countries and in the case of unlisted financial institutions, as prior studies focused on listed financial firms (Amidjaya & Widagdo, 2020; Matuszak et al., 2019). The empirical evidence from Ghana further enriches the extant literature on financial institutions' sustainability research in emerging economies (Matuszak et al., 2019; Kılıç & Kuzey., 2019; Ali et al., 2021), most especially on the scant literature on unlisted firms. Third, to the best of our knowledge, the study is the first to examine the relationship between reputation, an enabler of many organisational decisions in emerging economies - and the extent of sustainability reporting in the literature. Previous studies instead examined how sustainability reporting improves the reputation of financial firms (Dell'Atti et al., 2017; Ul Abideen & Fuling, 2024). The study, thus, contributes to the scant literature on reputation and sustainability reporting in emerging economies (Khan et al., 2020; Qian et al., 2020). Finally, the study provides empirical evidence of the relationship between corporate governance variables such as ownership structure and sustainability reporting of financial firms in emerging economies, which is scant in the literature (Matusak et al., 2019). This extends and enriches the literature on this relationship (Matuszak et al., 2019; Saha, 2019; Amidjaya & Widagdo, 2020; Surmata et al., 2021).

The rest of the paper is structured as follows: Section 2 deals with the background of the study. The theoretical framework is discussed in section 3, while section 4 follows with the empirical review and hypothesis development. Section 5 focuses on the research design. Section 6 follows with a discussion of the results, and section 7 focuses on the summary and conclusion.

## **2. Background**

Ghana's financial sector comprises both bank and non-bank financial institutions. The Central Bank of Ghana (BOG) have oversight and regulatory authority over the sector. Other authorities include the Securities and Exchange Commission (SEC) and the Ghana Stock Exchange (GSE). The BOG derives its authority from the Bank of Ghana Act 2002 (Act 612) as amended by Act 918. Over the years, various policy reforms have been implemented by BOG to ensure a more robust, effective,

functioning and sustainable financial sector. The most current one is Act 930 of the Bank of Ghana Act 2016. It is the primary source of laws and regulations governing banks and specialised deposit-taking institutions in Ghana. This Act gives the BOG the power to issue corporate governance directives and punish offending officers and directors of financial institutions. However, this Act does not apply to non-bank financial institutions as they are governed by Act 774 of the Non-Bank Financial Institutions Act, 2008. Nonetheless, the formation and management of financial institutions are regulated by the Companies Act 2019 (Act 992). This regulatory environment has been key in protecting customers and ensuring stability in the sector. It was rated ahead of other SSA countries regarding transparency and disclosure (World Bank ROSC, 2010).

Nonetheless, in recent years, the sector has witnessed some serious crisis that have affected customers, households, the government, and the entire country. Customers lost their deposits, capital, and businesses; others lost their jobs. This situation has led to declining confidence in the financial sector (Banahene, 2018). The causes of the crisis in the sector included weak corporate governance, regulatory failures, poor accountability and low transparency emanating from weak disclosures (Boachie, 2023; Torqu and Laryea, 2021). In 2017, the BOG initiated a financial sector cleanup to curb these problems. As a result, many financial institutions were closed or consolidated (Agyemang et al., 2024; Appiah-Otoo & Song, 2022). Several regulatory reforms and policy changes have been implemented after the crisis to prevent similar occurrences in the future and improve confidence in the sector. For instance, the minimum paid-up capital has been increased from around \$8 to \$26 million (Ghana cedis equivalent). The minimum capital adequacy ratio is now set at 10%, while the minimum capital buffer is 3%. Other new regulations include the Anti-Money Laundering Act 2020 (Act 1044) and guidelines for disclosure of information required by borrowers and lenders (Borrowers and Lenders Act 2020, Act 1052).

Furthermore, the BOG in the year 2019 issued the Ghana Sustainable Banking Principles, urging financial institutions to adopt them to promote sustainable and inclusive growth and integrate

sustainability factors into lending transactions. This is to enhance social responsibility, transparency and disclosures, and protection for investors and customers while promoting sustainability. However, this is voluntary, and corporate governance mechanisms and other organisational factors will likely impact its adoption and implementation.

Furthermore, in 2022, in collaboration with GRI and other partners, the Ghana Stock Exchange released an ESG disclosure manual for listed companies in Ghana, including financial institutions seeking to disclose ESG information (GSE, 2022). Within this guideline is a detailed step-by-step guideline for all listed companies in Ghana to follow when making ESG disclosures. Among the key steps in the reporting process and also the first step, as detailed in the manual, is the firm's corporate governance structure. Specifically, the manual details the responsibilities of directors, CEOs, ESG committees, etc, in the entire reporting process, suggesting their significance in the overall process. Moreover, this is a voluntary initiative, and the decision of an organisation to adopt and implement it will rely on corporate governance and other key internal factors.

The latest directive about sustainability and ESG matters is the Climate-related Financial Risk Directive 2024, issued by BOG (Bank of Ghana, 2024). This applies to all regulated financial institutions in Ghana as part of BOG's commitment towards the Paris Agreement. It provides guidance on managing and disclosing climate-related financial risks in a way that enhances transparency. Under the directive, financial institutions are mandated to incorporate climate concerns into corporate governance, disclosure practices, and risk management and take measures to reduce operations-related climate risks. This will help financial institutions integrate climate-related risks into their ESG initiatives. The directive imposes a duty on the board of directors and requires an effective corporate governance framework to ensure successful implementation.

### **3. Theoretical literature review**

### 3.1 Africapitalism theory

The Africapitalism theory emphasises the critical role of African organisations, particularly in the private sector, in the continent's sustainable development (Amaeshi & Idemudia, 2015). It advocates for a localised form of capitalism, incorporating African cultural contexts and history, to ensure sustainable development (Olutayo & Omobowale, 2007; Taylor, 2015). The concept aims to promote the collective success of Africans, which is also linked to other African theories such as Afrocentric theory (Schiele, 1990), Ubuntu theory (Buxton and Mbiti, 1970; Mugumbate et al., 2023) and Pan-Africanism (Fosu, 1999; Ofuately-Kodjoe, 1981). This concept is an alternative to the Western form of pure capitalism, which has failed to create prosperity for Africans (Adegbite et al., 2018; Olutayo & Omobowale, 2007).

Africapitalism calls on the private sector to empower the youth and African women through board appointments, entrepreneurial training and opportunities and foster inclusive growth and prosperity (Barrett et al., 2017). Local private sector investment is crucial to transform African economies sustainably, reduce poverty, inequality, and address environmental challenges (Ali and Gniniguè, 2022; Morsy et al., 2023). Corporate sustainability initiatives are essential for achieving Africapitalism's objectives and the Sustainable Development Goals. Otubanjo (2018) explains that Indigenous African businesses use corporate social responsibility to contribute to sustainable development, an agenda key to Africapitalism. Pomper and Adae (2022) also consider Africapitalism an Afrocentric approach to sustainability. Nonetheless, it is also revealed that effective corporate governance mechanisms are needed to achieve the objectives of Africapitalism (Adegbite et al., 2018; Amaeshi & Idemudia, 2015). According to Adegbite et al. (2018), some of the mechanisms include women's empowerment via board appointments (board gender diversity) and an adequate number of directors to represent broader stakeholder interests (board size, board independence) to curb the CEO duality problem. Furthermore, the concept highlights which ownership structures (foreign or local) could significantly enhance corporate governance and promote sustainable development in Africa.

Unlike stakeholder theory, which sometimes favours influential stakeholders, this theory emphasises the simultaneous pursuit of all stakeholders' interests for a win-win situation and promotes equality (Adegbite et al., 2018). As it aims at good disclosure and corporate governance practices, shared responsibility, and communal success for Africans now and later, we use it to examine the sustainability reporting practices of financial institutions in Ghana.

### 3.2 Stakeholder Theory

According to the stakeholder theory (Freeman, 1984), business organisations deal with several stakeholders, such as employees, shareholders, communities, investors, regulators, etc., with different influences, expectations, and needs (Freeman, 2010) that businesses must satisfy to maintain a cordial relationship. Some stakeholders provide a safe environment for businesses to continue operations, while others possess, control, and own the resources businesses need to function (Freeman, 1984). Failure of a company to satisfactorily meet the needs of these stakeholders, especially the most powerful ones, could harm the company's operations and existence (Neu et al., 1998; Clarkson, 1995; Belal & Owen, 2007). Companies use sustainability or CSR initiatives to meet some of these demands (Abang'a and Tauringana, 2024) and use sustainability reporting to communicate these initiatives to the stakeholders (Tilt et al., 2021) and maintain healthy relationships (Tauringana, 2021). Per the stakeholder theory, for a firm to balance the needs of its diverse stakeholders, it needs people who are more sensitive towards environmental and social issues (women) and an adequate representation of diverse stakeholders (board size) on its board (Kaymak & Bektas, 2017). Also, the stakeholder theory posits that a firm's ownership structure will determine its stakeholders' size and coverage, impacting its sustainability initiatives and disclosure information needs (Matuszak et al., 2019). A firm's ownership structure could be in diverse forms, such as government, foreign, and institutional ownership, etc., and this applies much very to the Ghanaian context as financial institutions are either owned by the government, private individuals or institutions. Further, reputable firms are more visible and attract several stakeholders who could have sustainability needs that need to be addressed. The

study explores whether financial institutions issue sustainability reports in response to stakeholder demands.

#### 4. Empirical literature review and hypotheses development

##### 4.1 Brand Reputation

A company's reputation can impact its decision-making and the initiatives it undertakes. According to stakeholder theory, a firm's reputation motivates sustainability reporting (Hossain et al., 2017). Top brands engage more in sustainability initiatives and use sustainability reporting to manage and respond to the demands of these stakeholders effectively (Agyei and Yankey, 2019), solidify their brand and manage reputational risks (Belal & Owen, 2007; Charitou, 2022). Globally, reputable brands are encouraged to adopt sustainable practices to mitigate climate change issues and take advantage of the economic and financial gains (Liljebloom et al., 2024) that come with it.

In the context of Ghana, financial institutions with powerful brands undertake philanthropic initiatives that seek the welfare of local communities and their people and create long-term sustainable and inclusive growth. This is part of their commitment to helping address the country's socioeconomic problems. Per the Africapitalism concept, this is the African business's approach to sustainability (Pompper & Adae, 2022) and helps create development internally. These companies also attract powerful and important stakeholders who require responsible business acts, accountability, and transparency in the former's operations.

Scholars have thus focused on the relationship between brand reputation and corporate sustainability reporting (Castilla-Polo & Sánchez-Hernández, 2021; Michelin, 2011; Qian et al., 2020). According to Khan et al. (2020) and Qian et al. (2020), brand reputation drives sustainability reporting in emerging Asian economies. Michelin (2011) reported that reputation predicts the extent of sustainability reporting. In line with the above prior findings and arguments, we hypothesise that;

H<sub>1</sub>: There is a positive relationship between a financial institution's reputation and the extent of sustainability reporting by financial institutions in Ghana.

## 4.2 Foreign Ownership

The relationship between foreign ownership of firms and firm performance has received academic attention (Carney et al., 2019; Chari et al., 2012; Dong et al., 2022; Nakano & Nguyen, 2013). As one of the corporate governance mechanisms that have been found to impact sustainability disclosures (Adjei-Mensah et al., 2024), the nexus can be explained from the perspective of stakeholder theory and the Africapitalism concept. According to stakeholder theory, foreign-owned firms prioritise the needs of their foreign investors and embark on initiatives to satisfy them (Barako & Brown, 2008). Per Africapitalism, foreign ownership creates a situation where executives lack a detailed understanding of the diverse local challenges and cannot tackle them effectively (Adegbite et al., 2018).

In Ghana, there are many foreign-owned firms, and they are typically mandated to meet specific financial targets imposed by the parent company abroad. This could divert management's attention from sustainability initiatives, especially as sustainability reporting is voluntary. Nonetheless, in emerging economies, firms with more foreign ownership could benefit from sustainability expertise, policies and rippling effects of parent country sustainability reporting laws (Matuszak et al., 2019), making them undertake sustainability initiatives and disclose them extensively.

Prior research has investigated the relationship between firms' foreign ownership and sustainability reporting (Amran and Haniffa, 2011; Khan et al., 2013; Kılıç & Kuzey, 2019; Matuszak et al., 2019) and reported mixed results. In the context of financial institutions, Matuszak et al. (2019) found a positive, significant association between foreign ownership and the extent of sustainability reporting by Polish banks. Similarly, Amidjaya and Widagdo (2020) reported a positive relationship between foreign ownership and sustainability reporting by listed banks in Indonesia. However, Kılıç and Kuzey (2019) found an insignificant relationship between foreign ownership and greenhouse gas disclosures by Turkish banks. In the non-financial context, Khan et al. (2013) reported a positive significant relationship between foreign ownership and sustainability disclosures in Bangladesh.

Furthermore, Haniffa and Cooke (2005) also reported a positive relationship between foreign ownership and sustainability disclosures. However, Amran and Haniffa (2011) found no significant relationship between foreign ownership and sustainability reporting.

Based on the above and in line with previous studies (Amidjaya & Widagdo, 2020; Haniffa & Cooke, 2005; Khan et al., 2020; Matuszak et al., 2019), we hypothesise that;

H<sub>2</sub>. There is a positive relationship between foreign ownership and the extent of sustainability reporting by financial institutions in Ghana.

#### 4.3 Government ownership

The relationship between government ownership and the extent of sustainability reporting can be explained from the perspectives of stakeholder theory and the Africapitalism concept. According to stakeholder theory (Freeman, 1984), government-owned organisations serve the needs of various stakeholders and undertake sustainability projects to address socioeconomic problems in society (Matuszak et al., 2019). Per the Africapitalism concept, government ownership as a form of local ownership promotes a better understanding of local challenges, helps implement the right policies that address them, aids in achieving sustainable development goals and ensures communal success (Adegbite et al., 2018). Executives are able to focus on non-financial goals and pursue sustainability initiatives in support of the government's duties (Matuszak et al., 2019). Again, firms with high government ownership might partake in sustainability initiatives to obtain support and resources from the government (Ntim and Soobaroyen, 2013), especially if the government itself is dedicated to sustainable development.

