

The Impact of Corporate Governance on The Extent of Sustainability Reporting Among State-Owned Enterprises

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Abstract

The study aims to investigate the impact of corporate governance on sustainability reporting among State-Owned Entities (SOEs). The study is cross-sectional. Data were collected through a questionnaire survey of 119 SOEs in Ghana and were analysed using logistic regression analysis. The findings indicate that the extent of sustainability reporting among SOEs in Ghana is low. The results also show that SOEs in Ghana report more sustainability dimensional information but not total sustainability reporting. Similarly, the board size, CSR committee, and audit committee size have a positive and statistically significant impact on the extent of total sustainability reporting. The study comprised a sample of SOEs in Ghana and hence the results are generalisable only to such unique hybrid organisations in the Ghanaian context. Secondly, the study was based on a questionnaire survey which may suffer from consistency and reliability. Nonetheless, the findings imply that sustainability reporting is low among SOEs in Ghana. There is a need for change in board composition and structure in the SOEs, and pragmatic effort by the authorities to intensify policies and education in sustainability reporting. The study contributes to the extant literature on corporate governance and sustainability reporting nexus. This broadens our understanding of how corporate boards influence sustainability reporting.

Keywords

corporate governance, board composition, board structure, sustainability reporting/disclosure, corporate social responsibility reporting/disclosure, CSR, TBL

Introduction

The only planet in the universe that can sustain life is Earth and therefore it is habitable by humans and other species. However, the worrying situation now is that it is becoming more inhabitable and threatening human survival as a result of anthropogenic activities. Such man-made interferences are the main cause of climate change, which is the biggest and inevitable environmental challenge that humanity will face in life on Earth. Climate change and its negative consequences have spurred the interest of academics, practitioners, and legislators to address the menace. Similarly, in response to the ever-urgent need to tackle the detrimental effects of climate change, in 2015 United Nations' Assembly on Sustainable Development Goals (SDGs), coded 'Agenda 2030', came out with 17 thematic areas (17 SDGs) aimed at transforming the world for people, the planet, and prosperity (UN, 2015).

One of the SDGs, SDG 12.6 to be precise, focuses on economic, environmental, and social reporting by organisations on the premise that what gets accounted for, gets managed. Sustainability reporting has become more common globally, with organizations seeing it as a way to ensure legitimacy and survival. This shift can be attributed to changing societal and environmental awareness, media attention, financial investments, and consumer awareness, as well as strategic management decisions (Lodhia and Jacobs, 2013; Munir and Ghani, 2024). Implementing

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corporate sustainability also requires specific skills and knowledge that are increasingly important in day-to-day management. Research has been done to understand the factors influencing sustainability reporting, including corporate governance, which has gained attention for its importance (Omair Alotaibi and Hussainey, 2016; Hahn and Kühnen, 2013; Tauringana, 2020). According to Fama and Jensen (1983), good corporate governance is seen as a way to mitigate conflicts between management and owners, and to protect the interests of all stakeholders. As a result, it plays a significant role in enhancing sustainability reporting.

The World Commission on Environmental Development (WCED) report titled 'Our Common Future', known as the Brundtland Report (Brundtland et al. (1987) is considered an evolution of sustainability development that defined the concept as a means of satisfying the needs of the present generation without compromising the resources of the future generation. Elkington (1997) followed the definition of the WCEB and conceptualised sustainability at the firm level as the organisation's practice of reporting publicly on economic, environmental, and/or social impacts (positively or negatively) as an effort to contribute to sustainable development. This led to his famous Triple Bottom Line concept (TBL) as a framework for ensuring that organisations achieve economic value creation while at the same time improving or sustaining the environmental and social welfare of broader stakeholders. Corporate governance is also defined by Cadbury's 1992 report; as cited by (Ikpor et al., 2024) as how companies are directed and controlled. Therefore, it entails a set of rules, practices, and procedures used to direct and manage organisations. The board of directors is responsible for ensuring good corporate governance of their companies. We adopt a more recent view on corporate governance that has shifted towards a stakeholder perspective (Wiersema and Koo, 2022). In this vein, we define corporate governance as encompassing accountability, environmental awareness, ethical behaviour, corporate strategy, and risk management. This study aims to contribute to the existing research on sustainability reporting by focusing on developing countries, particularly in Africa. Previous studies have mainly examined developed economies and emerging economies like Pakistan, Bangladesh, and Malaysia (Dienes et al., 2016). There is a need to understand how sustainability reporting differs in developing countries, as they may have different stakeholder pressures (Zaman et al., 2022). For instance, the socio-cultural, poverty, and political system in Africa weakens social activism and therefore stakeholder pressure does not have the same impact as developed countries. While females can lead social demonstrations in developed countries, the cultural setting in most parts of Africa frowns on it. Moreover, previous studies in Africa have not considered corporate

governance mechanisms as factors influencing sustainability reporting (Rahaman et al., 2004; Soobaroyen and Ntim, 2013). Therefore, this study provides an opportunity for future research to explore this area.

Second, the extant literature on sustainability reporting in general and the relationship between corporate governance and sustainability reporting, in particular, focuses more on the private sector (Ighosewe et al., 2021; Ikpor et al., 2024) with the public sector setting highly under-explored. Meanwhile, studies in the private sector settings may not apply to public sector entities because of the differences in governance and ownership structure, compliance with stock exchange regulations, owner-manager attributes and so on that are known to have a significant influence on ecological behaviour to a greater extent (Williamson et al., 2006). Given the critical role of public sector organisations towards societal welfare, it is therefore considered useful to expand the corporate governance and sustainability reporting literature by providing further Ghanaian evidence on the discussion from a different tier of the public sector organisations, which is State-Owned Entities (SOEs).

