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RESEARCH ARTICLE

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The impact of sustainability governance attributes on comprehensive CSR reporting: A developing country setting

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[Correction added on 22 November 2023, after first online publication: 'Essex Business School, University of Essex, United Kingdom' has been added to Zeeshan Mahmood's affiliation in this version.]

Abstract

This research examines the influence of sustainability governance attributes such as the sustainability department, sustainability committee, sustainability officer, sustainability policy, sustainability strategy, and sustainability assurance on comprehensive CSR reporting. Content analysis of corporate annual reports and sustainability reports of 280 non-financial listed companies in Pakistan was used to determine comprehensive CSR reporting score and to capture sustainability governance attributes. Multivariate regression analysis technique was used to test the relationships. The results revealed that all the sustainability governance mechanisms except the sustainability officer and the sustainability department positively influenced comprehensive CSR reporting. This study highlights the usefulness of implementing sustainability governance mechanisms in promoting comprehensive reporting in developing countries and sets implications for shaping future CSR-related policies and practices. This research extends the literature on the importance of internal corporate governance mechanisms in driving sustainability reporting agenda by providing empirical evidence in favor of sustainability governance mechanisms in improving comprehensive reporting in developing countries.

KEYWORDS

comprehensive reporting, corporate governance, CSR, sustainability, sustainability governance

1 | INTRODUCTION

Due to globalization and technological innovation, the relationship between an organization and its stakeholders has substantially changed, warranting its board of directors to assume responsibilities towards a broader range of stakeholders. Corporate governance (CG), rather than directing management to benefit the shareholders of a company, must now guide management to consider how corporate practices and operations impact and benefit a broader set of stakeholders (Hung, 2011; Rao & Tilt, 2016). Within this broader perspective of CG, organizations are adopting sustainability governance mechanisms – mainly concerned with social responsibility policies, structures, and control elements (Aras & Crowther, 2008; Asif et al., 2013; Schneider & Meins, 2012) – enabling organizations to act as responsible citizens to promote socially responsible agendas (Amran et al., 2014; Asif et al., 2013; Kamal, 2021; Schneider & Meins, 2012). Sustainability governance policies and structures encompass attributes such as sustainability committees, sustainability strategy, sustainability departments, sustainability officers, sustainability policy, and sustainability assurance (Helfaya & Moussa, 2017; Lock & Seele, 2016). Effective sustainability governance mechanisms contribute to better sustainability performance and disclosure (Schneider & Meins, 2012). Furthermore, these mechanisms have the potential to meet the information needs of a broad range of stakeholders, ultimately contributing to more comprehensiveness CSR reporting (Kamal, 2021). Thus, implementing sustainability governance

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mechanisms may help organizations achieve socially responsible outcomes gaining legitimacy status with their stakeholders.

The interrelationship between CG and CSR reporting practices is a well-researched area. Studies on this relationship have been conducted in developed countries such as UK, USA, Australia, and Spain, and in developing countries such as Malaysia, India, China, Saudi Arabia, and Pakistan. These studies primarily focused on traditional governance mechanisms of board size, independence, board leadership (CEO-duality), institutional ownership, CEO ownership, director ownership, and foreign ownership (see review papers by Ali et al., 2017; Ali et al., 2022) and did not consider implementation of sustainability governance attributes in influencing CSR reporting. There are some exceptions, Helfaya and Moussa (2017) examined the role of sustainability committee, sustainability strategy, and issuance of CSR report on environmental disclosure in UK setting. Another study, conducted with a small number of companies from the Asian-Pacific region, investigated the significance of integrated vision and mission in the context of CSR reporting (Amran et al., 2014). In fact, the prior research on CG has neglected the phenomenon of whether sustainability governance attributes influence the CSR reporting agenda in developed countries in general and in developing countries in particular. In line with the missing literature on the significance of sustainability governance attributes in shaping future CSR-related policies and practices, this research investigates the influence of sustainability governance attributes on comprehensive CSR reporting in a developing country setting. It is also critical to note that it is not simply the quantity of governance mechanisms but rather the effectiveness of the governance structure. This effectiveness is crucial in ensuring that the sustainability agenda is integrated into the day-to-day business operations.

This research adds to existing literature on CG mechanisms and CSR reporting by analyzing the role of sustainability governance attributes in fostering the transmission of trustworthy and credible CSR-related information in a developing country. Further, this is the first study examining the influence of sustainability governance attributes on comprehensive CSR reporting in a developing country setting. In addition, this research responds to the call for research targeted to understand board attributes contributing to sustainability disclosure (Lock & Seele, 2016; Liao et al., 2015; Michelon et al., 2015; Ali et al., 2017; Helfaya & Moussa, 2017). Finally, this research employs a combination of quantity and quality attributes of CSR reporting to assess the comprehensiveness of CSR reporting. It is considered a less subjective method to determine the comprehensiveness of reporting.

This article is organized as: section two presents literature on CG and CSR reporting relationship. Section three overviews the research context. Section four describes the study's theoretical framework, research model, and associated hypotheses, followed by the research methods section. The last two sections discuss data analysis results and conclusions of this research.

2 | LITERATURE REVIEW

CG and CSR reporting are well-researched topics with many studies investigating the link between the two. The studies empirically examining the CG and CSR reporting link were primarily targeted to developed economies such as UK, USA, and Spain (e.g., Harjoto et al., 2015; Harjoto & Jo, 2011; Helfaya & Moussa, 2017; Jo & Harjoto, 2012; Ramón-Llorens et al., 2019), and to some extent to developing economies such as Malaysia, India, Saudi Arabia, China, and Pakistan (e.g., Adnan et al., 2018; Habbash, 2016; Khan et al., 2019). These studies used different mechanisms/proxies of CG such as corporate board size, independence, and leadership (i.e., CEO duality), as well as institutional, CEO, director, and foreign ownership (e.g., Harjoto & Jo, 2011; Jo & Harjoto, 2012; Jizi et al., 2013; Amran et al., 2014; Harjoto et al., 2015; Habbash, 2016; Lone et al., 2016; Adnan et al., 2018; Adel et al., 2019; El-Bassiouny & El-Bassiouny, 2019; Khan et al., 2019). However, the existing literature does not demonstrate a consensus on the results.