For example, Ghana Beyond Aid, which calls for local economic models and measures to transform the country, is considered a solution to Ghana's overdependence on Western countries for development. This is a core idea of Africapitalism theory and aligns with the SDGs and Africa's

Agenda 2063. This idea is expected to be transferred to partially or wholly owned government firms and expressed in the form of sustainability initiatives by the firms.

Prior studies have examined the relationship between government ownership and corporate sustainability reporting in different contexts (Alshbili & Elamer, 2020; Amran & Haniffa, 2011; Omair Alotaibi & Hussainey, 2016; Saha, 2019). The findings have been mixed. Alotaibi and Hussainey (2016) reported a negative relationship between government ownership and sustainability reporting, while Amran and Haniffa (2011) found no significant relationship between government ownership and sustainability reporting in Malaysia. On the contrary, prior researchers found a significant positive relationship between government ownership and sustainability reporting in Libya and India, respectively (Alshbili et al., 2020; Kumar et al., 2021). Also, in the SSA context, Ntim and Soobaroyen (2013) reported a positive significant association between government ownership and CSR disclosures in South Africa. In the context of financial institutions, Matuszak et al. (2019) reported a positive relationship between government ownership and the extent of sustainability reporting by banks in Poland. Similarly, Saha (2019) reported a positive significant association between government ownership and sustainability reporting by commercial banks in Bangladesh. Sumarta et al. (2021), using a sample of 43 listed Indonesian banks, also reported a positive significant relationship between government ownership and sustainability reporting. Based on the above, we hypothesise that,

H<sub>3</sub>. There is a positive relationship between government ownership and the extent of sustainability reporting by financial institutions in Ghana.

#### 4.4 Board Size

The relationship between board size and the extent of sustainability reporting can be explained from stakeholder theory and Africapitalism perspectives. From the stakeholder perspective, a large board size signifies diverse stakeholder representation in the organisation (Kaymak & Bektas, 2017) with the potential to increase transparency and accountability. The Africapitalism concept suggests large

boards with diverse social backgrounds as a means to strengthen corporate governance and improve the transparency and accountability of African firms through substantial disclosures (Adegbite et al., 2018; Adgebite, 2015). For instance, companies in Ghana with large board sizes and diverse social backgrounds can benefit from directors who understand local challenges. They can help advocate for sustainable development initiatives and guide their implementation effectively (Coffie et al., 2018). Nonetheless, the board of directors should be of a specific size before they can function effectively (Abang'a & Taurinfana, 2024). In Ghana, the corporate governance framework of financial institutions requires that the minimum board size be 5, while the maximum is 13. Large boards have been found to improve firms' disclosure practices (Fulgence et al., 2023), including corporate sustainability disclosures (Ben Fatma & Chouaibi, 2021; Nguyen et al., 2021; Nuskiya et al., 2021; Tran et al., 2021; de Villiers et al., 2022). Such boards can have sub-committees with the mandate to engage in sustainability initiatives and disclosure as demanded by stakeholders (Girella et al., 2019) for community development (Tauringana & Chithambo, 2015).

Previous studies have reported mixed findings. In the context of financial institutions, Ben Fatma and Chouaibi (2021) reported a significant positive relationship between board size and the extent of sustainability reporting. Ali et al. (2021) found a positive association between board size and sustainability reporting by Banks in Pakistan. Also, Harun et al. (2020) reported a positive significant relationship between board size and sustainability reporting using 39 Islamic banks in the Gulf countries. Similarly, in Poland, it was found that board size has a significant positive relationship with the extent of sustainability reporting (Matuszak et al., 2019). In the non-financial context, prior research has reported a significant positive impact of board size on sustainability disclosures in Russia and Asian countries (Bhatia & Makkar, 2019; Kolsi & Attayah, 2018; Nguyen et al., 2021; Tran et al., 2021). On the contrary, Alshbili et al. (2020) found no impact of board size on sustainability disclosures in Libya. Based on the above, we hypothesise that,

H4. There is a positive significant relationship between board size and the extent of sustainability reporting by financial institutions in Ghana.

#### 4.5 Board Gender Diversity

Stakeholder theory suggests that having more women on board of firms improves the sustainability performance of such organisations (Macaulay et al., 2018) as women are more sensitive to the sustainability demands of stakeholders. The Africapitalism concept also suggests women's inclusion and empowerment in diverse forms (Adegbite et al., 2018), including the appointments of women to executive positions to enhance companies' accountability and responsibility to various stakeholders.

In Ghana, like other sub-Saharan African countries, women usually have fewer opportunities to rise to the top hierarchy of companies (Damoah et al., 2021), unlike men (Areneke et al., 2023). However, within the past few years, efforts have been made to have more women in top leadership positions in companies and all spheres of human activity, including national governance. These are meant to achieve the gender equality goal of the sustainable development goals. For instance, in 2022, the "Women CEOs" Summit was launched in Ghana to promote women's leadership in organisations. Several top companies, including financial institutions, are headed by women CEOs. Though there are no specific regulations concerning women's appointments, organisations voluntarily appoint them to leadership positions. Nonetheless, we are yet to know the effect of such appointments on sustainability disclosures.

Prior studies in the non-financial sector by Al-Najjar and Salama (2022) and (Lopatta et al., 2020) found that the environmental performance of firms is positively influenced by board-gender diversity. Other authors have reported similar results (Campanella et al., 2021; Desrochers et al., 2019; Milfont & Sibley, 2016). Contrarily, Tran et al. (2021) found a negative impact of board gender diversity on sustainability disclosures. In the context of financial institutions, Harun et al. (2020) study of Islamic banks yielded an insignificant association between board gender diversity and sustainability reporting. On the contrary, Matuszak et al. (2019) reported a significant positive association between

board gender diversity and the extent of sustainability reporting by Polish financial institutions. Similarly, Barako & Brown (2008) reported a positive significant relationship between board gender diversity and sustainability reporting by Kenyan banks. Furthermore, a study on Turkish Banks found a positive relationship between board gender diversity and sustainability. From the above results and drawing on stakeholder theory and the Africapitalism theory, we hypothesised that;

H<sub>5</sub>. There is a positive relationship between board gender diversity and the extent of sustainability reporting by financial institutions.

## 5. Research Design

### 5.1 Sampling method

The study sample comprises 67 financial institutions obtained from the Central Bank of Ghana's website spanning 2019-2021. The authors used purposive sampling, considering specific criteria: Institutions must be either Tier 1 or Tier 2, have published any or combination of annual reports, sustainability reports, CSR reports or integrated reports in the chosen period and have an active website. Firms not meeting these conditions were excluded. Figure 1 shows the sample selection process. These years were chosen because they are the three immediate years after the 2017/2018 financial sector cleanup initiated by BOG, which resulted in the closure of numerous institutions that did not meet capital requirements or engaged in unauthorised activities (Appiah-Otoo & Song, 2022; Senanu & Narteh, 2023), causing a decline in public trust. Surviving institutions faced increased regulatory scrutiny and capital requirement changes in the 3 years after the clean-up. For instance, BOG introduced sustainable banking principles in 2019 to encourage firms to partake in sustainable initiatives. Firms may adopt sustainability initiatives to rebuild public trust and satisfy regulators. The demand for transparency and accountability in the form of quality disclosures also increased in this period. Implementation of regulatory changes hinged on several corporate governance and organisational factors at the time. Certain firm initiatives are also likely to be impacted during this period. Moreover, at the time of data collection, 2021 was the latest reporting period in which annual reports were available. This makes 2019-2021 a suitable period for the study.

INSERT FIGURE 1 HERE

## 5.2 Data

The study collected data from various sources, including annual reports, standalone sustainability reports, CSR reports, and websites (Amran & Haniffa, 2011; Kiliç et al., 2015; Mahadeo et al., 2011; Matuszak et al., 2019). Annual reports were chosen due to their mandatory nature in Ghana and their credibility as audited documents. However, separate sustainability and CSR reports were also considered, especially for the institutions that issue them. Additionally, in line with previous studies, websites were used (Matuszak et al., 2019; Nicolò et al., 2023) were used to collect data. A Panel data of 201 observations from 67 financial institutions were obtained from 2019-2021.

## 5.3 Measurement of Variables

### 5.3.1 Dependent Variable

The study uses the sustainability reporting index (SRI) as its dependent variable, obtained through content analysis. The authors chose sentences as the unit of analysis for coding because of their ease and objectivity (Milne and Adler, 1999). Sentences offer better comprehension to the reader compared to mere words and phrases. The list of items used to develop the index was taken from previous studies (Barako & Brown, 2008; Kiliç et al., 2015; Matuszak et al., 2019). The list of items is categorised into five dimensions: Environment (9 items), Human Resources (9 items), Products & Customers (9 items), Energy (7 items), and Community Involvement (10 items), with slight modifications to suit the study's context. In total, 44 disclosure items were used to measure the SRI of the sample firms, as presented in Appendix 1. A dichotomous score of 0 or 1 was assigned based on the absence or presence of a complete sentence on the disclosure of each item in the reports. Accordingly, the index represents the number of items disclosed by a financial institution divided by the maximum number of items to be disclosed expressed as a percentage (Matuszak et al., 2019). Therefore, the sustainability reporting index (SRI) serves as a dependent variable for the study.

$$\text{SRI} = \frac{\text{Sum of items reported by a financial institution}}{\text{Maximum number of sustainability items to be reported.}}$$

### 5.3.2 Independent variables

The independent variables used in this study were obtained from annual reports and financial institutions' websites. They include reputation (REP) measured by the number of branches of a firm, government ownership (GOV) measured as a percentage of government-held shares to the total shares of the firm, foreign ownership (FOR) measured as a percentage of shares held by foreigners or foreign institutions to the total shares of the firms, board size (BODS) measured as the total number of directors on the board and board gender diversity (BOGD) measured as proportion of women directors to the board size. We also include Firm size (FSIZE) and Cash deposits (DEPOS) measured as the natural logarithm of total assets and customers' deposits, respectively; Leverage (LEV) is measured as the ratio of debt to equity, Profitability (ROE) measured as return on equity and Firm age (AGE) measured as total debts to equity ratio as control variables in our study to isolate their effects, as they tend to influence performance, especially considering the context of the study. Their selection was also guided by literature (Amidjaya and Widagdo, 2020; Amran and Haniffa, 2011; Hussain et al., 2018; Kılıç & Kuzey, 2019; Lui et al., 2020; Mohd-Said et al., 2018). The operationalisation of all these variables is found in Table 1.

INSERT TABLE 1 HERE

### 5.4 Model Specification

Though the random effect model emerged as the ultimate model after the Hausman test was carried out, various diagnostic tests indicated potential issues of autocorrelation, heteroskedasticity and endogeneity in the data. Three additional models were run to overcome these issues and ensure robustness in our baseline results as presented by the Random effect model (M1). This included robust least squares (M2), GLS (M3) models, and 2SLS regression model (M4). We implemented the 2SLS technique to deal with endogeneity issues, which our diagnostic tests showed exists. Specifically, the Reputation variable was found to be endogenous. Therefore, we identified the Tier (Tier 1 or Tier 2) to which a financial firm belonged and customers' yearly deposits as two instrumental variables. The results of the 2SLS are found in Table 5. The outcomes of all the various models are presented in

Table 5 to save space. The results from these three additional regression techniques are not so different from the baseline results presented under the random effect estimation technique. We also conducted a sensitivity analysis in which the sub-indices replaced the main dependent variable (SRI).

Below is the general empirical model used for the study;

$$SRI_{it} = \beta_0 + \beta_1 REP_{it} + \beta_2 GOV_{it} + \beta_3 FOR_{it} + \beta_4 BODS_{it} + \beta_5 BOGD_{it} + \beta_6 FSIZE_{it} + \beta_7 DEPO_{it} + \beta_8 LEV_{it} + \beta_9 ROE_{it} + \beta_{10} AGE_{it} + \varepsilon_{it} \quad (1)$$

Where  $SRI_{it}$  is the sustainability reporting index, REP is reputation, GOV is government ownership, FOR is foreign ownership, BODS is board size, BOGD is board gender diversity, FSIZE is the size of the firm, DEPO is the total customer deposit, LEV is leverage, ROE is Return on equity; AGE is the age of the firm,  $\beta$  is the parameters for the independent and controls variables, t is the year, i is the firm and  $\varepsilon$  is error term.

## 6. Empirical results & discussions

### 6.1 Descriptive statistics

INSERT TABLE 2 HERE

Table 2 shows the summary statistics of the variables used in the study. The mean value of SRI is 14%. In terms of sub-dependent variables, none of them had a mean value exceeding 25%. Energy (2.5%) and Environment (7.2%) have the lowest mean values. This generally indicates that the extent of sustainability reporting by financial institutions in Ghana is very low. This result supports previous studies that reported low levels of sustainability reporting by financial institutions in emerging markets (Ali et al., 2021; Amidjaya & Widagdo, 2020; Barako & Brown, 2008; Harun et al., 2020; Nugraheni & Khasanah, 2019). The reasons for this are straightforward: sustainability reporting is voluntary in Ghana (Agyei & Yankey, 2019), and organisations are free to decide what and how to report. Again, awareness and demand for it are minimal, especially in financial firms. It could also be the lack of expertise in sustainability reporting (Tauringana, 2021; Tilt et al., 2021), hence the low disclosure.

Government ownership averages 7.6%, suggesting that most financial institutions are owned privately. Foreign ownership has a mean value of 27.8% and a maximum of 100%. On average, board membership comprises 8 individuals, whereas the minimum membership is 4. The mean value of women directors is 1.41, while the minimum and maximum are 0 and 5, respectively. Thus, women have low representation on boards of financial institutions in Ghana, indicating men's dominance. This is comparable to the situation in other emerging countries (Kılıç & Kuzey, 2019; Mohd-Said et al., 2018).

INSERT TABLE 3 HERE

Table 3 also shows the annual average level of sustainability reporting by financial institutions in Ghana. The results also show that there has not been as much improvement in sustainability reporting by financial institutions in Ghana over the years, as there is a trend of a minor decline in general sustainability reporting and most of its subcomponents. Community involvement is reported at higher levels compared to all others. Human resources and “customer and product” disclosures are the second and third most disclosed dimensions. This is consistent with previous studies (Matuszak et al., 2019; Menassa & Dagher, 2020). Although energy-related disclosures have the lowest average reporting value, they are the only variable with sustained improvement over the 3 years (2019-2021).