Finally, the existing studies focus on measuring the direct relation between corporate governance and total sustainability reporting (Kengatharan and Sivakaran, 2019; Zahid et al., 2020). Meanwhile, according to Hahn and Kühnen (2013), sustainability reporting is multidimensional, and therefore the extant literature largely neglects the importance and insightful conclusion of disaggregating sustainability reporting into the three pillars as economic dimension, environmental dimension, and social dimension and investigate the impact of corporate governance on each dimension. Moreover, since corporate governance mechanisms in themselves might not be able to influence all the sustainability reporting dimensions (Seuring and Müller, 2008), a comprehensive understanding of the relationship between corporate governance and total sustainability reporting and each of its three dimensions is very important. This creates an empirical gap for further research which sets the tone for this study.

This study extends contribution to the literature in following ways. First, the study responds to the future directions call by (Ricci and Fusco, 2016). The authors stressed the need to extend social and environmental reporting to the public sector where the research is still at an early stage despite the critical role they play in society. In addition, the study examines the impact of corporate governance mechanisms on sustainability reporting by SOEs in the context of emerging economies by analysing this relationship in the perspective of Ghana, which is a developing economy. This provided a valuable contribution to the study where the existing research has concentrated on developed countries. Finally, it supports the empirical literature on corporate governance by showing the variables

that have a significant impact on the sustainability dimensions. Thus, our findings explain the potential benefits of the corporate governance mechanism and diverse boards in improving sustainability reporting. Based on the research issues emerging from the above discussion, the main objective of the study was to investigate the relationship between corporate governance variables and sustainability reporting among SOEs in Ghana.

Literature Review and Hypothesis Development

The State-Owned Enterprises in the Ghanaian Context

A state-owned enterprise (SOE) is defined by World Bank policy on research as government-owned or controlled economic entities that, in addition to the state funding, generate the bulk of their revenue through the selling of goods and services (World Bank, 1995). Thus, SOEs in this context are mostly identified by their operations and how they are funded. The Organisation for Economic Co-operation and Development (OECD) guidelines on corporate governance of SOEs define SOEs as any enterprise that the state has significant control through full or partial ownership – a majority or significant minority (OECD, 2015). In the OECD definition, the emphasis is on significant control as also espoused by the International Financial Reporting Standards: IFRS 3- Business Combination, rather than percentage ownership. For this study, SOEs have been defined as fully and/or partially state-owned legally incorporated enterprises that the government of Ghana has control over and are monitored by a supervisory or regulatory body. Thus, per the State Interests and Governance Authority Act 2019 (ACT 990), all the 130 entities currently operating under the State Interest and Governance Authority (SIGA) are considered SOEs (Ministry of Finance Ghana, 2018).

There are several strategic motivations behind the establishment of SOEs in Ghana. The evolution of SOEs in Ghana can be traced historically to colonial times when the British government established public utilities such as water, electricity, and postal services to provide certain socio-economic services to the people of the Gold Coast, largely in the urban cities (Appiah-Kubi, 2001). The creation of SOEs was meant to provide employment, meet social and political needs, and operate in the sectors of the economy that were of strategic importance to the state (Odainkey and Simpson, 2013). Therefore, the motives for establishing SOEs include the provision of social goods for the well-being of the citizenry above financial profit. In the 1980s, Ghana could boast of over 300 SOEs but has now been reduced to 130 in 2018, due to several factors of which corporate governance is a major one

(State Ownership Report, 2018). These comprise 48 state-owned entities (SOEs), 40 Other State Entities (OSEs), and 42 Joint Venture Companies (JVCs).

Board Size and Sustainability Reporting

Board size represents the number of members of the board and it is a significant board characteristic that is considered one of the important corporate governance mechanisms in ensuring that a company's activities are adequately managed. According to agency theory, the prime duty of corporate boards is to monitor and control the activities of the corporate managers to ensure that management serves the interest of the stakeholders (Fama and Jensen, 1983). Leng and Ding (2011) assume that the size of the board is a proxy for professional expertise with diverse experience. Therefore, larger boards have a positive impact on sustainability reporting because there is the likelihood that increasing the number of board members improves the capabilities of the board in monitoring and controlling management action (Khalaf, 2024). However, Jensen (1993) argues that too large a board size increases agency problems because some board members can be free riders. In this regard, they recommend that boards should be maintained at an optimal level of seven to eight to ensure effective functioning and avoid being controlled by the CEO. On the other hand, firms with smaller boards are more likely to use their resources more judiciously as they can reach a consensus and agree unanimously more easily and have a greater chance of benefiting from efficient communication, coordination, and active participation (Jensen, 1993). However, they may suffer from work overloads, which may limit their monitoring ability as a result of a less diversified range of expertise (Jizi et al., 2014).

However, Hassn (2014) argues that while existing evidence support that board monitoring capacities increase as board size increases, the incremental cost of poor communication and delay in building consensus in decision-making, which are often associated with large groups, may offset any benefits. This is consistent with Odoemelam and Okafor (2018) who suggested that there is no empirical association between board size and sustainability reporting. Hamidah (2020) found that a larger board size has a negative and significant impact on sustainability reporting. These lend support for smaller board-size arguments.

Since there are strong arguments for larger board size to either result in a positive or a negative relationship, the hypotheses are set in bi-directional mode as follows:

H1: There is a significant relationship between board size and the extent of sustainability reporting among SOEs in Ghana.

H1a: There is a significant relationship between board size and the extent of economic reporting among SOEs in Ghana.

H1b: There is a significant relationship between board size and the extent of environmental reporting among SOEs in Ghana.