Previous studies have predominantly focused on a limited set of CG attributes, such as board size, independence, and leadership, and have largely ignored whether sustainability governance attributes have any impact on CSR reporting. There are a few exceptions (see Amran et al., 2014; Helfaya & Moussa, 2017). For instance, a cross-sectional study of 113 Asian-Pacific firms by Amran et al. (2014) found that the integration of CSR values into a firm's vision and mission statements positively contributes to the quality of sustainability reporting. Helfaya and Moussa (2017) conducted a study involving UK-listed firms and discovered that a firm's CSR strategy, CSR committee, and the issuance of standalone CSR reports have a significant positive relationship with corporate environmental disclosure. A review study by Velte and Stawinoga (2020) has also highlighted instances where CSR committees positively contribute to environmental and CSR reporting. However, the other sustainability governance attributes have been largely overlooked.

Moreover, these studies have examined the link with either the quantity or quality of environmental or CSR disclosure separately. Thus, there is a need for research that considers both the quantity and quality aspects of reporting to adequately assess the credibility and reliability of reporting, enabling investors to make informed decisions regarding a firm's social and environmental performance. This is particularly important due to the increasing trend in socially responsible or ethical investments over time (Clarkson et al., 2008), which underscores the demand for authentic and credible CSR reporting (Sethi et al., 2017). Therefore, our research aims to fill this gap by examining a comprehensive list of sustainability governance attributes in promoting comprehensive CSR reporting in a developing country setting, which has been largely overlooked by previous scholarship.

3 | RESEARCH CONTEXT

This research is conducted in a developing country context, Pakistan. Pakistan is an emerging economy with GDP per capita of 6437$ (The World bank, 2023) and is dealing with many social problems such as poverty, unemployment, illiteracy, and weak law enforcement. Every government, except the Pakistan People's Party (PPP) government in 1972–77, concentrated on industrial expansion and a market economy. In the past seven decades (1955–56 to 2020–21) the manufacturing and service sector of Pakistan grew by 5.89% and 5.50% per year (PBS, 2022). More than 450 companies operating in

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the manufacturing and service sector are listed on the Pakistan Stock Exchanges (PSE).

Despite their economic contributions, many companies are accused of practices contributing to unacceptable environmental practices (Lund-Thomsen & Nadvi, 2010; PEPA, 2005; SDPI, 2012), poor working conditions, and low pay (Ali, 2014). The key regulations of Pakistan governing sustainability issues related to the corporate sector include the Factory Act 1934, the Pakistan Penal Code 1860, and the Environmental Protection Act 1997. These regulations are targeted to create guidelines and standards to safeguard the environment and health and safety at the workplace. Despite enactment of these regulations, their enforcement is seen very poor in the country (Ali, 2014; Ali & Frynas, 2018).

Concerning disclosure, Pakistan's regulatory framework mainly focuses on disclosure of financial matters (Ali, 2014). However, to hold companies accountable for their social and environmental performance, the Securities and Exchange Commission of Pakistan (SECP) has enacted CSR order in 2009 mandating companies to declare their sustainability activities. The CSR order does not specify the indicators and report format, as is the case in financial reporting, to reflect a firm's sustainable performance (CSR Order, 2009). Instead, it requires the reporting of general sustainability indicators. Unfortunately, this order only covers a limited aspect of sustainability performance for listed companies (CSR Order, 2009), indicating a lack of comprehensive sustainability disclosure regulations in Pakistan. Pakistan allegedly lacks sufficient state measures to prevent sustainability issues (Ali, 2014; Ali & Frynas, 2018). To overcome the missing regulations, the SECP modified the existing order and introduced an updated regulation in 2012 that requires the listed companies to implement sustainable governance mechanisms to promote the sustainable reporting agenda in Pakistan (SECP, 2014).

Furthermore, in 2019, the SECP made it compulsory for listed companies to formulate strategies and policies encompassing environmental, social, and governance issues and publish them on their corporate websites (SECP, 2019). Additionally, this regulation requires a company's chief executive to present a report on CSR initiatives to the corporate board for review and decision-making. Pakistan, therefore, offers a perfect study case to investigate the link between sustainability governance attributes and CSR reporting. The analysis will offer insights on how sustainability governance attributes can advance the sustainability reporting agenda in developing countries which often lack stringent sustainability governing regulations and have poor environmental law enforcement.

4 | THEORETICAL PERSPECTIVE AND DEVELOPMENT OF HYPOTHESES

4.1 | Legitimacy theory

Consistent with the earlier studies on sustainability disclosure (see Ali et al., 2017; Ali et al., 2022; Haniffa & Cooke, 2005; Islam & Deegan, 2008; Mahadeo et al., 2011), legitimacy theory is used to explain the link between sustainability governance attributes and comprehensive reporting in this research. Legitimacy theory presupposes a social contract between a company and society (Reverte, 2009), considering a company as a part of a broader social system which either influences or is influenced by other stakeholders constituting the same system (Islam & Deegan, 2008). Social contract is comprised of explicit and implicit societal expectations representing the society (Shocker & Sethi, 1974). Under the social contract, a company being part of a social system is assumed to follow the terms and conditions of a social contract that is, societal norms and values. Increasing social awareness, media influences, interest group pressures, and business crises change society's expectations over time (Ali, 2014; Ali et al., 2017; Islam & Deegan, 2008). This will result in a change in the terms and conditions of that social contract, requiring companies to change themselves to conform to the changing terms and conditions of the social contract. Thus, legitimacy is a dynamic concept, where business practices, procedures, and outputs are evaluated by the relevant publics against ever-evolving societal expectations. For companies to maintain their social license to operate they must adapt to changing societal expectations (O'Donovan, 2002).