## 6.2 Correlation analysis

INSERT TABLE 4 HERE

A pairwise correlation analysis was performed to show the relationship between the variables used in this study. The matrix shows that all the sub-dependent variables strongly correlate with the primary dependent variable. The result is shown in Table 4 and suggests that there is not much of a problem with multicollinearity among the variables used for the study since the highest correlation value between the two independent variables is 0.508. According to Gujarati and Porter (2009) and Field (2013), in a situation where the estimated coefficient in a correlation analysis is  $\pm 0.8$ , the problem of multicollinearity does not appear to exist in the data and concerns about multicollinearity that affects

the result of the regression analysis should be mitigated. Also, the VIF test gave a mean value of 1.34, indicating the absence of serious multicollinearity in the data.

### 6.3 Multivariate regression analysis

Table 5 presents the results of all models run on the main dependent and independent variables. The discussion of the findings is based on the outcome of the random effect model (M1), while the others (M2, M3, and M4) are used as robustness checks.

INSERT TABLE 5 HERE

The reputation of financial institutions has a significant positive relationship with the extent of sustainability reporting ( $\beta=0.0012$ ;  $\rho=0.013$ ). Hypothesis 1, which proposed a positive relationship between reputation and the extent of sustainability reporting, is hence accepted. This finding is consistent with previous research on the positive relationship between corporate reputation and sustainability reporting (Castilla-Polo & Sánchez-Hernández, 2021; Qian et al., 2009; Michelin, 2011). This can be explained by reasons that financial institutions with strong reputations in Ghana, in their quest to protect and further enhance their existing reputation, may embark on sustainable initiatives to help solve various social and economic challenges in the country. They respond to calls from the government and communities for developmental projects and initiatives. They may make high disclosures about such initiatives to inform the public of their contribution to national development and to please their diverse stakeholders. The finding supports the stakeholder theory and the concept of Africapitalism propositions that reputable firms in emerging economies make extensive sustainability disclosures to manage their stakeholders' expectations.

Government ownership has a positive significant relationship with the extent of sustainability reporting ( $\beta=0.0018$ ;  $\rho=0.000$ ). This supports Hypothesis 2. This result aligns with previous studies that reported a significant positive relationship between government ownership and the extent of sustainability reporting (Alshbili et al., 2020; Amidjaya & Widagdo, 2020; Saha, 2019; Sumarta et al., 2021). Financial institutions in Ghana with high government ownership are seen as SOEs with

dual purposes and low financial targets. They will likely be managed by people with an in-depth understanding of local challenges and show leadership regarding initiatives that promote sustainable development. These firms may use sustainability reports to inform the government and the public about their good deeds and manage their expectations to continue receiving state funding and support (Amran & Haniffa, 2011). This finding supports stakeholder theory and the Africapitalism concept arguments that government ownership improves firms' accountability and transparency and promotes high sustainability disclosures.

Foreign ownership exhibits a significant positive relationship with the extent of sustainability reporting ( $\beta=0.1331$ ;  $\rho=0.001$ ). This result supports hypothesis 3, which proposed that high foreign ownership has a positive relationship with the extent of sustainability reporting. This result supports previous studies that reported a positive influence of foreign ownership on the extent of sustainability reporting in developing economies (Amidjaya & Widagdo, 2020; Matuszak et al., 2019; Sumarta et al., 2021) and contradicts those who found an insignificant association (Chakroun et al., 2017; Kılıç & Kuzey, 2019). This result can be attributed to the idea that foreign-owned financial institutions could bring sustainability expertise and experiences from their parent companies abroad to assist with sustainability reporting (Matuszak et al., 2019). They could also make high disclosures to inform the government that they are not only after profit but also committed to the country's development. Lastly, these firms can make high sustainability disclosures to satisfy their foreign owner's expectations, mitigate risks and comply with global standards. This finding supports (rejects) the stakeholder theory (Africapitalism concept) proposition that firms with high foreign ownership make extensive (low) disclosures to reflect their accountability (unawareness of local problems).

Board size exhibited an insignificant positive relationship with the extent of sustainability reporting ( $\beta=0.0067$ ;  $\rho=0.267$ ). Therefore, hypothesis 4 is rejected. This contradicts the findings of previous studies (Ali et al., 2021; Harun et al., 2020) and supports other previous studies (Alshbili et al., 2020; Matuszak et al., 2019; Nugraheni & Khasanah, 2019). The reason for this may be the lack of

sustainability experts on the board of financial institutions in Ghana to advocate for sustainability initiatives and reports. Like other emerging economies, Ghana suffers from nepotism and favouritism regarding appointments to leadership positions (Sarhan and Ntim, 2019). This could create a situation where board members lack expertise or are not interested in sustainability reporting. Again, it could be that the board is mainly concerned with financial metrics, leading to a marginalisation of sustainability issues and a situation where board size, even though having a positive relationship with the extent of reporting, is insignificant. Furthermore, it can be due to coordination problems associated with large board sizes (Amran et al., 2014; Kiliç et al., 2015). This result does not support the stakeholder theory and Africapitalism proposition that a large board size represents diverse stakeholders' representation and improves the board's effectiveness in promoting extensive sustainability disclosures.

Board gender diversity exhibits a positive insignificant relationship with the extent of sustainability reporting ( $\beta= 0.0158$ ;  $\rho=0.137$ ). Hypothesis 5, which proposed that board gender diversity has a positive significant relationship with the extent of sustainability reporting, is rejected. This result contradicts previous studies that found a positive significant influence of gender diversity on sustainability reporting (Ali et al., 2021; Barako & Brown, 2008; Ben Fatma & Chouaibi, 2021) but supports studies that reported an insignificant association between the two variables (Harun et al., 2020; Matuszak et al., 2019). Having more women on boards improves sustainability practices, as women show more sensitivity to the needs of other stakeholders and the environment (Byron & Post, 2016; Williams, 2003). However, in Ghana, the proportion of women directors of financial institutions is too small to significantly impact the extent of sustainability reporting, even though they exert a positive influence. They might align with their male peers. Therefore, the stakeholder theory and Africapitalism concept propositions of empowering women to improve sustainability disclosures are not supported.

Regarding control variables, size had an insignificant relationship with the extent of sustainability reporting in all our models and aligned with prior studies (Amidjaya & Widagdo, 2020; Chakroun et al., 2017; Saha, 2019). Large financial entities in Ghana are pretty secure in the market and may perceive a low need for sustainability disclosures, as sustainability awareness and pressure to report are minimal. Age showed a positive significant relationship with the extent of sustainability reporting. This result supports the findings of prior research (Kılıç & Kuzey, 2019; Saha, 2019). In the Ghanaian financial sector, new entities face intense competition, and their ability to survive and grow is considered a success. During their early years, these companies prioritised survival and growth over sustainability initiatives, reserving them for later stages. Profitability generally shows an insignificant relationship with the extent of sustainability reporting. This result aligns with the findings of previous studies (Kılıç & Kuzey, 2019; Menassa and Dagher, 2020) but is contrary to Amidjaya and Widagdo (2020). Leverage and deposits are insignificant predictors of the extent of sustainability reporting and contradict previous findings (Chakroun et al., 2017). Firms might focus on servicing their debts instead and might not want to use client deposits for initiatives without immediate benefits.

#### 6.4 Sensitivity analysis

To further check the robustness of our results, we undertook sensitive analysis as used in prior studies (Abang'a & Tauringana, 2024; Matuszak et al., 2019; Tran et al., 2021). Specifically, we re-run robust regression by replacing the SRI with the sub-dependent variables, Customers and Products index (CUS&P), Environment index (ENV), Energy index (ENERGY), Human Resources index (HRS) and Community Involvement index (COM). The results, which are presented in Table 6 below, are relatively similar to the results in Table 5 and confirm that our baseline results are robust to alternative measures of the dependent variable.

INSERT TABLE 6 HERE

## 7. Summary and conclusions

The study examined the extent and determinants of sustainability reporting by financial institutions in Ghana. Data were collected from annual reports, standalone sustainability reports, CSR reports, integrated reports, and websites for 2019-2021. The findings show that the extent of sustainability reporting by financial institutions in Ghana is very low. Unlike community involvement, human resources, and customer & product disclosures, financial institutions do not prioritise environmental and energy-related disclosures. The only significant determinants of the extent of sustainability reporting are reputation, government ownership, and foreign ownership. Board size and gender diversity, while showing positive relationships, were insignificant. Also, when the SRI is disintegrated, some relationships change.

The study has several contributions. To our knowledge, this is the first study to adopt the concept of Africapitalism in addition to stakeholder theory to examine why firms in Africa engage in sustainability reporting. Hence, the study contributes to developing this relatively new theory and decolonising sustainability disclosure research. Second, the study is also among the few that examine the financial sector of an SSA country, as previous studies had mainly focused on financial institutions in other jurisdictions. The empirical findings from Ghana add to the existing literature on financial institutions' sustainability research, particularly in emerging economies (Matuszak et al., 2019; Kumar et al., 2021; Ali et al., 2021). Third, to our knowledge, the study is among the few and the first to examine the nexus between the reputation of financial institutions and the extent of sustainability reporting from emerging countries (SSA) context. Therefore, the study extends the scant literature on reputation and sustainability reporting (Castilla-Polo & Sánchez-Hernández, 2021; Michelon, 2011; Qian et al., 2020). Fourth, previous studies mostly used a small sample size of mainly listed financial institutions (Amidjaya & Widagdo, 2020; Barako & Brown, 2008; Kiliç et al., 2015; Kiliç & Kuzey, 2019; Matuszak et al., 2019). The present study, however, used a much bigger sample size of mostly unlisted financial institutions drawn from a multi-tiered financial sector. This fills the void of empirical evidence on unlisted financial firms and allows the generalisation of findings to other SSA countries with similar financial sectors. Consequently, the findings show that some

examined relationships in the literature might not hold in contexts (SSA countries) dominated by unlisted financial institutions. Finally, the study explores the relationship between corporate governance variables, such as ownership structure and sustainability reporting, deemed scant in emerging economies (Matusak et al., 2019). As this study is on financial institutions in Ghana, a jurisdiction with unique corporate governance mechanisms, we not only add to the dearth of literature on these variables but enrich it (Matuszak et al., 2019; Saha, 2019; Amidjaya & Widagdo, 2020; Surmata et al., 2021).

The findings of the study have important policy implications. First, the study shows that the extent of sustainability reporting is very low despite the issuance of sustainable banking principles in 2019. The study indirectly serves as evidence of the impact of the guidelines two years after their introduction. It implies that corporate governance mechanisms alone might not be able to generate the desired effects on sustainability disclosures. We thus recommend strengthening the corporate governance frameworks in firms and making the sustainability guidelines mandatory for Tier 1 and Tier 2 firms instead of its current voluntary adoption status to improve sustainability disclosures. Second, the study highlights the lack of prioritisation of environmental and energy initiatives and their related disclosures. This may be due to difficulties or lack of expertise in measurement and reporting in these areas (Yadav and Jain, 2023). We suggest using regulations to compel firms to report more on the environmental and energy dimensions. Firms must also train people in these areas to help with measurement and reporting, as such disclosures can give them access to international climate funds. Third, despite the low proportion of women directors, they have a positive, though insignificant, impact on sustainability reporting. As a similar outcome was exhibited by board size, we recommend that policies aim to increase women's representation by implementing the quota system. At the same time, firms are encouraged to have sustainability experts or committees on board to improve sustainability reporting and, second, achieve gender equality goals (SDG5).

## **Limitations**

Although the study makes valuable contributions to the literature, it has some limitations that future studies could address. First, several financial institutions could not be used for the study due to the absence of annual reports or websites. Future studies can adopt engagement-based studies to address this limitation. Secondly, not all governance variables, as depicted under the concept of Africapitalism, were examined. For instance, CEO duality, board independence, institutional ownership and foreign directors can be examined in future studies. Other variables include audit committees, sustainability committees, independent directors, board diversity and personal characteristics of executives and how they relate to sustainability reporting. Some of these variables impact sustainability initiatives and disclosures in the financial sector (Adu, 2022). Moreover, different methods can be used to measure local ownership, as we used government ownership in our study. Furthermore, this study focused only on examining the determinants of the extent of sustainability reporting. Future studies can also look at the quality of sustainability reports and the actual sustainable initiatives (Arkoh et al., 2023), as this was not done in the current study. The study can also be extended to other SSA countries. Finally, future studies can use other improved means to measure the reputation of financial institutions apart from the number of branches.

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## List of Tables and Figures

Table 1. Operationalisation of variables

Variables	Operationalisation
<b><i>Dependent Variables</i></b>	
Sustainability reporting index (SRI)	Items reported over total items to be reported
Customers & products reporting (CUS&P)	Items reported over total items to be reported
Environmental reporting index (ENV)	Items reported over total items to be reported
Energy reporting index (ENERGY)	Items reported over total items to be reported
Human resources reporting index (HRS)	Items reported over total items to be reported
Community involvement index (COM)	Items reported over total items to be reported
<b><i>Independent Variables</i></b>	
Reputation (REP)	Number of branches*
Government Ownership (GOV)	Proportion of government-held shares to total shares
Foreign Ownership (FOR)	Proportion of foreign-held shares to total shares
Board Size (BODS)	Total number of directors on the board
Board Gender Diversity (BOGD)	Proportion of women board directors to board size
Total customer deposits	
<b><i>Control Variables</i></b>	
Firm size (FSIZE)	Natural log of total assets
Total customer deposits (DEPO)	Natural log of total deposits
Leverage (LEV)	Total debts to equity ratio
Profitability (ROE)	Return on Equity ratio
Age (AGE)	Years of existence

**Notes\*:** The company's reputation was measured by the number of branches of financial institutions. According to Lange et al. (2011), a firm derives its reputation in three ways: being known, being known for something, and generalised favourability. Being known can be associated with visibility to the public and media, and being visible to the public can be linked to having more branches. Furthermore, a company with more branches can be considered known for easy access by customers compared to those with low branches in the Ghanaian setting, where electronic transactions are minimal, and people generally go to banks to make transactions. This justifies the choice of branches as a proxy to measure the reputation of financial institutions. A survey was also conducted, and participants chose easy access to multiple branches to measure reputation.