H1c: There is a significant relationship between board size and the extent of social reporting among SOEs in Ghana.

Proportion of Independent Directors and Sustainability Reporting

Independent or outside directors are nominated to a board based on qualification, knowledge, expertise, and experience relevant to the organisation to act as a check and balance mechanism to ensure that companies act in the best interest of stakeholders. Herda et al. (2012) conducted a study to investigate whether board independence affects sustainability reporting decisions among the 500 largest firms in the USA from 2008 to 2009. They found that firms with a greater proportion of independent directors disclose extensively issues concerning sustainability. However, Agyemang et al. (2013), after studying the corporate governance practice in Ghana, concluded that the directors' independence has been identified as a major challenge in Ghana as most of the board members are appointed by the government. In Ghana, the government appoints the CEO and the chair of SOEs, unlike the private sector where the board chair appoints the CEO. Where the CEO is appointed by the government, there is also a likelihood that the CEO will not account to the board, but rather the sector minister (political head). A more worrying situation in Ghana's state entities is that board chairs and CEOs are changed any time there is a change of government regardless of the provisions specified for their tenure of office. Hence, from the agency theory perspective, a higher proportion of independent directors can effectively monitor and advise management as well as the board chair and CEO, especially when the interest of the wider stakeholder group is at risk.

Hu and Loh (2018) argue that organizations with more independent directors on the board report more sustainability information since they are more capable of imposing strict policies on organizations to consider stakeholders' interests. Meanwhile, Biswas et al. (2019) establish no relationship between board independence and sustainability reporting. Besides, Esa and Ghazali (2012) find an inverse relationship between the proportion of independent directors and sustainability reporting. Based on agency theory, it is hypothesised that:

H2: There is a positive relationship between the proportion of independent directors and the extent of sustainability reporting among SOEs in Ghana.

H2a: There is a positive relationship between the proportion of independent directors and the extent of economic reporting among SOEs in Ghana.

H2b: There is a positive relationship between the proportion of independent directors and the extent of environmental among SOEs in Ghana.

H2c: There is a positive relationship between the proportion of independent directors and the extent of social reporting among SOEs in Ghana.

Frequency of Board Meetings and Sustainability Reporting

The relationship between board activities as proxied by the frequency of board meetings and sustainability reporting can be explained in terms of agency theory. Naseem et al. (2017) examined the effect of board meeting frequency on sustainability disclosure and found that both are related concepts geared towards improving the relationship with stakeholders. The study used 179 companies listed on the Pakistan Stock Exchange (PSX) with an overall firm observation of 1253. Findings show a positive association between the frequency of board meetings and sustainability reporting. Haji (2013) found no relation between the frequency of board meetings and CSR disclosure in Malaysia. Both studies used content analysis to examine the quantity and quality of CSR reporting using the disclosure index in line with the GRI guidelines.

The Public Services Commission Ghana (2015, p. 16) identifies the importance of corporate board meetings in enhancing the effectiveness of the board functions and recommends that the frequency of Board/Council meetings shall be indicated in the laws establishing the entity, but where such provision is absent, the board shall meet quarterly. An emergency meeting may also be convened to discuss matters that are urgent and cannot wait for the regular meeting. However, the frequency of board meetings for effectiveness has been topical and controversial but has not been covered extensively in the literature. A study by Simpson (2014) on corporate board structure, attributes, and performance of SOEs in Ghana shows significant board weakness and departure from the general practice irrespective of the board meeting frequency. The author finds that most of the SOEs boards in Ghana meet monthly. This buttresses the point that in developing countries, due to poverty, corruption, and illiteracy, the motivation for being a board member is the financial benefits, mostly a sitting allowance.

However, empirically, evidence regarding the board meeting frequency and its association with sustainability reporting is not persuasive at this point. The following hypotheses are thus proposed:

H3: There is a positive relationship between the frequency of board meetings and the extent of sustainability reporting among SOEs in Ghana.

H3a: There is a positive relationship between the frequency of board meetings and the extent of economic reporting among SOEs in Ghana.

H3b: There is a positive relationship between the frequency of board meetings and the extent of environmental reporting among SOEs in Ghana.

H3c: There is a positive relationship between the frequency of board meetings and the extent of social reporting among SOEs in Ghana.

Board Gender Diversity and Sustainability Reporting

Mahmood and Orazalin (2017) conducted a study on sustainability reporting from emerging countries and specifically classified sustainability reporting into the three sub-indices – economic, environmental, and social. The study used sustainability reporting guidelines based on GRI standards and posits that board gender has a significant positive relationship with the total sustainability reporting and social index only. No relation was established between environmental and economic indices. Ong and Djajadikerta (2018) also investigated the impact of corporate governance on total; and the three dimensions separately by firms operating in Australia's resources industry for the financial year ended 30 June 2012. A significant positive correlation was found between all sustainability dimensions and the total disclosure with the presence of female directors on the board. The stakeholder theory proposes that the board of directors should protect the interest of all stakeholders of the organisation and not only the owners (Jayawardhana and Fernando, 2022). In response, greater gender diversity on the corporate boards is a mechanism for managing and protecting the multiple stakeholders' interests, which will eventually encourage sustainability reporting. The issue of gender diversity has become more important in Ghana as the government has endorsed the Affirmative Action Plan to achieve 40% representation of females on all boards; and the establishment of the Ministry of Gender, Children and Social Protection as a measure toward the achievement of Sustainable Development Goal (SDG) 5 'gender equality and empower all women and girls'. However, a report by the International Finance Corporation (2018)

on gender diversity in the Ghanaian boardroom contends that women's representation on corporate boards in Ghana is less than 10%.