To maintain legitimacy, companies can employ four legitimizing tactics (Lindblom, 1994). First, a company educates and informs the relevant public on changes to its practices and procedures. Second, a company can influence its public image without changing its actual behavior. Third, a firm can divert public attention to another issue of concern. Fourth, a company can modify public expectations by showing that the demands are unreasonable. Firms can employ these legitimizing tactics to obtain, retain, and repair legitimacy status (Suchman, 1995). As seen above, each method warrants a company to share information with the relevant public. Corporate executives may use sustainability reports, as a communication tool (Branco & Rodrigues, 2008), to conform to the terms and conditions of the social contract to obtain, retain, or repair legitimacy (Lindblom, 1994; Suchman, 1995). Under this theory, legitimacy is a resource (Islam & Deegan, 2008), which is given by society to a firm to continue its operation in that society. This resource can be manipulated and influenced by a firm through various disclosure tactics. Sustainability reporting can be used to defend against a legitimacy threat or to promote a company's social responsibility (O'Dwyer, 2002).

Suchman (1995) proposed three categories of legitimacy: (1) pragmatic, (2) cognitive, (3) and moral. Pragmatic legitimacy depends on the self-interested calculations of an organization's most immediate audience whereas cognitive legitimacy is founded on managers' cognition and knowledge rather than their evaluations (Mahadeo et al., 2011; Suchman, 1995). Contrary to the above, moral legitimacy has three sub-constructs (1) consequential legitimacy (rests on an organization's accomplishments such as reduction in pollution and health and safety accidents), (2) procedural legitimacy (rests on socially accepted techniques and procedures such as ISO 14000), (3) and structural legitimacy (rests on morally accepted structural characteristics such as sustainability department, sustainability committee).

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Moral legitimacy is of utmost relevance to this study, offering valuable insights for the implementation of sustainability governance attributes and comprehensive CSR reporting. Given that companies have faced criticism for providing non-credible information regarding their social and environmental performance (Sisaye, 2021; Sisaye, 2022), the provision of authentic and credible CSR information, in the form of comprehensive CSR reporting, becomes imperative. This step aids companies in earning consequential legitimacy, which is a variant of moral legitimacy. This consequential legitimacy is particularly crucial when it comes to building trust with relevant stakeholders, especially socially responsible investors. It empowers them to make well-informed decisions concerning a corporation's social and environmental performance.

Likewise, when companies adopt sustainability governance attributes, such as a sustainability department, sustainability committee, and sustainability strategy, they aim to secure structural legitimacy. These attributes reflect widely acknowledged and accepted characteristics of a well-structured firm. Consequently, it is reasonable to assume that companies striving to gain or maintain consequential and structural legitimacy will prioritize implementation of sustainability governance attributes and transparent disclosure of information about CSR practices. Furthermore, the implementation of sustainability governance attributes and comprehensive CSR reporting aligns with one of Lindblom's (1994) legitimacy tactics, which involves educating and informing the relevant public about changes in corporate practices and procedures. As a result, this strategic approach not only fosters legitimacy but also aids firms in achieving and preserving moral legitimacy.

4.2 | Research model

This research model demonstrates the link of sustainability governance attributes such as sustainability department, sustainability officer, sustainability committee, sustainability policy, board's sustainability strategy, and sustainability assurance statement with comprehensive CSR reporting in a developing country setting (see Figure 1). The term comprehensive CSR reporting refers to reporting of sustainability information that emphasizes both the quantity and quality aspects of information (GRI 3.1, 2017). The hypotheses mentioned in the research model of this study are described below.

4.3 | Sustainability department

The companies having separate sustainability departments may be attempting to gain structural legitimacy by reflecting socially recognized structural characteristics such as sustainability department and sustainability committee in the organization (Suchman, 1995). The sustainability department usually has a responsibility for developing, implementing, and monitoring sustainability strategies (Arjaliès & Mundy, 2013; Kato & Kodama, 2018). The primary role of a sustainability department is to devise a systematic approach to reflect sustainability performance and its subsequent disclosure in the organization to achieve its corporate objectives (Adams & Frost, 2008; Elving & Kartal, 2012; Lock & Seele, 2016; Pollach, Johansen, Ellerup Nielsen, & Thomsen, 2012). Despite the presence of a separate sustainability department in highly socially responsible companies in Europe, the USA, and Chile (Pollach, Johansen, Ellerup Nielsen, & Thomsen, 2012), some companies appear to assign sustainability responsibility to HR, logistics, and marketing departments in Europe (Pollach, Johansen, Nielsen, & Thomsen, 2012). The studies have suggested the importance of the sustainability department as a mechanism to influence sustainability reporting (Ali et al., 2017; Leitoniene & Sapkauskiene, 2015). Therefore, the following hypothesis is proposed:

> **H1.** The presence of a sustainability department results in comprehensive CSR reporting.