Table 2. Descriptive Statistics

<i>Dependent Variables</i>	Obs	Mean	Std. Dev.	Min	Max
SRI	201	14.021	16.05	0	79.545
CUS&P	201	20.066	20.927	0	88.889
ENV	201	7.242	19.045	0	100
ENERGY	201	2.488	11.29	0	85.714
HRS	201	14.041	19.421	0	88.889
COM	201	24.229	23.612	0	90
<i>Independent variables</i>					
REP	201	23.169	29.097	1	180
GOV	201	7.615	20.239	0	100
FOR	201	27.839	40.898	0	100
BODS	201	7.637	2.189	4	13
BODG	201	1.413	1.12	0	5
<i>Control Variables</i>					
SIZE	201	4.393	.903	.693	5.375
DEPO	201	4.358	.919	.693	5.342
LEV	201	7.645	13.284	-92.37	92.31
ROE	201	.071	.35	-3.8	.93
AGE	201	26.582	18.336	1	125

**Notes:** Where SRI is the sustainability reporting index, CUS&P is the Customers & Products reporting index, ENV is the Environmental reporting index, ENERGY is the Energy reporting index, HRS is the Human resource reporting index, COM is the community involvement reporting index, REP is the reputation, GOV is government ownership, FOR is foreign ownership; BODS is board size; BOGD is board gender diversity; FSIZE is the size of firm; DEPO is the total deposit; LEV is leverage; ROE is profitability; AGE is age of the firm.

Table 3. Average annual disclosure level

YEAR	SRI	CUS&P	ENV	ENERGY	HRS	COM
2019	14.858	22.388	7.629	2.132	14.428	23.881
2020	13.365	18.74	6.799	2.345	15.589	24.627
2021	13.84	19.071	7.297	2.985	12.106	24.179

**Notes:** Where SRI is the sustainability reporting index, CUS&P is the Customers & Products reporting index, ENV is the Environmental reporting index, ENERGY is the Energy reporting index, HRS is the Human resource reporting index, COM is the community involvement reporting index

Table 4. Correlation Matrix

Variable	SRI	CUS&P	ENV	ENERGY	HRS	COM	REP	GOV	FOR	BODS	BOGD	FSIZE	DEPO	LEV	ROE	AGE
SRI	1.000															
CUS	0.809***	1.000														
ENV	0.876***	0.640***	1.000													
ENEG	0.633***	0.399***	0.728***	1.000												
HRS	0.863***	0.701***	0.742***	0.452***	1.000											
COM	0.803***	0.523***	0.568***	0.365***	0.611***	1.000										
REP	0.426***	0.402***	0.191***	0.169**	0.391***	0.465***	1.000									
GOV	0.106	0.194***	-0.018	-0.022	0.037	0.147**	0.080	1.000								
FOR	0.402***	0.414***	0.406***	0.189***	0.435***	0.234***	0.155**	-0.087	1.000							
BODS	0.511***	0.393***	0.345***	0.233***	0.464***	0.562***	0.398***	0.107	0.208***	1.000						
BOGD	0.491***	0.434***	0.409***	0.257***	0.486***	0.389***	0.373***	-0.036	0.462***	0.508***	1.000					
SIZE	-0.072	-0.057	-0.064	-0.181**	-0.087	-0.080	-0.104	0.036	-0.043	-0.127*	-0.031	1.000				
DEPO	-0.016	-0.121*	0.001	-0.064	0.001	-0.020	-0.033	-0.156**	-0.090	-0.101	-0.022	0.342***	1.000			
LEV	-0.093	-0.055	-0.071	-0.029	-0.131*	-0.080	-0.054	-0.017	-0.161**	-0.135*	-0.096	-0.098	-0.012	1.000		
ROE	0.200***	0.149**	0.159**	0.091	0.177**	0.189***	0.160**	-0.024	0.187***	0.108	0.073	-0.043	-0.036	0.315***	1.000	
AGE	0.301***	0.168**	0.211***	0.011	0.330***	0.366***	0.140**	0.149**	-0.179**	0.218***	0.058	-0.066	0.027	0.109	0.054	1.000

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 5. Regression results

Models (M)	RANDOM (1)	OLS (2)	GLS (3)	2SLS (4)
<i>Dep. Variables</i>	<b>SRI</b>	<b>SRI</b>	<b>SRI</b>	<b>SRI</b>
<i>Ind. Variables</i>				
REP	0.0012** (0.0005)	0.0010*** (0.0003)	0.0011*** (0.0002)	0.0030*** (0.0007)
GOV	0.0018*** (0.0005)	0.0019 (0.0015)	0.0022 (0.0020)	0.0013 (0.0014)
FOR	0.1331*** (0.0413)	0.1115*** (0.0285)	0.0967*** (0.0167)	0.1164*** (0.0286)
BODSZ	0.0067 (0.0061)	0.0163*** (0.0047)	0.0101*** (0.0021)	0.0102** (0.0051)
BOGD	0.0158 (0.0106)	0.0236*** (0.0090)	0.0174*** (0.0052)	0.0099 (0.0089)
<i>Control Variables</i>				
FSIZE	-0.0030 (0.0063)	-0.0034 (0.0142)	-0.0020 (0.0041)	0.0020 (0.0153)
DEPO	-0.0036 (0.0064)	0.0082 (0.0107)	-0.0059* (0.0036)	0.0063 (0.0119)
LEV	0.0000 (0.0004)	-0.0006 (0.0004)	-0.0001 (0.0003)	-0.0003 (0.0004)
ROE	0.0141 (0.0119)	0.0429** (0.0198)	0.0151 (0.0106)	0.0188 (0.0144)
AGE	0.0026*** (0.0006)	0.0023*** (0.0005)	0.0018*** (0.0003)	0.0021*** (0.0007)
_cons	-0.0475 (0.0391)	-0.1364** (0.0621)	-0.0432* (0.0262)	-0.1498** (0.0595)
<i>Year effects</i>	YES	YES	YES	YES
N	201	201	201	201
R <sup>2</sup>	0.4683	0.4944		0.3796

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Wald Chi <sup>2</sup>	1057.57***	329.07***	
Wald test p-value			0.0000
Endogeneity p-value			0.0001
Over ident p-value			0.057

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Table 6. Sensitivity analysis results

Models (M)	Random (5)	Random (6)	Random (7)	Random (8)	Random (9)
<i>Dep Variable</i>	<b>CUS&amp;P</b>	<b>ENV</b>	<b>ENERGY</b>	<b>HRS</b>	<b>COM</b>
<i>Ind. variables</i>					
REP	0.1703*** (0.0607)	-0.0131 (0.0612)	0.0403 (0.0444)	0.1456*** (0.0470)	0.1963*** (0.0722)
GOV	0.6250*** (0.0645)	-0.1005 (0.0682)	-0.0279 (0.0379)	0.0280 (0.0562)	0.2767*** (0.0889)
FOR	18.1255*** (5.3047)	16.7557*** (5.7635)	3.3581 (2.2613)	18.7000*** (4.5928)	8.7287 (5.5278)
BODS	0.8077 (0.7537)	0.2717 (0.5434)	-0.0512 (0.5563)	-0.2580 (0.9119)	3.4548*** (1.0336)
BOGD	2.0658 (1.3747)	2.7242** (1.2263)	1.1000 (0.8021)	1.9808 (1.2468)	0.8535 (1.9517)
<i>Controls variables</i>					
FSIZE	-0.4320 (1.3545)	0.3064 (-0.4567)	-0.7078 (0.6143)	-1.6389 (1.1009)	-0.0506 (1.7258)
DEPO	-1.4733 (1.4761)	-0.8992* (0.5094)	0.0389 (0.3228)	-0.1290 (0.9013)	0.1742 (1.5689)
LEV	0.1542 (0.1473)	-0.0048 (0.0279)	-0.0127 (0.0188)	-0.0985* (0.0569)	-0.1056 (0.0835)
ROE	0.3801 (4.0941)	0.9293 (1.0361)	0.3145 (0.4977)	3.8048** (1.7491)	2.7363 (2.8213)
AGE	0.1610** (0.0772)	0.2805*** (0.0989)	0.0078 (0.0436)	0.3923*** (0.0918)	0.3623*** (0.0654)
_cons	2.9053 (9.7308)	-8.3406* (4.9888)	2.5811 (4.1608)	-0.2902 (6.6316)	-20.5800** (8.6259)
N	201	201	201	201	201
Year effects	YES	YES	YES	YES	YES
Wald Chi2	1339.49	59.73	7.31	270.91	1011.58
Prob>chi2	0.0000	0.0000	0.8364	0.0000	0.0000
R <sup>2</sup>	0.3941	0.2915	0.0963	0.4623	0.4745

Notes: \* p<0.1, \*\* p<0.05, \*\*\* p<0.01, Robust Standard errors in parentheses

## Appendix 1. Disclosure items

<i>Customers &amp; Product</i>	Scoring	Max Items
Service Quality information mentioned	0-1	
Customer complaints, feedback & satisfaction	0-1	
Customer awards/benefits	0-1	
Provision for physically challenged and aged customers	0-1	
Convenience banking/digital banking	0-1	
Introduction of innovative/tailored products	0-1	
Discounted/waived fees during difficult times	0-1	
Financial inclusion initiatives	0-1	
Financial literacy for customers	0-1	<b>9</b>
<b><i>Environment</i></b>		
Environmental Policy Statement in reports or websites	0-1	
Environmental Goals and Targets in reports or websites	0-1	
Environmental Investment Policies stated in reports or websites	0-1	
Environmental considerations in lending Policies	0-1	
Environmental sensitivity in Processes	0-1	
Sustainability/sustainable development/ climate	0-1	
Environmental Aesthetics	0-1	
Environmental Training provided to employees	0-1	
Environmental certifications (ISO)	0-1	<b>9</b>
<b><i>Energy</i></b>		
Disclosing the firm's energy policies	0-1	
The firm's concern about inadequate energy	0-1	
Energy conservation	0-1	
Utilisation of waste materials	0-1	
Recycling and associated energy savings	0-1	
Usage of alternative energy	0-1	
Less usage of high energy-consuming machines	0-1	<b>7</b>
<b><i>Human Resources</i></b>	0-1	
Employee Health, Safety & well-being	0-1	
Equal Employment Opportunities	0-1	
Work-life balance	0-1	
Remote working opportunities	0-1	
Employee Training/Investment in Employees	0-1	
Employee Assistance and Incentives	0-1	
Employee Remuneration	0-1	
Improvement in general working conditions	0-1	

Support for maternity and Paternity leaves	0-1	<b>9</b>
<b><i>Community</i></b>		
Donations to community activities and other org		
Support for education		
Scholarship programmes and packages		
Sponsorship of sports and recreational activities		
Support for arts and culture		
Sponsoring public health projects		
Support for Government initiatives		
Support for infrastructural projects		
Local content via recruitment/youth skills upgrade		
Financial support for local businesses and traders		10
Total items of Disclosure		<b>44</b>

*Notes:* 0 means the item is not disclosed, and 1 means the item is reported or disclosed.

## **CHAPTER III.**

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### **Chapter III: Corporate Governance and Sustainability Reporting of Environmentally Sensitive Firms in Sub-Saharan Africa**

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# **Corporate Governance and Sustainability Reporting of Environmentally Sensitive Firms in Sub-Saharan Africa.**

## **Abstract**

*This study explores the relationship between corporate governance mechanisms and the extent of sustainability reporting by environmentally sensitive firms in Sub-Saharan Africa using the 'Africapitalism' and stakeholder theories. Data for the study were hand-collected from the annual reports and sustainability-related reports of 49 environmentally sensitive firms from 2012 to 2022. The findings indicate that the extent of sustainability reporting is moderate. System GMM results suggest that board-gender diversity, GRI adoption, audit committee, sustainability committee and risk committee presence exhibit a positive significant relationship with the extent of sustainability reporting. However, the influence of the variables changes when the sustainability reporting index is unpacked. The results have implications for policymakers in Africa working to improve sustainability disclosure. Firms should strengthen corporate governance mechanisms to improve their sustainability reporting practices. Policies also need to aim to improve the disclosure of specific sustainability dimensions. This contributes to the decolonization of sustainability reporting research as it uses Africapitalism to examine the relationship between corporate governance factors. The study also extends the literature on environmentally sensitive firms' sustainability reporting in emerging economies. It is among the few to explore the nexus between risk committees and sustainability reporting.*

**Keywords:** Sustainability reporting; corporate governance; Sub-Saharan Africa; Africapitalism; Environmentally sensitive firms.

## **1. Introduction**

Corporate sustainability has become very important as the world seeks ways to protect and sustain the earth for present and future generations. With this in mind, business organisations have implemented sustainability measures towards sustainable development (Karn et al., 2023) and use sustainability reports to disclose their sustainable initiatives to their stakeholders. This helps firms to avoid sustainability-related risks, enhance their reputation (Tsang et al., 2023), access capital more affordably (Tan et al., 2020), protect their legitimacy (Cho et al., 2010), and contribute to achieving global sustainability (Yadav and Jain, 2023).

Despite these documented benefits, the literature is dominated by studies on firms from Western countries (Tsang et al., 2023). Studies from Sub-Saharan African countries (hereafter referred to as SSA) are still scarce despite the sub-region's significant environmental, social, and economic challenges (Arkoh et al., 2023; Tilt et al., 2021). We argue that each geographical region has distinct contextual features and characteristics that might impact why and how organisations do things, including sustainability (Tilt, 2018). In that sense, what applies to countries on different continents might not necessarily apply in SSA, where sustainability reporting is voluntary and still in its infancy (Tilt et al., 2021). Considering the above, a study examining the relationship between corporate governance mechanisms and the extent of sustainability reporting of firms in SSA will enhance the knowledge of sustainability reporting in weak economies and help in policy formulation to ensure businesses' contributions to sustainable development.