Despite the theoretical support for the relationship between board gender diversity and sustainability reporting, there is no consensus in the literature. Therefore, the question that needs to be answered is: does female representation on the board make a difference when it comes to sustainability reporting? Some studies, including Mahmood and Orazalin (2017) and Cabeza-García et al. (2018), find a positive relationship between women's representation on the board and sustainability reporting. While Argento et al. (2019) argue for a negative relationship between the proportion of female board of directors and sustainability reporting, Garde-Sanchez et al. (2017) find no significant impact on the relationship. This discussion, therefore, leads to the following hypotheses:

H4: There is a positive relationship between board gender diversity and the extent of sustainability reporting among SOEs in Ghana.

H4a: There is a positive relationship between board gender diversity and the extent of economic reporting among SOEs in Ghana.

H4b: There is a positive relationship between board gender diversity and the extent of environmental reporting among SOEs in Ghana.

H4c: There is a positive relationship between board gender diversity and the extent of social reporting among SOEs in Ghana.

Board Age Diversity and Sustainability Reporting

Firms with board members of diverse age groups say, younger, middle-aged, and elderly, would have people of different experiences and varied dispositions for social, environmental, and economic sustainability that could influence decision-making. Such a human capital base has a significant role in shaping the organisation's strategies and commitment to sustainability reporting (Munir et al., 2024). Giannarakis et al. (2019) argue that younger directors who are assumed to have studied contemporary strategic management and case studies of best practices are more inclined towards adopting new techniques such as sustainability reporting as compared to the aged directors. From the Ghanaian perspective, Osei et al. (2019) opine that the majority of board members in Ghana are above the age of 40, which makes their interest in sustainability reporting very minimal.

Fernandes et al. (2019) argue that organisations with board diversity in terms of age report more sustainability

information since a board with a representation of different generations is advantageous in balancing the risk-taking in decision-making on sustainability reporting. Meanwhile, Fallah and Mojarrad (2019) establish no relationship between board age diversity and sustainability reporting. Based on the above arguments, the following hypotheses are proposed:

H5: There is a positive relationship between board age diversity and the extent of sustainability reporting SOEs in Ghana.

H5a: There is a positive relationship between board age diversity and the extent of economic reporting among SOEs in Ghana.

H5b: There is a positive relationship between board age diversity and the extent of environmental reporting among SOEs in Ghana.

H5c: There is a positive relationship between board age diversity and the extent of social reporting among SOEs in Ghana.

CSR Committee and Sustainability Reporting

The presence of the sustainability/corporate social responsibility committee (CSRCOM) as a sub-committee of a board is, in itself, a signal of the firm's interest in sustainability activities. Coffie et al. (2018) examined the effect of corporate governance on sustainability reporting quality within the context of a developing country. Based on a sample size of 33 firms for the period 2008 to 2013, they found that the existence of the CSR committee has a positive impact on sustainability reporting quality. Osemene et al. (2021) investigated the influence of the CSR committee on environmental accounting reporting from quoted companies in six sectors located in four African countries (Egypt, Nigeria, Kenya, and South Africa). The study found that the positive and significant relationship between the presence of a CSR committee and environmental accounting reporting permeated throughout the African countries investigated.

Consistent with agency theory, the presence of the CSR committee at the board level is a strong indication of aligning the interests of directors and managers to reduce agency costs (Muttakin et al., 2015). Critics, however, contend that an organisation's decision to report on sustainability issues does not depend on the presence of a CSR committee. For example, Michelon and Parbonetti (2012) show that there is no statistically significant correlation between the presence of a CSR committee and the quantity or quality of CSR disclosure. In line with the above argument, the following sets of hypotheses are formulated:

H6: There is a positive relationship between the CSR committee and the extent of sustainability reporting among SOEs in Ghana.

H6a: There is a positive relationship between the CSR committee and the extent of economic reporting among SOEs in Ghana.

H6b: There is a positive relationship between the CSR committee and the extent of environmental reporting among SOEs in Ghana.

H6c: There is a positive relationship between the CSR committee and the extent of social reporting among SOEs in Ghana.

Audit Committee Size and Sustainability Reporting

According to Fama and Jensen (1983), the doctrines of agency theory posit that the audit committee acts as a monitoring mechanism that controls managers' decisions and firms' activities that affect all stakeholders, including society. The audit committee assures the credibility of the entity's financial and non-financial reporting and disclosures. Therefore, the size of the audit committee is a very essential component for firms in delivering good corporate governance. The size of the audit committee is represented by the number of members on the committee. Empirical evidence concerning the relationship between audit committee size and the extent of sustainability reporting is both limited and mixed. For instance, Musallam (2018) analyse the annual reports of 31 Palestinian companies and established that an audit committee size significantly improves the extent of sustainability reporting. In contrast, Kengatharan and Sivakaran (2019) find no significant association between audit committee size and sustainability reporting. Other findings from the study by Omair Alotaibi and Hussainey (2016) brought a different dimension of inconsistency. Although the authors found a significant positive relationship between the audit committee size and the extent (quantity) of sustainability reporting, the results from the same regression analysis found no significant relationship between audit committee size and the quality of sustainability reporting.

From the above discussion, it is reasonable to expect the size of the audit committee to be positively related to sustainability reporting among SOEs. The following sets of hypotheses are therefore proposed in line with the theoretical arguments above:

H7: There is a positive relationship between audit committee size and the extent of sustainability reporting among SOEs in Ghana.

H7a: There is a positive relationship between audit committee size and the extent of economic reporting among SOEs in Ghana.

H7b: There is a positive relationship between audit committee size and the extent of environmental reporting among SOEs in Ghana.

H7c: There is a positive relationship between audit committee size and the extent of social reporting among SOEs in Ghana.