4.4 | Sustainability officers

Sustainability officer possesses specialized knowledge and skills and works as a facilitator between internal and external stakeholders to express better sustainability performance (Lai-Ling Lam, 2011). The employment of a dedicated sustainability officer in the top-level management is recognized as an institutional symbol to legitimize corporate position. It justifies the organizations' effort to seek legitimacy and address various stakeholders' concerns (Aldrich & Herker, 1977). Having a sustainability officer indicates that the firm is committed to implementing a sustainability agenda (Strand, 2014). The extant literature revealed a strong relationship between the presence of sustainability officers and CSR disclosure (Peters & Romi, 2014). Based on

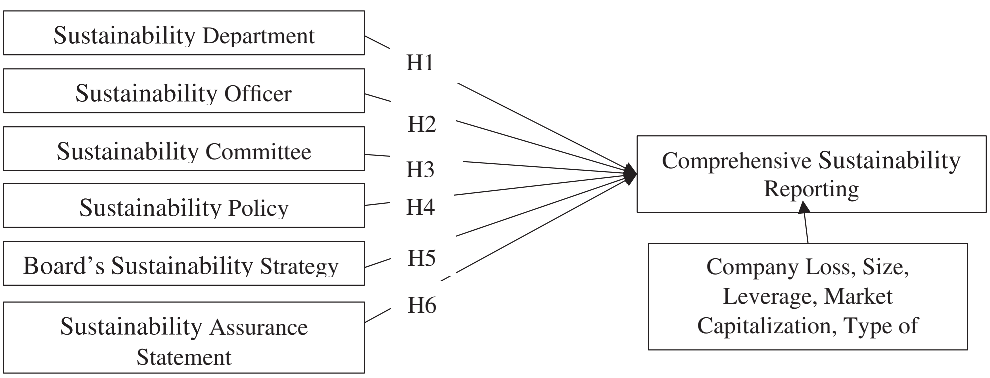

FIGURE 1 Research model.

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the given discussion, we hypothesize that the induction of a sustainability officer contributes to comprehensive CSR reporting.

H2. The presence of a sustainability officer results in comprehensive CSR reporting.

4.5 | Sustainability committee

Sustainability committee (also known as ethical committee, CSR committee, health and safety committee, environmental committee, public responsibility committee) is the main component of sustainability governance (Eberhardt-Toth, 2017). The sustainability committee is responsible for formulating a sustainability strategy, keeping the board updated about sustainability issues, and reviewing policies regarding social responsibility issues and their subsequent disclosure (Amran et al., 2014; Mahmood et al., 2018; Mahoney et al., 2013; Peters & Romi, 2014; Spitzeck, 2009). Sustainability committees also monitor firms' environmental performance and reputation (Liao et al., 2015). From a legitimacy standpoint, a sustainability committee can be regarded as an effort to gain structural legitimacy status by reflecting socially accepted structural characteristics such as sustainability department in the corporation (Suchman, 1995). The sustainability committee promotes transparency in sustainability reporting (DeBoskey et al., 2018; Wahyuni et al., 2009), and the existence of the sustainability committee is regarded as a firm's pro-activeness to disclose sustainability information. The existing studies also found a positive link between the existence of sustainability committee and CSR reporting (Amran et al., 2014; DeBoskey et al., 2018; Eberhardt-Toth, 2017; Heiko, 2009; Liao et al., 2015; Michelon & Parbonetti, 2012; Peters & Romi, 2014). Based on the above discussion, this study predicts a positive link between sustainability committee and CSR reporting.

H3. The presence of a sustainability committee results in comprehensive CSR reporting.

4.6 | Sustainability policy

Sustainability policy refers to a company's structured approach to resolve social and environmental issues and to communicate positions on environmental issues (Lepoutre et al., 2007). Research has shown that the legitimacy of companies not actively involved in sustainability policy development is compromised (Patten, 2002). From a legitimacy standpoint, publishing sustainability policy by a firm may bring social legitimacy (Patten, 2002). Consistently, the extant literature shows a positive role of sustainability policy in promoting CSR disclosure (Eberhard-Harribey, 2006; Gu et al., 2013; Patten, 2002; Škare & Golja, 2014). Thus, this research expects that the existence of sustainability policy positively contributes to CSR reporting.

H4. The presence of a sustainability policy results in comprehensive sustainability reporting.

4.7 | Sustainability strategy

The corporate board is responsible for developing and implementing corporate strategies (Fraj-Andrés et al., 2009; Helfaya & Moussa, 2017). Sustainability reporting literature highlights the potential role of boards' strategy in managing companies' social and environmental issues (Shaukat et al., 2016). Sustainability strategy refers to incorporating social and ecological concerns into a firm's strategic plans (Banerjee et al., 2003). Companies may proactively communicate sustainability strategies to the external public to seek their social legitimate status (Neugebauer et al., 2016; Shaukat et al., 2016). The empirical literature has revealed a significant positive relationship between sustainability strategy and corporate social and environmental performance (Shaukat et al., 2016). Similar to the above, an ecological study conducted in the UK showed that the board with sustainability strategy appears to make quality environmental disclosure (Helfaya & Moussa, 2017). Thus, theoretical predictions and empirical evidence guide us to frame the following hypothesis.

H5. Sustainability strategy is significantly linked with the comprehensiveness of CSR reporting.