Specifically, we explore the relationship between corporate governance factors and the extent of sustainability reporting in the context of SSA. Past studies documented the significant role of corporate governance on corporate sustainability practices (Aguilera et al., 2021). However, very few of these studies focused on firms in SSA (Karn et al., 2023). Examining this relationship is important because an organisation's sustainability reporting practices are mainly

dependent on its corporate governance framework (Yadav and Jain, 2023; García-Martín & Herrero, 2020), especially in SSA, where sustainability reporting is voluntary, and stakeholder and institutional pressures on firms are low (Tilt et al., 2021). This helps us to understand how corporate governance shapes sustainability reporting towards sustainable development in this context.

SSA was chosen for this study because of the multitude of sustainability challenges faced by countries in the sub-region, such as corruption, gender inequality, ineffective corporate governance frameworks, institutional gaps, poverty, and environmental destruction (Tilt et al., 2021). With a few exceptions, most countries in the sub-region practice voluntary sustainability reporting regimes, and awareness of sustainability reporting practices is very low. Sustainability reporting and development in the sub-region lags behind other regions (Tauringana, 2021b). To address some of these challenges, governments and regulatory bodies have, in recent years, initiated reformative policies and measures to put their countries on the developmental path. Firms in the sub-region are encouraged to adopt sustainable business practices and business strategies. There have been corporate governance reforms, while institutions are being set to tackle some of these challenges. This has necessitated the need for more studies to examine the sustainability reporting practices of firms in the region, which could impact policy formulation to address the challenges (Arkoh et al., 2023; Igwe et al., 2023; Tauringana, 2021a; Tilt et al., 2021). The current study responds to such calls and examines the relationship between corporate governance mechanisms and the extent of sustainability reporting by environmentally sensitive firms in SSA.

The study was motivated by various factors. Foremost, environmentally sensitive firms are one of the major contributors to environmental and general socio-economic problems in the sub-region, yet they are rarely studied (Arkoh et al., 2023). As sustainability reporting is mainly voluntary in SSA (Tilt et al., 2021), these firms are free to decide what is disclosed and how it

is disclosed. Hence, knowledge of the relationship between corporate governance mechanisms and the extent of sustainability reporting in the region is significant for sustainable development initiatives. Secondly, successful and effective implementation of sustainability reporting in the sub-region requires a comprehensive understanding of the local context and its unique factors. Furthermore, new theories are desired to investigate the sustainability reporting practices of firms to enrich literature (Tsang et al., 2023) as sustainability reporting-related research blossoms. However, the few existing African-focused studies have mainly used Western-oriented theories, which might not be suitable for their research (Igwe et al., 2023; Tilt et al., 2021). We address this gap by using the Africapitalism concept and stakeholder theory in this study. Finally, cross-country studies with longitudinal data are highly encouraged to aid the generalisation of findings, as most prior studies lack this. This study also responds to the calls for more studies in SSA (Tauringana, 2021a, 2021b; Tilt et al., 2021).

To address these gaps, the current study uses panel regression techniques to explore the nexus between corporate governance mechanisms and the extent of sustainability reporting of 49 environmentally sensitive firms (hereafter ESFs) in SSA through the lens of the Africapitalism concept and stakeholder theory.

The findings show that the extent of sustainability reporting in SSA is moderate. Moreover, our evidence suggests that board gender diversity, the presence of an audit committee, sustainability committee, and risk committee, and the adoption of GRI exhibit a positive significant relationship with the extent of sustainability reporting. Nonetheless, the relationship between corporate governance variables and sustainability reporting changes when dimensions are unpacked.

The study extends the current debate on sustainability reporting in many ways. First, it responds to the calls for authors to undertake more studies in the African context to fortify the literature

and inform better policy formulation on sustainability in the sub-region (Arkoh et al., 2023; Igwe et al., 2023; Tauringana, 2021a; Tilt et al., 2021). Second, the study gives valuable insights into sustainability reporting within environmentally sensitive industries in SSA. This sector requires in-depth probing of sustainability reporting practices due to its socio-economic impacts on people and the environment, yet remains largely underexplored. This study fills this gap, indicating the need for adequate exploration, transparency and accountability. Furthermore, this study adopts the underutilized concept of Africapitalism to investigate the relationship between corporate governance mechanisms and the extent of sustainability reporting. Thus, we show that the Africapitalism concept could drive corporate sustainability reporting in SSA. Through this, we contribute to developing this theory in sustainability reporting research and respond to new theoretical demands to understand the factors driving sustainability reporting (Tsang et al., 2023). This helps to ‘decolonize’ sustainability research, which is dominated mainly by Western theories (Chilisa, 2017; Ghosh et al., 2021; Hill et al., 2023). Also, the study is methodologically rigorous because it uses longitudinal data on 49 firms across 16 SSA countries whilst using system GMM to address potential endogeneity concerns not addressed in prior studies (see Abang’a & Tauringana, 2024). Regarding practical contributions, the study can be valuable to policymakers dealing with sustainable development and sustainability issues in the sub-region. The findings are useful for making policies to achieve the UN 2030 SDG 12 and Africa’s Agenda 2063.

The rest of the paper is structured as follows. Section 2 deals with the theoretical framework. Section 3 tackles the literature review and hypothesis development, and Section 4 focuses on the research design and methodology. A discussion of the findings is presented in Section 5. The conclusions, research limitations, practical implications, and suggestions for future research are elaborated in Section 6.

## **2. Theoretical review**

## 2.1 Stakeholder Theory

The activity of an organisation impacts its general environment, the people in the environment, and other individuals who might be outside the immediate environment. The opposite is also true. Put together, these individuals or groups of individuals are referred to as 'stakeholders'. They are defined as any individual or group whose activities affect or are affected by the organisation's activities (Freeman, 1984). These stakeholders include customers, employees, shareholders, investors, suppliers, the government, communities, and the environment (Mitchell et al., 1997). Considering the diversity of stakeholders, the relationship between these groups and organisations, and the quest for organisations to be successful, stakeholder theory encourages organisations not to create value for their shareholders alone, but for all stakeholders (Freeman, 1984). Non-shareholders, such as the government, investors, and environmental activists, would be interested in knowing what firms do to help the environment (Cormier et al., 2004) and communities and their contribution to economic prosperity. Effective corporate governance mechanisms are needed to balance the needs of shareholders and other stakeholders, to help organisations achieve their objectives effectively (Giannarakis et al., 2023). For instance, independent directors should represent the interests of non-shareholders. Therefore, organisations use sustainability reports to effectively develop and manage healthy relationships with their stakeholders (Orij, 2010). In some SSA countries, like Ghana, the government awards contracts and mineral exploration licences to firms so that they can operate. To win more contracts or renew their licences, these firms could use sustainability reporting to disclose their sustainability initiatives (road construction, health, educational facilities, etc.) and manage the governments' expectations.

## 2.2 Africapitalism Theory

This theory concerns the critical role that indigenous African firms, especially those in the private sector, can play in the continent's sustainable development (Amaeshi & Idemudia,

2015); it also considers how such an ideology can be embedded in the practices and culture of firms. Capitalism seems to be the dominant global economic system. However, it is understood that capitalism in Africa is influenced by cultural contexts and is different from the Western form of pure capitalism (Taylor, 2015), which has failed to work on the continent and contributed to its underdevelopment (Olutayo & Omobowale, 2007). Hence, a local form of capitalism that inculcates the institutional context of Africa, its cultural values, and history, and relies on the indigenous private sector to ensure the sustainable development of the continent, is what is referred to as 'Africapitalism' (Amaeshi & Idemudia, 2015). The concept requires Africans to develop their economic models and be at the centre of their development, as proposed by the Afrocentric economic theory (Bekerie, 1994). Inclusive growth and the empowerment of young women and men towards the collective success of Africans are some of the characteristics of the concept. Africapitalism's proposition of collective success is inherently derived from other African theories, such as the Afrocentric theory (Schiele, 1990), the popular Ubuntu theory (Buxton & Mbiti, 1970; Mugumbate et al., 2023) and Pan-Africanism (Fosu, 1999; Ofuatey-Kodjoe, 1981). Thus, Africapitalism theory integrates the tenets of prior African theories to promote sustained growth and development on the continent. The predominant focus is the contribution of indigenous African entrepreneurs towards sustainable development, improved corporate accountability and transparency, enhanced corporate governance and youth empowerment to create collective success for all stakeholders (Adegbite et al., 2018). Thus, investment from the private sector of Africa is critical to structurally transform African economies into more sustainable economies (Barrett et al., 2017), to reduce poverty and inequality, address environmental and climate change issues on the continent (Ali & Gniniguè, 2022; Morsy et al., 2023), and to promote self-sufficiency and reliance in African economies. Per Otubanjo (2018), a common way to describe the role of indigenous African businesses in sustainable development, which is central to the

africapitalism framework is through corporate social responsibility. Van Norren (2022) reported that the Ubuntu philosophy alone helps to achieve the first five SDGs, in addition to SDGs 10, 16, and 17. African firms have now enhanced their philanthropic activities and transformed them into more sustainable initiatives (Malan, 2016) that promote the socio-economic growth of communities, address environmental and climate challenges, etc. Therefore, the corporate sustainability of African firms is key to achieving the objectives of Africapitalism and sustainable development goals (Tilt et al., 2021). Nonetheless, “corporate governance is an integral part of the exercise of Africapitalism” (Adegbite et al., 2018, p.73), meaning that strong corporate governance is critical for the effective implementation and success of Africapitalism. According to Adae (2021), CEOs in Africa initiate and implement policies on corporate social responsibility in the practice of Africapitalism, whilst Africapitalism propels CEOs to engage in impactful ventures in African communities (Adae, 2021; Adae & Hinson, 2024). Amaeshi and Idemudia (2015) suggested that Africapitalism needs strong board independence to work, and that Africapitalism can eliminate corporate governance problems such as minimal local institutional investors, CEO duality, and weak disclosure, which prevents African firms from competing effectively at a global level.

These two theories are used for the study because of their apparent similarity in focussing on all stakeholders’ welfare.

### **3. Literature Review and Hypothesis Development**

#### *3.1 Board Size and Sustainability Reporting*

The influence of board size on the sustainability performance of firms has been examined in previous studies (Beji et al., 2021; Husted & Sousa-Filho, 2019; Orazalin & Mahmood, 2021). The size of the board is one of the key factors of its effectiveness (Beji et al., 2021). Large boards can benefit from diverse fields of expertise, including sustainability, to improve firm sustainability performance (Konadu et al., 2022). Also, according to the stakeholder theory,

firms with many directors are likely to represent the interests of diverse stakeholders and be more accountable to them (Kaymak & Bektas, 2017). Their oversight responsibilities ensure that managerial activities and decisions create value for multiple stakeholders. Furthermore, firms with large boards can form various subcommittees, such as sustainability committees, leading to better, well-informed decisions that create superior sustainability performance (Beji et al., 2021). Adegbite (2015) proposed large board sizes of diverse tribes in African firms, to improve board effectiveness and corporate governance. Per the Africapitalism concept, this would create a sense of belonging in the board and promote proper accountability and responsibility (Adegbite et al., 2018). Their understanding and experience of the local context could facilitate customised solutions to sustainability challenges facing African societies, through proper stakeholder engagement that benefits social growth and progress. According to Fulgence et al. (2023), the disclosure practices of a firm are greatly enhanced with a larger board size. Such disclosures may also include sustainability disclosures. Consequently, Husted and Sousa-Filho (2019) found a positive influence of board size on sustainability reporting. Other scholars have reported the positive influence of board size on sustainability reporting (Beji et al., 2021; Endo, 2020; Nguyen et al., 2021). In contrast, some studies have reported either a significant negative impact (Githaiga & Kosgei, 2023) or an insignificant effect of large board size on the sustainability performance of firms (García-Martín & Herrero, 2020; Hussain et al., 2018; Orazalin & Mahmood, 2021). Despite the mixed findings, most studies reported a positive influence between board size and sustainability reporting performance. Therefore, in line with stakeholder theory and the Africapitalism concept, a positive relationship is posited between board size and sustainability reporting performance. Accordingly, it is hypothesised that:

*H<sub>1</sub>: There is a positive relationship between board size and the extent of sustainability reporting of ESFs in SSA.*

### *3.2 Board Gender Diversity and Sustainability Reporting*

Most African countries are patriarchal, so women have less opportunity to occupy top leadership positions (Areneke et al., 2023). The Africapitalism concept highlights inclusivity and the creation of a sense of parity for all stakeholders (Adegbite et al., 2018), calling for the inclusion of more women directors to promote accountability and responsibility for communal progress. Previous research has investigated how board gender diversity improves an organisation's financial performance (Ararat et al., 2015; Bennouri et al., 2018; Joecks et al., 2023). The findings have generally pointed to a positive impact of gender diversity on corporate performance. Similarly, in the field of sustainability research, scholars have examined the impact of board gender diversity on the sustainability performance of firms (Byron & Post, 2016; Eliwa et al., 2023; Kyaw et al., 2022; Lu & Herremans, 2019). Firms with more women directors tend to make better sustainability disclosures (Girón et al., 2022; Liao et al., 2015; Ullah et al., 2019). Liao et al. (2015) reported that the tendency of organisations to report on their emissions, as well as the level of such reporting, is positively related to the percentage of female directors. Girón et al. (2022) also found a positive relationship between sustainability reporting and board gender diversity. These outcomes suggest that more women directors improve board effectiveness in addressing diverse stakeholder needs, including sustainability (Konadu et al., 2022; Macaulay et al., 2018), and make companies behave responsibly (Briano-Turrent, 2022). Women are also considered to be more responsive to the environmental needs of stakeholders (Desrochers et al., 2019). From the existing findings discussed above, and based on stakeholder theory and the Africapitalism concept, more women directors are expected to improve a firm's sustainability reporting performance. The following hypothesis is proposed.