Research Methodology

According to the State Ownership Report (2018) by the Ministry of Finance (MoF), the government of Ghana holds equity interest with varying degrees of ownership in 130 entities operating in nine different sectors of the economy (agriculture, communication, energy, financial, infrastructure, manufacturing, mining, transport, and regulatory). Therefore, 130 SOEs form the study population. A census approach was adopted for the study. In a census, data are collected through complete enumeration; hence, the sample size is equal to the population size. Although cost considerations make this impossible for large populations, a census is more attractive for small populations (e.g., 200 or less) (Singh and Masuku 2014). A census also eliminates sampling error and provides data on all the individuals in the population and therefore, is useful in obtaining detailed information about a small population or subpopulation. Thus, considering the population size of 130 SOEs in Ghana, a census approach was adopted. Before the questionnaire was administered, it was given to a cross-section of academicians and practitioners for their expert advice, and their comments were factored into the questionnaire.

To examine the cross-sectional relationship between corporate governance and sustainability reporting based on the questionnaire responses from the 119 SOEs, the study used logistic regression analysis, because the dependent variable is a categorical dichotomy. An entity's decision to report sustainability information to the public can be taken as dichotomous, involving two mutually exclusive alternatives which are either to disclose sustainability information (economic, environmental, social) or not report on any of the components of sustainability. This gives rise to a dichotomous response resulting in a dummy dependent variable. SR denotes total corporate sustainability reporting as a dependent variable, β shows as a coefficient in the regression model. Total sustainability reporting is further disaggregated into three dimensions and abbreviated as SR (Eco) for Economic Sustainability, SR (Env) for Environmental Sustainability, and SR (Soc) for Social Sustainability. Details of the variable

descriptions and measurements, including the questionnaire are attached (See Table 4).

$$SR_i = \alpha + \beta_1 BSIZE_i + \beta_2 BIND_i + \beta_3 FQBM_i + \beta_4 GENDER_i + \beta_5 BAGE_i + \beta_6 CSRCOM_i + \beta_7 ACSIZE_i + \beta_8 FSIZE_i + \beta_9 FAGE_i + \beta_{10} OWN_i + \varepsilon \quad (1)$$

$$SR (ECO)_i = \alpha + \beta_1 BSIZE_i + \beta_2 BIND_i + \beta_3 FQBM_i + \beta_4 GENDER_i + \beta_5 BAGE_i + \beta_6 CSRCOM_i + \beta_7 ACSIZE_i + \beta_8 FSIZE_i + \beta_9 FAGE_i + \beta_{10} OWN_i + \varepsilon \quad (2)$$

$$SR (ENV)_i = \alpha + \beta_1 BSIZE_i + \beta_2 BIND_i + \beta_3 FQBM_i + \beta_4 GENDER_i + \beta_5 BAGE_i + \beta_6 CSRCOM_i + \beta_7 ACSIZE_i + \beta_8 FSIZE_i + \beta_9 FAGE_i + \beta_{10} OWN_i + \varepsilon \quad (3)$$

$$SR (SOC)_i = \alpha + \beta_1 BSIZE_i + \beta_2 BIND_i + \beta_3 FQBM_i + \beta_4 GENDER_i + \beta_5 BAGE_i + \beta_6 CSRCOM_i + \beta_7 ACSIZE_i + \beta_8 FSIZE_i + \beta_9 FAGE_i + \beta_{10} OWN_i + \varepsilon \quad (4)$$

Dealing With Common Method Bias

Common method bias can occur in survey methodological studies when both the independent and dependent variables are measured within one survey by the same response technique. Indeed, the presence of common method bias poses a threat to the reliability of the study items and the validity of results (Kock et al., 2021). The presence of common method bias may lead to the wrong measurement of constructs and potentially erroneous conclusions. Common method bias can be controlled both procedurally (ex-ante) and statistically (ex-post) (Podsakoff et al., 2012). Procedural controls are executed before the data collection (ex-ante) while the statistical controls are performed after the data collection (ex-post). This study adopted procedural control through survey design and methodological approaches. The survey questionnaire was designed with clear instructions. The respondents' anonymity was also protected. It was also devoid of complexity, ambiguity, and information overload. Methodologically, a binary scale format for collecting the dependent variables (economic, environmental and social reporting) was adopted and separated from the measures of independent variables (corporate governance

Table 1. Demographic Characteristics of the Respondents.

Category	Scale	N = 119 (100%)
Respondents' age (in years)	16–25	2 (1.7%)
	26–35	9 (7.6%)
	36–45	26 (21.8%)
	46–55	44 (37.0%)
	56 and above	38 (31.9%)
Gender of respondent	Male	80 (67.2%)
	Female	39 (32.8%)
Respondents' current position	Accountant	61 (51.3%)
	Finance Director	20 (16.8%)
	Public Relations Officer	23 (19.3%)
	General Manager	12 (10.1%)
	HR Manager	2 (1.7%)
	Others	1 (0.8%)
Longevity of service in years	0–5 years	13 (10.9%)
	6–10 years	32 (26.9%)
	11–15 years	30 (25.3%)
	16–20 years	24 (20.2%)
	Above 20 years	20 (16.8%)
Academic qualification	Diploma	5 (4.2%)
	Bachelor's degree	20 (16.8%)
	Master's degree	81 (68.1%)
	Ph.D.	5 (4.2%)
	Others	8 (6.7%)
Respondents' familiarity with sustainability reporting	Yes	100 (100%)
	No	0 (0%)
Degree of importance attached to sustainability reporting	Not important	0 (0%)
	Less important	3 (2.5%)
	Neutral	10 (8.4%)
	Important	62 (52.1%)
	Very important	44 (37.0%)

and firm-specific variables) to mask the causal link between the dependent variables and independent variables. The feedback from the pilot study conducted before self-administering the main questionnaire likewise aided the procedural control of the common method bias.