4.8 | Sustainability assurance

Disclosure of ambivalent sustainability information by companies is considered useless and generates unfavorable response from organizational stakeholders (Ballou et al., 2018). Companies publish independently assured statements to enhance the credibility and reliability of their disclosures (Isabel-María & Jennifer, 2018; Martínez-Ferrero & García-Sánchez, 2017; Pflugrath et al., 2011; Simnett et al., 2009). Independent sustainability assurance is referred to activities targeted to ascertain the quality of information reported within a sustainability report (GRI, 2016). Organizations adopt the sustainability assurance process to provide evidence that the information disclosed is transparent and credible to seek social legitimacy by conforming to public expectations (Gürtürk & Hahn, 2016). Organizations appear to give preference to one assurance provider over another based on their professional orientation. For instance, contrary to the stakeholder-oriented cultures, companies operating in shareholder-oriented cultures give preference to accounting assurance providers (Amer, 2023; Braam & Peeters, 2018). Empirical studies provide support that third-party assurance enhances the quantity of sustainability reporting (Ackers, 2009; Kolk & Perego, 2010; Mahmood et al., 2016; Moroney et al., 2012). Therefore, we hypothesize that:

H6. The presence of sustainability assurance results in comprehensive CSR reporting.

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TABLE 1 Sample selection and its description.

Items	Total (Percent)
Total PSE listed companies	456
Financial companies (e.g., banks, leasing, and modaraba)	125
Non-financial companies	331
Subsidiary firms (at least 80% owned by other firms)	2
Companies whose annual reports and standalone reports were not accessible	37
Companies with incomplete reports	12
Sub-total	51
Companies considered in the sample	280
Industry description	
Cement	36 (12.86%)
Textile	31 (11.07%)
Chemical and pharmaceutical	29 (10.36%)
Food	28 (10.00%)
Petroleum	27 (9.64%)
Energy	20 (7.14%)
Manufacturing	20 (7.14%)
Sugar	9 (3.21%)
Automobile	16 (5.71%)
Information communication technology	16 (5.71%)
Paper	8 (2.86%)
Mineral products	7 (2.50%)
Electrical	5 (1.79%)
Others	28 (10.00%)
Total	280 (100.00%)

5 | RESEARCH METHOD

5.1 | Data collection and research sample

This research employed content analysis to collect data from all the non-financial companies listed at the Pakistan Stock Exchange (PSE). In line with the previous disclosure research (see Cabeza-García et al., 2018; Gao & Kling, 2012), financial companies including banks, insurance, and modaraba companies were excluded from the sample due to the differences in the nature of their reporting and disclosure. Further, subsidiary firms, at least 80% owned by other firms already part of the sample, were also excluded from the sample. Companies whose reports were not accessible, or incomplete were dropped from the original sample. In 2019, all publicly listed firms were mandated to publish their CSR strategies and policies, resulting in disclosure of such information (i.e., sustainability governance attributes) in corporate reports published in the subsequent years. As of now, the most recent reports for most of the companies are accessible for the year 2021 on their respective websites. Therefore, corporate reports for the year 2021 were used in this study.

The annual reports or stand-alone reports, or both were available for 280 companies comprising our sample of 280 yearly observations

TABLE 2 CSR reporting quantity.

S. no	Categories and items	Scale
Employees disclosure		
1	Employee benefits	0–1
2	Health and safety	0–1
3	Training and development	0–1
4	Rural development programs (e.g., micro finance loan)	0–1
5	Participation and staff involvement	0–1
6	National cause donation (e.g., disaster relief and flood efforts)	0–1
7	Employment policy	0–1
8	Equal opportunities	0–1
9	Security in employment	0–1
10	Measurement of policy	0–1
11	Personnel counseling	0–1
12	Employee data	0–1
13	Work life Balance	0–1
Environmental disclosure		
1	Conservation of energy	0–1
2	Environmental policy statement	0–1
3	Recycling of waste material	0–1
4	Disclosing the company energy policies	0–1
5	Disclosing increased energy efficiency of products	0–1
6	Sponsoring environmental activities (e.g., earth day celebrations)	0–1
7	Pollution control measures	0–1
Products & services disclosure		
1	Meeting customer needs	0–1
2	Customer satisfaction	0–1
3	Customers services	0–1
4	Products and services quality	0–1
5	Developing and innovating new products	0–1
6	Customer feedback	0–1
7	Existing of certificated systems of quality	0–1
8	Product safety	0–1
9	Guidance campaigns	0–1
Community disclosure		
1	Education	0–1
2	Charity and donation	0–1
3	Health	0–1
4	Community investment and welfare schemes (e.g., water filtration plant)	0–1
5	Funding scholarship programs	0–1
6	Establish non-profit project	0–1
7	Support for art and culture	0–1
8	National cause donations	0–1
9	Social loan	0–1
Total score		38

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(see Table 1). The final research sample includes 84.59% of the non-financial companies listed on the PSE, thus, sufficiently representing the population of non-financial listed companies (Bartlett et al., 2001; Krejcie & Morgan, 1970). The reports were manually coded by two authors of the article. Where discrepancies emerged greater than 5% the coders resolved the discrepancies through mutual agreement. However, where disagreement was less than 5%, the authors took the average of scores of both coders.

5.2 | Measurement of variables

5.2.1 | Comprehensive CSR reporting

Comprehensive CSR reporting is measured in three steps. First, consistent with the previous studies notably Hackston and Milne (1996), Branco and Rodrigues (2008), Alotaibi and Hussainey (2016), and GRI 3.1, 2017), we used 38 CSR themes, grouped them into four categories, to calculate disclosure quantity (content) score. These themes include environment, human resources, community involvement, and product and services disclosures (see Table 2). In line with Jain et al. (2015) and Khan. (2010), we used the following index for calculating CSR disclosure quantity score:

$$\text{CSR disclosure quantity score}_j = \sum X_{ij}/n.$$

where, $X_{ij} = 1$ if ith item was reported by jth firm and 0 otherwise, n = Total number of themes to be reported by a firm that is, $n = 38$.

Second, for measuring CSR reporting quality score, we used GRI reporting principles of being balanced, comparable, accurate, on-time, clear, and reliable. This quality instrument contains six quality aspects and ten indicators (for detail see Table 3). In line with the previous CSR reporting quality research (see Boiral, 2013; Breeda & Frank, 2015; Chakroun & Hussainey, 2014; Diouf & Boiral, 2017; Michelon

TABLE 3 CSR reporting quality.