*H<sub>2</sub>: There is a positive relationship between board-gender diversity and the extent of sustainability reporting of ESFs in SSA.*

### *3.3. Board Independence and Sustainability Reporting*

As one of the most examined board characteristics (Bouten et al., 2023), board independence enhances the effectiveness and efficiency of corporate governance in organisations (Abang'a & Tauringana, 2024). This is because independent directors can adequately monitor the activities of management and keep them in check when there are lapses (Liao et al., 2018). Consequently, firms with more independent directors can compel management to act responsibly and ethically towards all stakeholders through high-level disclosures. According to Yekini et al. (2015), there is a significant relationship between independent directors and the quality of sustainability disclosure of firms in the UK. Villalba-Rios et al. (2023) reported that a lack of independent directors accounted for low sustainability performance. Africapitalism posits that the issue of power concentration in a single individual in African firms prevents proper accountability and transparency to stakeholders, which can be improved by having more independent directors (Adegbite et al., 2018). According to stakeholder theory, independent directors are sensitive to diverse stakeholder needs beyond that of shareholders (Hussain et al., 2018; Kaymak & Bektas, 2017). They use sustainability initiatives to satisfy these needs and safeguard the organisation's legitimacy (Yekini et al., 2015). In Africa, few studies have examined the relationship between board independence and sustainability reporting (Coffie et al., 2018; Erin & Bamigboye, 2022; Ntim & Soobaroyen, 2013) but didn't explicitly focus on ESFs. The study brings empirical evidence from the context of ESFs in SSA. The following is hypothesised based on stakeholder theory, the Africapitalism concept and prior findings.

*H<sub>3</sub>: There is a positive relationship between board independence and the extent of sustainability reporting by ESFs in SSA.*

### *3.4 Board Meetings and Sustainability Reporting*

In every organisation, the board of directors meets several times a year to discuss business issues. It is an avenue through which the board executes its oversight responsibilities over the firm and its managers. Board meetings are considered part of the due diligence mechanisms of the board (Orazalin & Mahmood, 2021). More board meetings could pave the way for discussing other issues that might not be part of the traditional 'business of the day'. Considering the increased attention to corporate sustainability practices across the globe and the nature of social and environmental problems that confront Africans, discussions on sustainability disclosures could arise due to frequent board meetings. Furthermore, frequent board meetings are suggested to improve transparency and accountability to various stakeholders (Hussain et al., 2018). Frequent meetings ensure the board's effectiveness in all areas of decision-making, including decisions on sustainability practices (Giannarakis et al., 2023). The relationship between the frequency of board meetings and sustainability reporting has been studied by scholars (Giannarakis et al., 2023; Hussain et al., 2018; Orazalin & Mahmood, 2021). According to stakeholder theory, frequent board meetings provide an opportunity for the directors to deliberate on issues of sustainability disclosures, as required by stakeholders (Herremans et al., 2016). Also, Africapitalism seeks to promote the transparency and disclosure practices of African firms, which have been significant corporate governance challenges in SSA and have stifled their global competitiveness (Adegbite et al., 2018). Frequent board meetings could enhance corporate transparency and disclosures, including sustainability disclosures of SSA firms (Abang'a & Tauringana, 2024). Based on the above, the following hypothesis is proposed:

*H<sub>4</sub>: There is a positive relationship between the frequency of board meetings and the extent of sustainability reporting by ESFs in SSA.*

### *3.5 Audit Committee Size and Sustainability Reporting*

An auditing system is part of the corporate governance mechanism that prevents fraud, promotes accountability, and ensures that management disclosures to stakeholders are transparent and credible (Adams, 2002). Considering that investors now rely on both financial and nonfinancial disclosures of corporations to make decisions, it is prudent to prevent improper conduct, such as earnings management and greenwashing, by management to protect stakeholders' interests (Li et al., 2012). Africapitalism advocates for more local institutional investors and ownership, calling for strong disclosure practices to help access international capital markets (Adegbite et al., 2018; Okeahalam, 2004). To achieve these aims, the influence of audit committees as a key component of corporate governance is necessary to provide credible and transparent information to these potential investors and capital providers, enabling stakeholders to make their decisions. Similarly, in most countries, firms are mandated to have audit committees as part of their corporate governance mechanisms, to ensure that management engages in proper disclosures (Suttipun, 2021). An effective audit committee ensures the appropriate monitoring and assessment of reporting practices due to the members' expertise and the satisfaction of all stakeholders. Li et al. (2012) documented the positive effect of audit committee size on sustainability reporting. Khan et al. (2013) reported a positive association between audit committees and sustainability reporting in Bangladesh. Arif et al. (2020) also reported a positive influence of audit committees on the extent of sustainability reporting. However, some scholars have argued against large-size audit committees and have reported negative outcomes (Suttipun, 2021). The reason for this is that large audit committees can create incoherence among committee members, leading to inefficiencies on the part of the committee. Based on the above, the following hypothesis is proposed.

*H<sub>5</sub>: There is a positive relationship between audit committee size and the extent of sustainability reporting by ESFs in SSA.*

### *3.6 Sustainability Committee and Sustainability Reporting*

In the wake of increased pressure on corporations to act sustainably and be socially responsible, many organisations are beginning to set up sustainability committees in addition to other traditional committees. Sustainability committees are tasked with sustainability initiatives and strategies, including the dedication and performance of a corporation (Hussain et al., 2018; Orazalin, 2020). Previous studies have reported a positive influence of sustainability committees on the sustainability performance of firms (Giannarakis et al., 2023; Orazalin & Mahmood, 2021; Villalba-Ríos et al., 2023). Given that most African countries are practising voluntary sustainability disclosure regimes, it is foreseen that only firms passionate about environmental and social issues will form sustainability committees as part of their corporate governance mechanisms. According to the stakeholder theory, this is an important mechanism for effectively managing stakeholders, especially those with sustainability concerns (Giannarakis et al., 2023). As the Africapitalism concept entails a balanced development of African countries from environmental, social, and economic perspectives, corporations must dedicate a specialised team of top executives to environmental and social issues. This ensures a good balance between the traditional business objectives of firms and sustainable development objectives. Previous studies in Africa have reported mixed findings of sustainability committees on the sustainability reporting practices of companies. While Kitsikopoulos et al. (2018) and Coffie et al. (2018) both reported a positive influence of sustainability committees on the sustainability reporting practices of firms in South Africa and Ghana, respectively, Alshbili et al. (2020) reported an insignificant influence of sustainability committees in Libya. The following is hypothesised;

*H<sub>6</sub>: There is a positive relationship between the presence of a sustainability committee and the extent of sustainability reporting by ESFs in SSA.*

### *3.7 Risk Committee and Sustainability Reporting*

One of the corporate governance structures used to prevent possible high-impact negative events in a company is the risk management committee (de Villiers et al., 2022; Nocco and Stulz, 2006). However, with increasing attention and commitment to global sustainability, the mandate given to risk committees now includes the sustainability-related risks organisations could face if they are not handled carefully (de Villiers et al., 2022). These risks include fines, fees, high cost of capital, difficulty obtaining capital from the market, reputational damage, and withdrawal of licences to operate. According to stakeholder theory, a risk management committee can help firms avoid these risks, achieve their objectives, and generate value for diverse stakeholders (Musallam, 2018). To avoid this unpleasantness, firms now incorporate sustainability issues into risk management processes (Shad et al., 2019) to implement the correct risk measures, systems, and policies to ensure compliance with stakeholder requirements. Scholars are beginning to investigate whether standalone risk management teams in an organisation help achieve superior sustainability performance (de Villiers et al., 2022; Krishnamurti & Velayutham, 2018; Mahsina et al., 2024). De Villiers et al. (2022) reported that the presence of a dedicated risk management committee positively and significantly influences the environmental performance of firms. Mahsina et al. (2024) reported a positive relationship using an Indonesian sample. Musallam (2018) reported similar findings in Palestine. In contrast, Krishnamurti and Velayutham (2018) reported that risk management committees are unrelated to sustainability-related disclosures in Australia. There is less empirical evidence on the nexus between risk committees and firm sustainability (Mahsina et al., 2024), and we seek to bring evidence from SSA. The following hypothesis is formulated based on the stakeholder theory and prior studies.

*H<sub>7</sub>: There is a positive relationship between risk committees and the extent of sustainability reporting by ESFs in SSA.*

### *3.7 GRI Adoption and Sustainability Reporting*

The era of sustainability reporting has led to various sustainability reporting guidelines and frameworks, with the GRI framework being the most prominent and used. The standards are issued and used by sectors or by topics. It is regarded as the de facto sustainability reporting guideline used by many organisations that issue sustainability reports. This is because the GRI guidelines improve the comparability and consistency of sustainability reports issued by organisations (de Grosbois & Fennell, 2022). Because of that, many stakeholders today demand sustainability reports which follow the GRI guidelines. In response to these stakeholders' demands, companies have started to issue sustainability reports based on the GRI guidelines. This has led scholars to investigate whether the adoption or application of GRI guidelines in preparing sustainability reports has any influence on the sustainability reporting performance of firms (Bernard et al., 2018; Comyns, 2016; de Grosbois & Fennell, 2022). Comyns (2016) reported that the extensiveness and quality of sustainability reporting are enhanced when the GRI guidelines are applied to produce sustainability reports. It is also reported that GRI adoption has a positive association with sustainability reporting by firms in the hotel industry (de Grosbois & Fennell, 2022). Also, French companies reporting in accordance with the application of GRI guidelines do not experience a significant decrease in sustainability performance when there is a change in the CEO position (Bernard et al., 2018). Firms that issue GRI-based sustainability reports make more disclosures and achieve high credibility for their sustainability reports (Rankin et al., 2011). In the African context, this variable has not been adequately examined. The study contributes to this area by examining how GRI adoption influences the extent of sustainability reporting of ESFs. Therefore, in line with stakeholder theory and existing results, we propose that:

*H<sub>8</sub>: There is a positive relationship between GRI adoption and the extent of sustainability reporting by ESFs in SSA.*

#### 4. Methodology

#### 4.1 Sample Selection

Due to the unavailability of adequate ESG/Sustainability data on African firms in prominent databases, such as the Refinitiv database, the study resorted to secondary data from the sampled companies to conduct its investigation. More specifically, data were extracted from annual reports, sustainability reports, CSR reports, and integrated reports of ESFs in SSA countries. These reports were downloaded from the companies' websites. We arrived at 537 firm-year observations drawn from a sample of 49 companies over 11 years from 2012-2022, which were then used for the study. This period was chosen against a backdrop of discussions of sustainable development goals initiated in 2012 by member states of the United Nations. This period sparked global discussions on sustainable development throughout the subsequent years until its complete adoption in 2015 (Hák et al., 2016). The Paris Agreement on climate change also came into existence during this period (Erickson & Brase, 2019; Oberthür & Groen, 2018). These two events had a significant influence on the sustainability practices of organisations around the world. Hence, it is feasible to get data on the sustainability reporting of firms within our chosen sample periods. The 49 companies were selected for the study on the basis that each of them consistently issued at least an annual report for the 12-year sample period. The use of annual or integrated reports for the study is because, in most African countries, sustainability reporting is done voluntarily. As such, only a few companies have issued or started to issue standalone sustainability reports and CSR reports. Most firms disclose their sustainability initiatives in annual reports or largely integrated reports. As such, we needed to factor in annual reports or integrated reports as the primary source of data collection for the studies. As in prior studies, content analysis was used to extract data from sustainability-related reports (Amran & Haniffa, 2011; Clarkson et al., 2008; Hussain et al., 2018; Yekini et al., 2015).

## 4.2 Measurement of Variables

### 4.2.1. Dependent Variables

The dependent variable for the present study was the sustainability disclosure index, which is proxied by a firm's overall ESG disclosure index. In developing the index, content analysis was applied to extract data from the sampled organisations' annual, sustainability, and CSR reports (Amran & Haniffa, 2011; Hussain et al., 2018). These sources are chosen due to inadequate data on African firms in databases like Bloomberg, KLD, etc. (Tilt et al., 2021; Tauringana, 2021b). Unlike previous studies that adopted narrations, such as word counts and pages, as the units of analysis (Hussain et al., 2018; Mahadeo et al., 2011), this study only considered items that have been quantitatively disclosed to develop the sustainability index. A value of 1 was assigned to an item disclosed, while 0 was assigned to an item not disclosed. This approach was adopted to eliminate the problems associated with narrative disclosures; it also provides some uniqueness to our study compared to other studies focused on African countries (Alshbili et al., 2020; Chakroun et al., 2017; Mahadeo et al., 2011). The sustainability disclosure index for each company was obtained by adding the number of sustainability items disclosed by each company and dividing the results by the maximum number of disclosure items. This index helped us to quantitatively measure the extent of disclosure by the firms sampled for the study. Twenty-nine elements were used to develop the composite sustainability disclosure index. The breakdown of the items included 12 from the environmental dimension, seven from the social dimension, and 10 from the governance dimension. This breakdown also helped to develop an index for each of the three dimensions to serve as sub-dependent variables for running different regression models. While the environmental and social items were mainly selected from GRI guidelines, the governance items were selected based on prior studies (Gowry et al., 2023; Sancha et al., 2023) and some elements from GRI 2021 general disclosures. Appendix 1 contains the list of items used in developing the index.

#### 4.2.2. Independent Variables

The independent variables extracted from annual reports and used for the study included board size (BODS), board meetings frequency (BODM), board gender diversity (BOGD), sustainability committee (SUSCOM), risk committee (RISKC), audit committee size (AUDC), board independence (BODI) and GRI adoption (GRI). The size of the board was measured as the total number of directors on the board (Orazalin & Mahmood, 2021; Villalba-Ríos et al., 2023). Board independence was measured as the number of independent directors on the board expressed as a percentage of the total number of directors (Orazalin & Mahmood, 2021; Villalba-Ríos et al., 2023). Board gender diversity was measured as the percentage of female directors over the total number of directors (Chijoke-Mgbame et al., 2020; Giannarakis et al., 2023). The frequency of board meetings was measured as the total number of meetings a year (Giannarakis et al., 2023; Orazalin & Mahmood, 2021). The sustainability committee was measured as a dummy variable, where 1 represents the presence of a sustainability committee, and 0 represents the absence of a sustainability committee (Helfaya & Moussa, 2017; Orazalin, 2020). Audit committee size was measured as the total number of audit committee members (Li et al., 2012). The risk committee was measured as a dummy variable, where 1 indicates the presence of a risk committee, and 0 indicates the absence of a risk committee in an organisation (de Villiers et al., 2022). GRI was measured as a dummy variable, where 1 means that a company adopts or issues sustainability reports based on GRI guidelines, and 0 means otherwise (Bernard et al., 2018; Comyns, 2016).