Empirical Results

Characteristics of Respondents

In terms of the demographic characteristics of respondents, Table 1 shows that 44 (37%) and 38 (31.9%) of the 119 respondents ranged between the ages of 46 to 55 and 56 and above respectively. The majority of the respondents (67.2%) were male. Further, a significant number of respondents were Accountants 61 (51.3%) and have worked with their respective organisations for more than 5 years. Most of the respondents 81 (68.1%) had master's degrees. This shows that employees of SOEs in Ghana have a good educational background. All the respondents were familiar with or had heard about sustainability reporting with most of them 62

(52.1%) and 44 (37%) considered sustainability reporting as important and very important respectively. The good educational background, longevity of service, familiarity with the concept of sustainability reporting, and managerial positions of the respondents among others helped them to better understand the purpose of the research and provided reliable responses.

Correlation Matrix

Table 2 presents the correlations among all variables in this study. Most of the independent variables are significantly correlated with the four dependent variables (SR, ECO, ENV, and SOC). Among the independent variables, the results show that all correlation values fall below the threat value recommended by Field (2013), which is 0.9, where the highest correlation is 0.802 between overall sustainability reporting and the presence of the CSR committee. Among the independent variables, there is no indication of a multi-collinearity found in the data analysis (Table 3).

Results and discussion of logistic regression analysis

The study proceeds to analyse the results of the empirical analysis after the necessary transformations have been made to the variables. The baseline results including control variables are reported in Table 4.

The empirical results of the study show that there is a positive and significant relationship between board size and total sustainability reporting among SOEs in Ghana. The results are consistent with the findings of Coffie et al. (2018) who found that larger board sizes in Ghana have a positive effect on sustainability reporting. This suggests that increasing the number of board members improves the capability of the board in ensuring effective monitoring and control of management actions (Khalaf, 2024). The results may also be the fruit of a new corporate governance code for SOEs in Ghana under the State Interest in Governance Authority (SIGA) that ensures, among other things, that SOEs boards should have a blend of people with professional qualifications, knowledge, and experiences in human resource management, law, financial management, general management, and information technology. Although the results are consistent with the findings of Fernandes et al. (2019) and Pucheta-Martínez and Gallego-Álvarez (2019) who demonstrated that board size plays a significant role in improving sustainability reporting, it contradicts the findings of Zahid et al. (2020) who found no significant relationship between board size and sustainability reporting. Further, evidence of the impact of board size on sustainability reporting dimensions also revealed a positive and significant relationship with economic and social reporting but no impact on environmental reporting.

Table 2. Results of Pearson Correlation Matrix.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. SR	1.000														
2. ECO	0.316**	1.000													
3. SOC	0.468**	-0.221	1.000												
4. ENV	0.696**	0.155	0.105	1.000											
5. SIZE	0.540**	0.402**	0.410**	0.548**	1.000										
6. BIND	0.113	0.133	0.030	0.087	-0.269	1.000									
7. FQBM	0.565**	0.381**	0.307**	0.552**	0.559**	0.177	1.000								
8. GENDER	-0.146	-0.029	-0.213	-0.206	-0.605	0.719**	-0.143	1.000							
9. BAGE	-0.117	-0.151	0.121	-0.229	-0.148	-0.094	-0.097	-0.035	1.000						
10. CSRCOM	0.802**	0.329**	0.334**	0.615**	0.510**	0.096	0.486**	-0.147	-0.068	1.000					
11. ACSIZE	0.419**	0.244*	0.241*	0.351**	0.420**	0.422**	0.343**	-0.191	-0.121	0.298**	1.000				
12. FSIZE	0.114	-0.029	0.229*	-0.071	0.073	-0.083	0.082	-0.142	0.103	0.136	0.178	1.000			
13. FAGE	-0.018	0.025	0.160	-0.152	0.067	0.026	0.096	0.006	0.230*	-0.121	0.086	0.453**	1.000		
14. INDU	0.452**	0.299**	0.164	0.326**	0.282**	0.188*	0.329**	-0.076	-0.219*	0.448**	0.075	-0.050	-0.028	1.000	
15. OWN	0.268**	0.031	0.125	0.212*	0.194*	-0.034	0.081	-0.066	0.032	0.069	0.132	0.084	0.011	0.171	1.000

Note. SR = total sustainability reporting; ECO = economic; ENV = environmental; SOC = social; BSIZE = board size; BIND = board independence; FQBM = frequency of board meetings; GENDER = board gender diversity; BAGE = board age diversity; CSRCOM = CSR committee; ACSIZE = audit committee size; FSIZE = firm size; FAGE = firm age; INDU = industry; OWN = ownership. ***, ** and * denote significance at 1, 5 and 10 percent levels.

This means that increasing the number of board members in the public sector in Ghana does not lead to disclosing more environmental information. They are rather more interested in economic and social issues.

Interestingly, the regression results of the study suggest that the proportion of independent directors on the board does not have any significant influence on total sustainability reporting among SOEs in Ghana, which agrees with the findings of (Ikpore et al., 2024). While it even impacts the economic reporting negatively. However, regarding environmental reporting, the study found an insignificant relationship while positive and significant with social reporting at a 10% level. Intuitively, the interpretation of this finding may be due to several reasons. First, the appointment of a non-executive board of directors in the public sector in Ghana is more political. Article 70(1)(d)(iii) of the 1992 Constitution states that:

The President shall, acting in consultation with the Council of State, appoint the Chairmen and other members of the governing bodies of public corporations. According to Simpson (2014), the appointment of SOE board members are not based on technical competencies but rather a political affiliation. Therefore, increasing the level of independence in a board would merely add to the cost (economic drain) instead of harnessing skills and knowledge.