Aspects	Indicators	Scale
Balance	B1: The extent to which a firm highlight both positive and negative events	0 = No information mentioned 1 = Negative events only 2 = Positive events only 3 = Both positive/negative events of CSR 4 = Impact of positive/negative events explained
	B2: To what extent it allows user to see positive and negative events over time	0 = No information mentioned 1 = Negative performance on year-to-year basis 2 = Positive performance on year-to-year basis 3 = Both positive/negative performance on year-to-year basis 4 = Impact of positive/negative events explained on year-to-year basis
Comparable	C1: The extent to which the information is comparable to other firms.	0 = No comparability 1 = Limited comparability (one paragraph) 2 = Moderate comparability (two paragraph) 3 = Very much comparability (two paragraphs) 4 = Extensive comparability (> two paragraphs)
	C2: To what extent it allows user to determine performance over time	0 = No comparability 1 = Limited comparability (one year) 2 = Moderate comparability (two years) 3 = Very much comparability (three years) 4 = Extensive comparability (more than 3 years)
Accuracy	A1: To what extent information allow stakeholders to assess a firm performance	0 = No information 1 = Qualitative information only 2 = Qualitative and quantitative information. 3 = More quantitative information than qualitative information 4 = Data calculation and measurement technique mentioned
Timeliness	T1: Time period of occurrence of events	0 = No time specified 1 = Time specified
	T2: Is there a consistent reporting schedule?	0 = No 1 = Yes
Clarity	C1: Is the information understandable to the audience	0 = No 1 = Yes
Reliability	R1: Is the assurance statement a part of report?	0 = No 1 = Yes
	R2: Provision of contact details of information provider	0 = No 1 = Yes
	Maximum CSR reporting quality score	25

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et al., 2015), each indicator is assigned a score based on the nature of information reported about that indicator. We first computed the score for each indicator and quality aspect, and then aggregated the overall score of a company. Later, the aggregated score of each company was divided by the total possible score to determine the CSR reporting quality score. The formula to compute CSR reporting quality score is:

$$\text{CSR disclosure quality score}_j = \sum X_{ij}/n$$

where, X_{ij} = Score of each aspect of CSR reporting quality, n = Total possible CSR reporting quality score that is, $n = 25$.

Finally, this research combines quantity and quality aspects in CSR reporting to measure the comprehensiveness of CSR reporting. The quantity of CSR related data offers an overview of a company's commitment to transparency whereas the quality of these contents ensures the reliability and depth of the information disclosed (Baalouch et al., 2019; Macellari et al., 2021; Talbot & Boiral, 2018). Considering both quantity and quality aspects of CSR reporting, provides insight of a company's social and environmental initiatives. Due to the significant importance of quality and quantity of CSR reporting, we assigned equal weight to CSR reporting quality and quantity scores to compute the comprehensive CSR reporting score. The formula to compute comprehensive CSR reporting score is:

$$\begin{aligned}\text{Comprehensive CSR reporting score} \\ = 0.50^{*}\ \text{CSR disclosure quantity score} \\ + 0.50^{*}\ \text{CSR disclosure quality score}\end{aligned}$$

5.2.2 | Sustainability governance variables

All the sustainability governance attributes are dummy variables, and their measurement is presented in Table 4.

5.2.3 | Control variables

The studies have revealed that company characteristics such as firm size, profitability, market capitalization, industry, and leverage

TABLE 4 Measurement of sustainability governance attributes.

Variable	Measurement	Reference
Sustainability department (SD)	1 = Presence of sustainability department 0 = Otherwise	Arjaliès & Mundy, 2013
Sustainability committee (SC)	1 = Presence of sustainability committee 0 = Otherwise	Amran et al., 2014; Chan, 1996; Liao et al., 2015
Sustainability strategy (SS)	1 = Presence of sustainability strategy 0 = Otherwise	Jiang et al., 2018
Sustainability officer (SO)	1 = Presence of sustainability officer 0 = Otherwise	Kanashiro & Rivera, 2017
Sustainability policy (SP)	1 = Presence of sustainability policy 0 = Otherwise	Gu et al., 2013
Sustainability assurance (SA)	1 = Third-party assurance statement 0 = Otherwise	Gillet-Monjarret, 2015; Kolk & Perego, 2010

TABLE 5 Measurement of control variables.

Variable	Measurement	Reference
Leverage (LEV)	Total debts to total assets	García-Sánchez et al., 2019; Prado-Lorenzo et al., 2009; Khan et al. (2019)
Market capitalization (MCAP)	To outstanding shares * market price per share	Ortas et al., 2015
Profitability (PROF)	Return on assets (ROA)	Helfaya and Moussa (2017); García-Sánchez et al., 2019
Company size (SIZE)	Logarithm of total number of employees	Sun & Yu, 2015; Zou et al., 2018
Industry (IND)	1 = If a firm is operating in environmentally sensitive industry 0 = Otherwise	Amran et al. (2014)
Board size (BS)	Total members on corporate board	Khan et al. (2019); Ali et al. (2023)
Independent directors (ID)	Proportion of independent directors on board	Khan et al. (2019); Ali et al. (2023)
Gender diversity (GD)	Proportion of women on board	Amran & Haniffa, 2011; Liao et al., 2015; Buallay et al., 2022
Institutional ownership (IO)	Proportion of institutional ownership	Khan et al. (2019); Ali et al. (2023)

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TABLE 6 Descriptive results.