#### 4.2.3. Control Variables

We included certain variables as control variables in the study. These are characteristics which are known to influence the sustainability performance of firms. Therefore, including them in the analysis will help isolate the influence of the independent variables on the dependent variables in our study. Specifically, we controlled for the effect of firm profitability, leverage,

and firm size in line with existing studies (Amran & Haniffa, 2011; Hussain et al., 2018; Orazalin & Mahmood, 2021). Profitability (ROA) was measured as a percentage of net profit on the firm's total assets (Hussain et al., 2018). Firm size (ASSET) was measured as the natural logarithm of total assets (Hussain et al., 2018; Orazalin & Mahmood, 2021). This study measured leverage (LEV) as total debts over total assets (Lu & Herremans, 2019; Orazalin & Mahmood, 2021).

## **5. Results and Discussion**

### **5.1. Descriptive Statistics**

#### **INSERT TABLE I HERE**

Table II presents the descriptive statistics of the variables used in the study. The average SRI score is 60.44%, which indicates moderate disclosure by environmentally sensitive companies in Africa. The social and governance dimensions show an improvement; the mean values are 68.72% and 73.32%, respectively, with 100% maximum values. However, the environmental dimension has the lowest mean value of 39.19%. This suggests that disclosure of environmental items is low despite being environmentally sensitive companies. This could be due to measurement problems with the items in the environmental dimension, hence the low disclosures. The board membership of the firms ranges from 4 to 25 people, the average being 10. On average, 75% of the directors are independent (the minimum was 25%). Women's representation on boards is very low, with an average of 18.74% and some instances where no woman is on the board. Board meetings range from 5 to 22. Audit committee ranges from 0 to 11, resulting in a mean value of 4.5

### **5.2. Pairwise Correlation**

#### **INSERT TABLE II HERE**

Table II shows the bivariate analysis results between the independent and dependent variables. The analysis is presented in the form of a correlation matrix. It can be seen that many of the

independent variables (Board size, Board gender diversity, Board meetings, Audit committee, Sustainability committee, Risk committee and GRI) in the study exhibit a positive relationship with the primary dependent variable (SRI disclosure score). Only board independence exhibits an insignificant negative relationship with the dependent variable. The same outcome is reported for one control variable (ROA), while asset size and leverage have positive and negative relationships with ESG disclosure scores, respectively. There is no multicollinearity issue in this correlation matrix between the independent variables, as the highest correlation coefficient between the two independent variables used in the study is less than 0.8. According to Gujarati (1995), multicollinearity is apparent when the correlation coefficient between two predictors exceeds 0.8. Moreover, the variance inflators (VIF) for our predictors gave a mean value of 1.5, which signifies the absence of serious multicollinearity among the predictors.

### 5.3 Multivariate Analysis

Before performing the multivariate analysis, the data was examined in detail to ensure proper analysis and eliminate problems that might distort the analysis. More specifically, to avoid the problem of highly skewed data, various normality tests were run on all of the data. Histograms with normal density and kernel density plots were applied to visualise the normality of each single variable. The Shapiro-Wilk test for normality was also applied. After these processes, the variables found to be highly skewed were transformed. Nevertheless, normality checks after the transformations were not so satisfying, especially with outliers. Hence, the variables were winsorised to give proper normality to the data.

### 5.4 Model Specification

Considering that the data used for the study are panel data made up of 49 firms from multiple countries spanning 11 years, the authors opted for panel data analysis. Therefore, panel data regression was used to investigate the relationship between the selected independent and dependent variables. The authors first estimated random and fixed-effect models in specifying

an appropriate model for the panel data regression analysis. The Hausman test was initiated after that, and the results indicated that the fixed effect was the most appropriate model for estimation. Hence, the fixed effect model was used to continue with the study. The proposed research models used for the regression were:

1.  $SRI_{it} = \alpha_0 + \beta_1 * BODS_{it} + \beta_2 * BOGD_{it} + \beta_3 * BODI_{it} + \beta_4 * BODM_{it} + \beta_5 * AUDC + \beta_6 * SUSC_{it} + \beta_7 * RISKCOM_{it} + \beta_8 * GRI_{it} + \beta_9 * ASSET_{it} + \beta_{10} * ROA_{it} + \beta_{11} * LEV + \varepsilon_{it}$
2.  $ENV_{it} = \alpha_0 + \beta_1 * BODS_{it} + \beta_2 * BOGD_{it} + \beta_3 * BODI_{it} + \beta_4 * BODM_{it} + \beta_5 * AUDC + \beta_6 * SUSC_{it} + \beta_7 * RISKCOM_{it} + \beta_8 * GRI_{it} + \beta_9 * ASSET_{it} + \beta_{10} * ROA_{it} + \beta_{11} * LEV + \varepsilon_{it}$
3.  $SOC_{it} = \alpha_0 + \beta_1 * BODS_{it} + \beta_2 * BOGD_{it} + \beta_3 * BODI_{it} + \beta_4 * BODM_{it} + \beta_5 * AUDC + \beta_6 * SUSC_{it} + \beta_7 * RISKCOM_{it} + \beta_8 * GRI_{it} + \beta_9 * ASSET_{it} + \beta_{10} * ROA_{it} + \beta_{11} * LEV + \varepsilon_{it}$
4.  $GOV_{it} = \alpha_0 + \beta_1 * BODS_{it} + \beta_2 * BOGD_{it} + \beta_3 * BODI_{it} + \beta_4 * BODM_{it} + \beta_5 * AUDC + \beta_6 * SUSC_{it} + \beta_7 * RISKCOM_{it} + \beta_8 * GRI_{it} + \beta_9 * ASSET_{it} + \beta_{10} * ROA_{it} + \beta_{11} * LEV + \varepsilon_{it}$

## 5.5 Regression Results

*Table III. Fixed Effect Regression Results*

**INSERT TABLE III HERE**

The results for Model 1 (M1) in Table III relate to the overall sustainability reporting index and the independent variables. According to the results, the board size (BODS) has a positive significant relationship with the extent of sustainability reporting at a 10% significance level ( $\beta=0.3750$ ,  $\rho= 0.079$ ). Hypothesis 1 is, thus, confirmed. Contrary to hypothesis 2, board gender diversity (BOGD) exhibited an insignificant negative relationship with the extent of sustainability reporting ( $\beta= -0.0276$ ,  $\rho= 0.586$ ). Board independence (BODI) has a positive but insignificant relationship with the extent of sustainability reporting ( $\beta= 0.0687$ ,  $\rho= 0.171$ ). This effectively leads to the rejection of hypothesis 3, as a significantly positive relationship was predicted. Furthermore, hypothesis 4, regarding the relationship of Board Meetings (BODM) with the extent of sustainability reporting, is rejected as a negative insignificant relationship was found ( $\beta= -0.2924$ ,  $\rho= 0.518$ ). The Audit Committee (AUDC) variable shows a negative

association with the extent of sustainability reporting ( $\beta = -0.4025$ ,  $\rho = 0.073$ ), which indicates a rejection of hypothesis 5. The Sustainability Committee (SUSC) has a positive significant relationship with the extent of sustainability reporting ( $\beta = 4.0577$ ,  $\rho = 0.049$ ). Hypothesis 6 is confirmed. Risk committee (RISKC) has a positive significant relationship with the extent of sustainability reporting ( $\beta = 5.1304$ ,  $\rho = 0.000$ ). GRI has an insignificant positive relationship with sustainability reporting ( $\beta = 2.2994$ ,  $\rho = 0.253$ ), which contradicts hypothesis 8. For the control variables, the size of the firm (ASSET) and Leverage (LEV) showed a negative insignificant association with sustainability reporting ( $\beta = 1.0721$ ,  $\rho = 0.327$ ;  $\beta = -1.8810$ ,  $\rho = 0.650$ ). Profitability (ROA) has a significant negative relationship with sustainability reporting ( $\beta = -9.1382$ ,  $\rho = 0.018$ ).

#### 5.6 GMM estimations to address possible endogeneity issues

Through regression analysis, which mainly involved examining the relationship between board characteristics and sustainability reporting, previous studies suggested that issues of endogeneity are likely to arise and need to be accounted for accordingly (Haque & Ntim, 2018; Konadu et al., 2022; Orazalin & Mahmood, 2021). The GMM estimation technique was applied in this study to address endogeneity issues and ensure robust results, as used in previous studies (Haque & Ntim, 2018; Orazalin & Mahmood, 2021), and its results were used for the main discussion. The results of the GMM regression are presented in Table IV.

**INSERT TABLE IV HERE**

#### 5.7. Discussion

The size of the board is insignificant across all models. Hypothesis 1 is, thus, rejected. This indicates that board size has no relationship with the extent of sustainability reporting by ESFs in SSA. This result aligns with previous studies that reported that board size does not significantly influence firms' sustainability reporting (Hussain et al., 2018; Orazalin &

Mahmood, 2021; Abang'a & Tauringana, 2024) but contradicts the studies that reported a positive significant relationship (Beji et al., 2021; Endo, 2020; Nguyen et al., 2021). The possible reasons for this outcome could be the lack of sustainability expertise on the board. Even though large boards benefit from experience, skills and background diversity (de Villiers et al., 2011), a lack of sustainability reporting expertise could account for this result. Also, difficulties associated with consensus building by large boards could cause sustainability issues to be marginalised. Moreover, there is low pressure from stakeholders on firms regarding sustainability reporting, as the practice is still voluntary in SSA, making the board relaxed on sustainability disclosures while prioritising financial gains. The Africapitalism and stakeholder argument that a large board serves diverse stakeholder needs and improves the extent of sustainability reporting is not supported.

Board gender diversity has a positive relationship with the extent of the overall sustainability reporting index and social dimension index at 5% and 10% significance levels, respectively. Therefore, the presence of more women on the boards not only improves the extent of sustainability reporting but also the extent of social disclosures. Hypothesis 2 is, thus, supported. The result is consistent with the findings of existing scholars who advocate for the inclusion of more women on boards to improve sustainability reporting (Giannarakis et al., 2023; Girón et al., 2022; Ullah et al., 2019). This result aligns with the stakeholder theory and the Africapitalism concept, as female directors are more sensitive to the sustainability needs of many stakeholders. Therefore, they either force or persuade management to adopt more sustainable practices and make more disclosures.

Board independence has no significant relationship with the extent of sustainability reporting or sub-dimensions. The proposition of hypothesis 3, that board independence has a positive relationship with the extent of sustainability reporting, is rejected. However, this result supports the positions of García-Martín and Herrero (2020) and Nguyen et al. (2021), who reported an

insignificant association between board independence and sustainability reporting, as well as the findings of Abang'a and Tauringana (2024) in the African context. The problem of power consolidation in a single individual (because of block ownership and CEO duality) could potentially cause this outcome as it weakens independent directors' power to significantly impact an organisation's decisions. This finding fails to support the Africapitalism concept and stakeholder theory position that board independence improves transparency and sustainability disclosure practices in this context.

Similarly, board meetings do not show any significant relationship with the extent of sustainability reporting and its sub-dimensions. Hypothesis 4 is, therefore, rejected. The current result was confirmed in several prior studies (Nguyen et al., 2021; Orazalin & Mahmood, 2021; Abang'a & Tauringana, 2024) but contradicts the findings of previous studies that reported a positive significant association between board meetings and sustainability reporting (Hussain et al., 2018). The board of directors may attend many meetings just to fulfil regulatory requirements or for other reasons that are not necessary for sustainability activities (Abang'a & Tauringana, 2024). Also, the voluntary sustainability reporting regime, coupled with low stakeholder pressure and the board of directors' non-interest in sustainability reports, might make the board focus on other regulatory demands compared to sustainability reporting. The stakeholder theory and Africapitalism argument on frequent board meetings improving corporate transparency and sustainability disclosures is not supported.

'Audit committee' shows a positive and significant relationship with the extent of sustainability reporting and the social and governance sub-dependent variables at a 5% significance level. This supports hypothesis 5 that large audit committees have a positive significant relationship with the extent of sustainability reporting of ESFs. Consequently, the audit committee executes this role by tapping into its experience with financial disclosures regarding internal control mechanisms, processes, and governance apparatus that facilitate reliable and good-quality

disclosures. In addition, a significant positive relationship is reported for the social and governance dimensions. This result agrees with prior studies that reported a positive relationship between audit committee size and the level of sustainability reporting (Arif et al., 2020; Khan et al., 2013; Li et al., 2012). This result supports the theoretical arguments of stakeholder theory and the Africapitalism concept on audit committee size, improving sustainability disclosures, and promoting transparency and reliable disclosures to stakeholders like regulators and investors. The audit committee has a vital role in ensuring that corporate disclosures, including sustainability disclosures, are reliable and credible to overcome the problem of weak disclosure by firms in SSA.

The presence of sustainability committees also shows a positive significant relationship with the extent of sustainability reporting at a 1% significance level. The proposition of hypothesis 6 is, thus, supported. This suggests that sustainability committees improve an organisation's sustainability disclosure, as evidenced by previous studies (Giannarakis et al., 2023; Hussain et al., 2018). The findings on sustainability committees reflect the theoretical foundations of the stakeholder theory, as specialised sustainability committees are mechanisms to effectively manage and engage in dialogue with stakeholders (Ricart et al., 2005), especially those with sustainability needs (Giannarakis et al., 2023), especially in this current period of high sustainability concerns. Tasked with this unique duty, sustainability committees enhance firms' sustainability reporting by ensuring that firms are up-to-date with regulatory requirements, industrial standards, and the sustainability needs of stakeholders. However, contrary to our expectations and in agreement with Hussain et al. (2018), the sustainability committee showed no significant relationship with the environmental dimension. This could be attributed to the high focus of firms on the social dimension, unlike the environmental dimension.

Regarding risk committees, a positive significant relationship is reported at a 1% level, and this supports hypothesis 7, that the presence of a risk committee in organisations has a positive

significant relationship with sustainability reporting. A similar outcome is reported for the environmental and social dimensions at 10% and 5% significant levels. This result supports the findings of prior studies (De Villiers et al., 2022; Mahsina et al., 2024; Musallam, 2018). We situate this finding in the bosom of stakeholder theory, as potential stakeholders like investors now make their investment decisions by considering sustainability risks and opportunities disclosed to them by these firms. As firms derive value by managing sustainability risks and taking advantage of the opportunities they present, firms resort to their risk management teams to investigate these sustainability-related risks and opportunities and disclose them transparently to potential investors. Also, some regulators may require them to make these disclosures. Non-compliance poses risks in the form of fines and charges. This leads to high sustainability disclosure performance.