In considering the impact of board meeting frequency on sustainability reporting dimensions, the study produced mixed findings. It reported a positive and significant relationship with economic and environmental reporting but positive and insignificant with social reporting. The frequency of board meetings in the public sector in third-world countries has always been motivated by monetary incentives (sitting allowance). Interestingly, the study found a positive and statistically significant relationship between the number of times the board meets and economic reporting. The results of the study are in line with prior studies (Garde Sánchez et al., 2020; Haji, 2013; Omair Alotaibi and Hussainey, 2016) found no significant association between the frequency of board meetings and total sustainability reporting. However, the results are inconsistent with Naseem et al. (2017), Hu and Loh (2018) and Alshbili et al. (2019) who rather found a positive and significant relationship between board meeting frequency and sustainability reporting.

With board gender diversity and total sustainability reporting, the results show no significant relationship. This suggests that female board members of SOEs in Ghana do not have influence when it comes to decisions on sustainability reporting. This contradicts the theoretical standpoint of stakeholder theory by Freeman (1984) and the critical mass theory by Kramer (2006), which posit that greater board gender diversity is a mechanism of managing and protecting the multiple stakeholders'

Table 3. Summaris of Variables and their Measurements.

Variable	Acronym	Measurement
Dependent:		
The Extent of Sustainability Reporting	SR	A binary coding of the extent of sustainability reporting assumes the value of 1 if an item is disclosed and 0 if an item is not disclosed (Hamidah, 2020; Haniffa and Cooke, 2005; Said et al., 2009; Zahid et al., 2020).
Independent:		
Board Size	BSIZE	The total number of people on the board (Esa and Ghazali, 2012; Jizi et al., 2014; Said et al., 2009).
The proportion of Independent Directors	BIND	The percentage of independent directors to total directors during a year (Khalaf, 2024)
Frequency of Board Meetings	FQBM	The number of meetings held by a firm's board of directors during a financial year (Omair Alotaibi and Hussainey, 2016).
Board Gender Diversity	GENDER	The ratio of the total number of female directors to the total number of directors on the board (Khalaf, 2024)
Board Age Diversity	BAGE	Average age of board members (Fallah and Mojarrad, 2019).
CSR Committee	CSRCOM	A dummy variable assuming the value of 1 if the firm has a CSR committee; otherwise, 0 (Coffie et al., 2018)
Audit Committee Size	AC-SIZE	The natural log of the number of members on the audit committee (Kengatharan and Sivakaran, 2019; Musallam, 2018)
Control Variables		
Firm Size	FSIZE	The natural log of the number of employees (Alshbili et al., 2019)
Firm Age	FAGE	The natural log of the number of years of the firm since inception (Alshbili et al., 2019; Mahmood and Orazalin, 2017)
State Ownership	OWN	A dummy variable assuming the value of 1 if the SOE is fully state-owned and 0 if partially state-owned (Argento et al., 2019; Garde-Sanchez et al., 2017)
Error Term	ε_j	

interests that will eventually encourage sustainability reporting. Despite the gender equality and empowerment (SDG-5), to which Ghana is a signatory, a report by International Finance Corporation (IFC) on gender diversity in Ghanaian boardrooms shows that women's representation on corporate and public institutions boards in Ghana is still less than 10% (International Finance Corporation, 2018). Secondly, cultural and religious beliefs in Africa have marginalised women from the past. The cultural setup in Ghana has been male dominance and superiority over women as a tradition. Some religious beliefs such as Islamic and other Christian faith similarly do not allow a female to occupy leadership positions.

Interestingly, the study finds no significant relationship between board age diversity and total sustainability reporting and social reporting but finds a negative relationship between board age diversity and environmental reporting. The results demonstrate that board age diversity reduces environmental disclosure by 14.08% for an increase in the age of board members 56 years and above. This finding contradicts the evidence of the resource dependency theory, which presupposes that board age diversity brings different experiences that could influence decision-making on firms' sustainability disclosure. The result is consistent with the findings of Abu Bakar et al.

(2019) who found that board age has no impact on total sustainability reporting and social reporting.

The results of the study show that the presence of a CSR committee has a positive and significant impact on total sustainability reporting among SOEs in Ghana. This indicates that the CSR committee is a powerful mechanism that helps align managerial interests with various stakeholders' interests by reducing sustainability information asymmetry. The results align with the stakeholder-agency paradigm and with the theoretical underpinning combined with common sense that such a committee positively affects sustainability reporting. The results are in line with other previous studies such as Haniffa and Cooke (2005) who argued that sustainability reporting is used as a strategy to protect a firm reputation, shareholder value, and investor goodwill.

The results show a positive and statistically significant association between audit committee size and total sustainability reporting and economic reporting. These findings are important and align with the doctrines of the agency theory, which emphasises that the audit committee acts as a monitoring mechanism that controls managers' decisions and firms' activities that affect all stakeholders. Thus, the presence of an audit committee assures the credibility of the entity's financial and non-financial reporting and disclosures.

Table 4. Logistics Regression Result for Corporate Governance and Sustainability Reporting.