Variables	Minimum	Maximum	Mean OR %	Standard deviation
Comprehensive CSR reporting	0.22	0.75	0.51	0.11
Social governance factors				
Sustainability committee	0.00	1.00	12.50%	-
Sustainability officer	0.00	1.00	40.00%	-
Sustainability department	0.00	1.00	2.90%	-
Sustainability strategy	0.00	1.00	55.70%	-
Sustainability policy	0.00	1.00	96.10%	-
Sustainability assurance	0.00	1.00	60.40%	-
Control variable				
Market capitalization	8.94	18.38	14.21	1.74
Size	4.01	9.88	7.10	1.26
Profitability	0.01	69.24	12.25	9.52
Leverage	0.01	7.59	0.53	0.80
Industry	0.00	1.00	92.10%	-
Board size	5.00	14.00	8.76	1.90
Independent directors	0.00	0.75	0.19	0.14
Gender diversity	0.00	1.00	0.07	0.13
Institutional onwership	0.00	37.00	3.77	6.11

Note: $N = 280$.

influence sustainability reporting (see Ali et al., 2018; Ali & Frynas, 2018). Further, corporate governance characteristics of board size, board independence, gender diversity, and institutional ownership have also been reported to influence sustainability reporting practices (Ali et al., 2023; Buallay et al., 2022). Therefore, we treat those variables as control variables in this research. The measurement of these variables is presented in Table 5.

5.3 | Data analysis technique

This study used a multivariate regression model, using SPSS, to test the hypotheses. The general form of model is:

$$\text{Comprehensive CSR reporting (CCSR)} = f\,(\text{sustainability governance attributes} + \text{control variables})$$

Symbolically, this model can be written as:

$$\begin{aligned}\mathrm{CCSR_{it}} = {} & \beta_0 + \beta_1 \mathrm{SD_{it-1}} + \beta_2 \mathrm{SO_{it-1}} + \beta_3 \mathrm{SC_{it-1}} + \beta_4 \mathrm{SP_{it-1}} + \beta_5 \mathrm{SS_{it-1}} \\ & + \beta_6 \mathrm{SA_{it-1}} + \beta_7 \mathrm{MCAP_{it}} + \beta_8 \mathrm{SIZE_{it}} + \beta_9 \mathrm{LEV_{it}} + \beta_{10} \mathrm{IND_{it}} \\ & + \beta_{11} \mathrm{PROF_{it}} + \beta_{12} \mathrm{GD_{it-1}} + \beta_{13} \mathrm{BS_{it-1}} + \beta_{14} \mathrm{ID_{it-1}} + \beta_{15} \mathrm{IO_{it}} + \varepsilon_{it}\end{aligned} \tag{1}$$

5.4 | Data analysis results

Table 6 presents the descriptive analysis results. The result revealed that the sampled companies, on average obtained 51.8% score on comprehensive CSR reporting. The result also showed that 96.1%, and 55.7% of sampled companies have reported sustainability policies and sustainability strategies in their reports. Further, 40.0% of companies have dedicated sustainability officers to oversee the firm's social and environmental performance. 60.4% of the sampled companies have verified sustainability information disclosed in corporate reports by independent assurance providers. Only 12.5% of companies have a separate sustainability committee indicating that companies paid little attention to the establishment of a sustainability committee. Merely 3% of the companies have a dedicated department to look after the sustainability reporting matters of a company. Further, companies have nine members of the board, on average, where 19% of them are independent directors. The presence of women on boards was low (7% on average) in Pakistan. On average, the sample of companies includes 3.77% institutional ownership. The sampled companies have an average profitability of 12.25%. The average values of market capitalization and leverage are $14.204 million and 0.530.

5.5 | Regression analysis assumptions

This study employed a multivariate regression analysis technique to test the hypothesized relationships. Before evaluating the results, we reviewed the assumptions behind the regression analysis. The linearity of the whole model was observed by graphing the projected values against the studentized residuals. The histogram indicates that residuals are normally distributed. The correlation matrix (see Table 7) and multicollinearity statistics, including tolerance values (0.682–0.927) and VIF values (1.079–1.466), indicate that the model has no multicollinearity issues. A Breusch-Pagan test ($\chi 2 = 0.21$, p-value $= 0.52$) for heteroscedasticity reveals that the residual variance is constant.

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TABLE 7 Correlation matrix.

	CCSR	SC	SO	SD	SS	SP	SA	SIZE	ROA	LEV	IND	BS	GD	ID
CCSR														
SC	0.226**													
SO	0.114	0.238**												
SD	0.122*	0.100	0.123*											
SS	0.401**	0.390**	0.141*	0.153*										
SP	0.201**	−0.012	0.165**	0.035	0.079									
SA	0.218**	0.235**	0.080	0.051	0.350**	−0.051								
SIZE	0.264**	−0.064	0.070	−0.004	0.006	0.136*	−0.031							
ROA	−0.138*	0.079	−0.202**	−0.021	−0.002	0.007	−0.023	−0.210**						
LEV	0.066	0.211**	0.185**	0.004	0.078	0.016	0.077	0.064	−0.132*					
	−0.088	0.056	−0.033	−0.109	−0.047	−0.059	0.143*	−0.279**	0.091	0.040				
BS	0.218**	0.065	0.167**	0.224**	0.158**	0.043	0.188**	0.072	−0.086	−0.065	−0.190**			
GD	−0.119*	0.102	−0.106	0.236**	−0.141*	−0.020	−0.032	−0.029	0.129*	−0.095	−0.024	−0.022		
ID	0.174**	0.163**	0.088	0.077	0.158**	0.051	−0.089	0.024	0.042	−0.160**	0.029	0.041	−0.043	
IO	−0.049	0.021	0.120*	0.038	0.045	0.019	−0.064	−0.333**	−0.083	0.064	0.097	0.041	0.010	−0.072

Note: $N = 280$.
Abbreviations: BS, board size; CCSR, comprehensive CSR reporting; GD, gender diversity; ID, independent directors; IO, institutional ownership; IND, industry; LEV, leverage; SC, sustainability committee; SD, sustainability department; SO, sustainability officer; SP, sustainability policy; SS, sustainability strategy.
$^{**}p < 1\%$; $^{*}p < 5\%$.