The GRI predictor also shows a significant positive relationship with the extent of sustainability reporting and the environmental dimension at 5% and 10% levels, respectively. This is not surprising, considering that GRI is the de facto standard for sustainability reporting by most organisations worldwide (Kuzey & Uyar, 2017; Orazalin & Mahmood, 2020). The stakeholder demand for comparable and high-quality sustainability reports forces organisations to adopt the GRI framework. These stakeholders prefer the GRI due to its reputation for ensuring that firms make credible and quality disclosures in large quantities (Kuzey & Uyar, 2017). For this reason, any organisation that adopts it is likely to make a high disclosure of its sustainability initiatives and practices that satisfy the needs of these stakeholders, leading to a high disclosure performance.

For the control variables, except for firm size (ASSET), which showed a 10% significant positive relationship with governance disclosures, all other relationships were insignificant. This finding is generally in line with the findings of Abang'a and Tauringana (2024).

## 6. Conclusion

This study investigated the relationship between various corporate governance mechanisms and the extent of sustainability reporting of ESFs in SSA, using the theoretical lenses of stakeholder theory and Africapitalism. The data were hand-collected from the annual reports, CSR reports, sustainability reports, and integrated reports of 49 firms for the years 2012 to 2022. Panel data regression was used to test the hypothesis of the study.

The findings indicate that the relationship between corporate governance mechanisms and the extent of sustainability reporting varies according to the dimensions of the sustainability reporting index considered. For example, board gender diversity exhibits a significant positive relationship with the extent of sustainability reporting and the social dimension but not with the environmental and governance dimension. Overall, the findings on board gender diversity support the stakeholder theory and Africapitalism concept and consider that women in the sub-region exhibit strong concern for social initiatives aimed at children, young girls, and older people in society. The audit committee has a positive relationship with the extent of sustainability reporting and the social and governance dimensions. This also aligns with stakeholder theory, as the audit committee ensures that reliable and credible information is disclosed to facilitate decision-making for stakeholders, such as investors and regulators. The sustainability committee has a strong positive influence on overall disclosure performance. Based on this finding, stakeholder theory and African capitalism theory are supported since sustainability committees represent the interests of other stakeholders in an organisation. Risk committees also exhibit positive relationships as they work to save organisations from facing punishments from influential stakeholders. The adoption of GRI exhibits a positive relationship with sustainability reporting. It supports stakeholder theory by responding to the demand of stakeholders on the use of a renowned standard or reporting framework. Board size, board meetings, and board independence do not influence the sustainability reporting of firms.

## 6.1 Managerial Implications and Policy Recommendations

This study has several implications for policymakers and regulatory bodies in SSA, particularly with the inconsistent impact of predictors on the respective dimensions. This indicates that a single policy based on any of the predictors is insufficient to address the sustainability disclosure problems of SSA countries. Multiple policies will be needed to deal with the issues in the sub-region. Therefore, as policies are implemented to promote directorship to improve sustainability disclosures, policies on different variables, such as GRI adoption and risk committees, will be needed to enhance the performance of the environmental dimension. Looking at it from a different perspective, especially with the magnitude of the challenges of sustainable development that confront SSA countries, it is recommended that policies tackle individual dimensions to achieve the overall sustainability goals.

As a managerial implication, we recommend that managers should inculcate more of the Africapitalism principles in the management and running of organisations in SSA to promote communal progress for all stakeholders on the continent. Moreover, firms should also aim to increase the number of women directors and promote equity, diversity, and inclusion while enhancing corporate sustainability, transparency, and accountability. Additionally, we call for the establishment of a standalone risk committee and the adoption of the GRI framework to improve environmental reporting performance. Similarly, we suggest that firms wanting to improve their governance disclosure performance have specialised risk committees and, possibly, increase the size of their audit committee.

## 6.2 Limitations and Future Research Opportunities

Despite the valuable contributions of this study, it is not free from limitations. The first concern was sample selection, as only firms in countries that publish their annual reports following international financial reporting standards (IFRS) were used. Future studies could use firms from the French-speaking countries in the sub-region. Second, many firms were excluded from

the sample due to missing observations. Future studies can rely on pooled regression to increase the research sample size. Also, the personal characteristics of the boards of directors and company executives may influence their decision-making. Future studies could examine the influence of educational qualifications, early life experiences, risk-taking incentives and executive compensation on sustainability reporting. Also, our study generally focused on ESFs. Future studies could focus on specific sub-sectors. The Africapitalism concept advocates for local institutional investors and more local directors on the board of firms. The present study could not use these variables. Future studies could examine the percentage of local directors on the board, the percentage of local institutional ownership, and how they influence sustainability reporting.

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## List of Tables

Table I. Summary Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
ESG*	539	60.440	15.876	8	92
ENV*	539	39.186	25.299	0	100
SOC*	539	68.716	19.086	14	100
GOV*	539	73.321	21.520	10	100
BODS	539	10.252	3.153	4	25
BOGD*	539	18.704	13.711	0	75
BODI*	539	75.165	11.246	25	100
BODM	539	5.236	2.107	1	22
AUDC	539	4.510	1.778	0	11
SUSC	539	0.356	0.479	0	1
RISKC	539	0.660	0.474	0	1
GRI	539	0.345	0.476	0	1
ASSET	539	12.849	1.921	5.210	17.420
ROA	539	4.344	0.230	0.495	5.519
LEV	539	0.515	0.240	-0.470	2.480

*Notes:* BODS is board size; BOGD is board gender diversity; BODI is board independence; BODM is board of meetings; AUDC is audit committee; SUSC is sustainability committee; RISKC is risk management committee; GRI is global reporting initiative adoption; ASSET is total asset; ROA is return on assets; LEV is leverage

TABLE II. Pairwise correlation matrix

Variables	ESG	ENV	SOC	GOV	BODS	BOGD	BODI	BODM	AUDC	SUSC	RISKC	GRI	ASSET	ROA	LEV
ESG	1.000														
ENV	0.807*	1.000													
SOC	0.489*	0.030	1.000												
GOV	0.830*	0.581*	0.170*	1.000											
BODS	0.454*	0.317*	0.151*	0.496*	1.000										
BOGD	0.329*	0.314*	0.123*	0.249*	0.187*	1.000									
BODI	-0.067	0.021	-0.202*	0.006	0.190*	0.029	1.000								
BODM	0.166*	0.208*	-0.067	0.179*	0.095*	0.086*	0.135*	1.000							
AUDC	0.308*	0.115*	0.317*	0.267*	0.318*	0.093*	-0.062	0.064	1.000						
SUSC	0.578*	0.568*	-0.053	0.658*	0.303*	0.275*	0.051	0.161*	0.094*	1.000					
RISKC	0.525*	0.405*	0.009	0.676*	0.340*	0.144*	0.052	0.099*	0.140*	0.321*	1.000				
GRI	0.588*	0.652*	0.021	0.518*	0.472*	0.358*	0.113*	0.175*	0.205*	0.642*	0.273*	1.000			
ASSET	0.528*	0.430*	0.086*	0.585*	0.657*	0.237*	0.100*	0.229*	0.178*	0.404*	0.411*	0.482*	1.000		
ROA	-0.010	0.002	-0.031	-0.001	0.011	0.072	0.073	-0.024	-0.056	-0.017	-0.007	0.033	-0.051	1.000	
LEV	-0.202*	-0.253*	0.057	-0.197*	-0.103*	-0.147*	-0.050	-0.017	0.029	-0.127*	-0.159*	-0.192*	-0.015	-0.315*	1.000

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table III. Fixed-Effect Regression Results

Variables	ESG	ENV	SOC	GOV
BODS	<b>0.3750*</b> -1.7974	0.2587 -0.7021	0.1980 -0.5915	0.4030 -1.4576
BOGD	-0.0276 (-0.5485)	-0.0547 (-0.6509)	-0.0300 (-0.4957)	0.0298 -0.3999
BODI	0.0687 -1.3911	0.0918 -0.837	0.0076 -0.1283	<b>0.0968**</b> -2.3147
BODM	-0.2924 (-0.6514)	-0.6611 (-0.8300)	0.1673 -0.3566	0.1007 -0.2601
AUDC	<b>-0.4025*</b> (-1.8357)	-0.4638 (-1.1082)	-0.6983 (-1.6404)	0.0921 -0.3127
SUSC	<b>4.0577**</b> -2.0177	4.3911 -0.9527	-0.1760 (-0.0694)	<b>10.0561***</b> -5.4768
RISKC	5.1304*** -4.3843	1.7682 -0.7205	1.0669 -0.6349	<b>14.2468***</b> -7.1457
GRI	2.2994 -1.1573	<b>9.1655**</b> -2.0358	0.3402 -0.1419	-2.9609 (-1.4732)
ASSET	1.0721 -0.9910	1.7968 -1.0701	0.1707 -0.0915	-0.7291 (-0.5564)
ROA	<b>-9.1382**</b> (-2.4497)	-11.3361 (-1.5654)	-5.5374 (-0.8860)	<b>-9.8802*</b> (-1.7684)
LEV	-1.8811 (-0.4561)	2.4700 -0.2851	-2.4279 (-0.4265)	-2.7372 (-0.4464)
Cons	11482.895*** -3.5722	1416.976 (-0.3122)	18136.150*** -4.0557	23265.899*** -5.1131
<i>N</i>	539	539	539	539
<i>R-sq</i>	0.2643	0.1870	0.2403	0.4024
<i>F-test</i>	0.0000	0.0007	0.0000	0.0000

Table IV. System GMM Regression Results

	ESG	ENV	SOC	GOV
L.ESG	<b>0.5005***</b> (4.1058)			
L.ENV		<b>0.4381**</b> (2.4660)		
L.SOC			<b>0.5865***</b>	

L.GOV			(3.1184)	<b>0.4034***</b> (3.6841)
BODS	-0.0002 (-0.0839)	-1.2888 (-1.5078)	-4.5306 (-1.6741)	0.3920 (0.3834)
BOGD	<b>0.0010**</b> (2.1785)	-0.0626 (-0.5366)	<b>0.1691*</b> (1.9662)	0.0810 (0.4729)
BODI	-0.0006 (-1.0244)	-0.0535 (-0.5455)	0.1045 (0.6948)	-0.0529 (-0.7137)
BODM	-0.0028 (-0.2572)	-0.1117 (-0.2656)	-0.8257 (-1.4792)	0.2640 (0.6428)
AUDC	<b>0.0063**</b> (2.1620)	-0.6634 (-0.7983)	<b>2.8050***</b> (3.1149)	<b>1.1500**</b> (2.0791)
SUSC	<b>0.0463***</b> (3.3799)	-4.3291 (-0.4721)	<b>-5.4409*</b> (-1.9904)	16.7817 (1.3330)
RISKC	<b>0.0524***</b> (3.0973)	<b>6.4429*</b> (1.7562)	2.7659 (1.0593)	<b>11.3958***</b> (3.5195)
GRI	<b>0.0400**</b> (2.4381)	<b>36.0538*</b> (1.8622)	6.6141 (1.5369)	-11.4357 (-0.4806)
ASSET	0.0064 (1.2022)	0.5252 (0.6250)	4.1744 (1.6080)	<b>1.6368*</b> (1.8520)
ROA	-0.0028 (-0.2761)	-2.9877 (-0.9960)	1.8327 (0.8199)	3.8419 (0.4258)
LEV	-0.0266 (-1.1181)	-5.1506 (-1.0141)	-2.2916 (-0.5217)	-18.4627 (-0.8062)
_cons	0.2054* (1.9727)	38.3703 (1.4913)	-2.7677 (-0.1030)	-1.2627 (-0.0230)
<i>N</i>	490	490	490	490
<i>Firms</i>	49	49	49	49
<i>AR(1)</i>	0.000	0.001	0.000	0.000
<i>AR(2)</i>	0.488	0.468	0.360	0.398
<i>Hansen</i>	0.132	0.137	0.143	0.227

**Notes:** t statistics in parentheses; \*, \*\*, \*\*\* shows significance levels at 10%, 5% and 1%. BODS is board size; BOGD is board gender diversity; BODI is board independence; BODM is board meetings; AUDC is audit committee; SUSC is sustainability committee; RISKC is risk management committee; GRI is global reporting initiative adoption; ASSET is total asset; ROA is return on assets; LEV is leverage; L.ENV, L.SOC, L.GOV is lagged values of the dependent variables.

## Appendix 1. Sustainability index Items

<b>Environmental Disclosure items</b>	<b>Score</b>
Information on Scope 1 emissions	1
Information on Scope 2 emissions	1
Information on Scope 3 emissions	1
Information on water usage in the organisation	1
Information on energy usage in the organisation	1
Information on the amount of solid waste produced	1
Information on the amount of wastewater recycled	1
Information on other wastes recycled	1
Information on biodiversity and resources used in production	1
Information on policies and obligations towards environmental protection and safety	1
Information on plant and equipment and their maintenance	1
Information on buildings and other facilities utilised by the organisation	1
<b>Total</b>	<b>12</b>
<b>Social Disclosure Items</b>	
Information on amounts spent on community development projects	1
Information on employees working in the organisation, including diversity	1
Information on costs incurred in training and enhancing the skills of employees	1
Information on other incentives and compensation packages to employees	1
Information on health and safety measures put in place in the organisation	1
Information on employee diversity and equal opportunities	1
Information on other initiatives such as scholarships to students	1
<b>Total</b>	<b>7</b>
<b>Governance Disclosure Items</b>	
Information on director's remuneration, compensation and other benefits	1
Information on the board's role, responsibilities and duties in running the organisation	1
Information on directors' ownership or shareholdings in the organisation	1
Information on directors' biographies or directors' profiles	1
Information on board diversity, such as education, experience, gender, etc.	1
Information on board sub-committees and their duties apart from the audit committee	1
Information on measures to ensure transparency and credibility of disclosures including audit mechanisms and auditors	1
Information on risk management processes in the organisation	1
Information on a capital structure the company	1
Information on the overall governance structure of the company	1
<b>Total</b>	<b>10</b>
<b>Overall Total</b>	<b>29</b>