Variables	SR	SR (ECO)	SR (ENV)	SR (SOC)
BSIZE	0.4679*** (0.1805)	0.6015*** (0.2238)	0.2725 (0.1735)	0.4284*** (0.1589)
BIND	0.3090 (0.3164)	-1.3391*** (0.3547)	0.1780 (0.4285)	0.6712* (0.3528)
FQBM	0.1377 (0.1190)	0.3246** (0.1478)	0.5274** (0.2297)	0.0221 (0.1730)
GENDER	0.2845 (0.4073)	0.8045* (0.4533)	-0.4578 (0.4857)	0.3622 (0.3191)
BAGE	0.0222 (0.0644)	0.1135* (0.0614)	-0.1408* (0.0838)	0.0766 (0.1073)
CSRCOM	0.2281** (0.1042)	-0.0237 (0.0669)	0.1496** (0.0791)	0.0148 (0.1057)
ACSIZE	0.4186** (0.1890)	0.6588*** (0.2332)	0.2893 (0.2519)	-0.2403 (0.2847)
FSIZE	0.0089 (0.0306)	0.0101 (0.044)	-0.0258 (0.0433)	0.0173 (0.0276)
FAGE	-0.0319 (0.0599)	-0.1568** (0.0665)	-0.1036 (0.0882)	0.1509* (0.0794)
OWN	0.1224* (0.0629)	0.0464 (0.0417)	0.1231 (0.0751)	0.0422 (0.0882)
Constant	-37.2790*** (10.2816)	-37.0066*** (9.0513)	-19.5436*** (6.6286)	-15.8217*** (4.9952)
Pseudo R2	0.6314	0.5484	0.5671	0.3373
Log pseudolikelihood	-20.4212	-12.7594	-23.5282	-30.0032
Hosmer-Lemeshow chi ²	0.5314	0.8792	0.8986	0.1013
Area under ROC curve	0.9602	0.9491	0.9407	0.8541

Note. Robust Standard errors in parentheses (firm id). SR = total sustainability reporting; ECO = economic; ENV = environmental; SOC = social; BSIZE = board size; BIND = board independence; FQBM = frequency of board meetings; GENDER = board gender diversity; BAGE = board age diversity; CSRCOM = CSR committee; ACSIZE = audit committee size; FSIZE = firm size; FAGE = firm age; OWN = ownership. ***, ** and * denote significance level at 1%, 5% and 10%, respectively.

Conclusion

The study examined the impact of corporate governance variables on sustainability reporting (SR) among State-Owned Entities (SOEs) in Ghana. In addition to the main objective, a subsidiary objective was to examine the impact of corporate governance on the individual dimensions of sustainability reporting (ECO, ENV, SOC) among SOEs in Ghana. Given the dependence of an organisation's sustainability reporting on firm-specific characteristics, in line with prior research, the study controlled for firm size, firm age, and ownership.

The findings relating to the impact of corporate governance on total sustainability reporting revealed that board size, the presence of a CSR committee at the board level, and audit committee size have a positive and statistically significant impact on the extent of total sustainability reporting. However, the proportion of independent directors, the frequency of board meetings, board gender diversity, and board age diversity were found to have no statistically significant influence on the extent of total sustainability reporting among SOEs in Ghana. The empirical evidence from the study shows

that not all the corporate governance variables investigated had a significant impact on total sustainability reporting.

Based on the findings of the study, the following recommendations are offered for practitioners' and policy-makers' consideration. First, the existing evidence supports that increasing the board size improves the capability of the board to ensure effective monitoring and control of management actions. Thus, authorities should consider increasing the board sizes of SOEs in Ghana to improve sustainability reporting but the increase should not come from adding more independent directors since the results show that it has no significant influence on sustainability reporting.

Secondly, authorities and policymakers should develop governance mechanisms for establishing board sub-committees, for example, audit committees and CSR committees in all SOEs in Ghana. From the study, not all the SOEs investigated have such sub-committees in place but the empirical evidence brought forth by this study resonates with the importance of establishing board sub-committees for effective monitoring and control to influence the extent of sustainability reporting

among SOEs in Ghana. The results show that the presence of CSR committees and audit committees has a positive and statistically significant impact on total sustainability reporting among SOEs in Ghana. Further, audit committee size also has a positive and strong impact on the economic dimension while CSR committees influence the environmental dimension very significantly. As a matter of policy, Ghana Public Financial Management (PFM) Act, 2016; Act 921 promulgation that all public sector entities in Ghana should establish an audit committee to ensure accountability and transparency must be enforced. Similarly, the Environmental Protection Agency (EPA) of Ghana, for instance, should champion the establishment of CSR committees in SOEs and possibly other public sector organisations in Ghana. Such measures would improve the extent of sustainability reporting among SOEs in Ghana.

Although the findings of the study have provided a multifaceted picture of the association between corporate governance and sustainability reporting among SOEs in Ghana, it has some limitations that potentially represent opportunities for future research. The study considered only SOEs in Ghana. Thus, this study is limited in terms of sample size and geographical coverage to empirically conclude that there is a significant influence of corporate governance mechanisms on sustainability reporting among SOEs. Although SOEs in Ghana were selected based on Ghana being the first Anglophone country in sub-Saharan Africa to adopt IMF/World Bank-sponsored SOE reform programmes (World Bank, 1995) and a country being touted globally as a beacon of democracy in sub-Saharan Africa (Hinson et al., 2017). Since the study was carried out in a very specific context, its applicability in other territorial contexts at different scales must be verified. Future research should consider expanding the scope to cover SOEs in Africa and beyond to permit generalisation of the research outcome.

In addition, the study purposely ignored other sources of data collection approaches apart from the closed-ended questionnaire that was appropriate in the circumstances. Closed-ended questionnaires limit the respondent's ability to articulate their views. To mitigate such a well-known limitation, additional space was provided for additional information, if any by the respondents. Notwithstanding, interviews could be added to the closed-ended questionnaire in future studies and the qualitative results triangulated with the survey outcome to aid a deeper understanding of the subject.

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The data is available upon request.

Supplemental Material

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