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TABLE 8 Multivariate regression analysis results—comprehensive CSR reporting.

Variables	Model 1 Control model	Model 2 Experimental model	Model 3 Full model	Decision
Sustainability governance attributes				
Sustainability department (SD)		0.055 (0.036)	0.062 (0.036)	H1 rejected
Sustainability officer (SO)		0.008 (0.013)	−0.070 (0.013)	H1 rejected
Sustainability committee (SC)		0.075* (0.018)	0.123** (0.018)	H3 accepted
Sustainability policy (SP)		0.179*** (0.031)	0.133** (0.030)	H4 accepted
Sustainability strategy (SS)		0.314*** (0.014)	0.230*** (0.014)	H5 accepted
Sustainability assurance (SA)		0.095* (0.013)	0.098* (0.013)	H6 accepted
Control variables				
Market capitalization (MCAP)	0.241*** (0.004)		0.168*** (0.004)	
Company size (SIZE)	0.209*** (0.005)		0.212*** (0.005)	
Leverage (LEV)	0.063 (0.008)		0.007 (0.007)	
Industry (IND)	0.047 (0.024)		0.028 (0.023)	
Profitability (PROF)	−0.046 (0.001)		−0.081 (0.001)	
Gender diversity (GD)	−0.077 (0.046)		−0.082 (0.045)	
Board size (BS)	0.166*** (0.003)		0.100* (0.003)	
Independent directors (ID)	0.101* (0.045)		0.063 (0.043)	
Institutional ownership (IO)	−0.014 (0.001)		−0.007 (0.001)	
F- statistics	7.635	11.907	8.671	
p-value	0.000	0.000	0.000	
Adjusted R^2	17.70%	19.0%	29.30%	
Tolerance value	766–0.942	0.755–0.966	0.736–0.918	
VIF value	1.062–1.305	1.036–1.322	1.358–1.417	

Note: Standardized beta and standard errors in parenthesis. $N = 280$.
$^{*}p < 0.10$; $^{**}p < 0.05$; $^{***}p < 0.01$.

5.6 | Regression analysis results

Table 8 shows multivariate regression analysis results on effect of sustainability governance attributes on comprehensive CSR reporting. The base model (Model 1) contains all the control variables used in this research which explain 17.70% (Adjusted R^2) of the overall variation in comprehensive CSR reporting ($p < 1\%$). The results reveal that company characteristics of size ($\beta = 0.209$, $p < 1\%$) and market capitalization ($\beta = 0.241$, $p < 1\%$) have a significant positive relationship with comprehensive CSR reporting. These results align with prior studies conducted in developing countries, which have demonstrated a positive association between firm size and market capitalization with CSR disclosure (e.g., Ali & Frynas, 2018). The results suggest that companies who are large and have high market capitalization appear to make comprehensive CSR disclosures. This observation lends support to the legitimacy theoretical perspective, which argues that companies of large size and market capitalization are more likely to face pressure from various stakeholders to address social and environmental concerns and subsequently disclosures. Further, variables of board size ($\beta = 0.166$, $p < 1\%$) and board independence ($\beta = 0.101$, $p < 10\%$) also display a significant positive relationship with comprehensive CSR reporting. This indicates that traditional governance mechanisms, such as having a larger board size and greater board independence, contribute to the promotion of comprehensive CSR reporting.

Model 2 encompasses all the experimental variables, collectively explaining 19.0% of the variation in comprehensive CSR reporting ($p < 1\%$). The results reveal that sustainability governance attributes, including the sustainability committee ($\beta = 0.075$, $p < 10\%$), sustainability policy ($\beta = 0.119$, $p < 1\%$), sustainability strategy ($\beta = 0.314$, $p < 1\%$), and sustainability assurance ($\beta = 0.095$, $p < 10\%$), exhibit a significant positive relationship with comprehensive CSR reporting. These findings suggest that sustainability policy and strategy play a strong role in driving comprehensive CSR reporting, while there is limited evidence supporting the influence of sustainability committees and assurance in promoting comprehensive CSR disclosure. Notably, the sustainability department and the sustainability officer's roles were found to be insignificant in this context.

Model 3 incorporates all the control and experimental variables, collectively explaining 29.03% of the variation in comprehensive CSR reporting scores ($p < 1\%$). Notably, this explanatory power surpasses that of the experimental variables (19.0%) and the control variables (17.70%). The results show that sustainability governance attributes of sustainability committee ($\beta = 0.123$, $p < 5\%$), sustainability policy ($\beta = 0.133$, $p < 5\%$), sustainability strategy ($\beta = 0.230$, $p < 1\%$), and sustainability assurance ($\beta = 0.098$, $p < 10\%$) have significant positive effect on comprehensive CSR reporting in Pakistan, providing support for H3, H4, H5, and H6. However, the sustainability department and sustainability officer were found to be insignificant, leading to the conclusion that hypotheses H1 and H2 are not supported.

6 | DISCUSSION AND CONCLUSIONS

This study investigates the influence of sustainability governance attributes on comprehensive CSR reporting by employing data for the year 2021 from 280 non-financial companies listed on the Pakistan Stock Exchange. This study uses the multivariate regression analysis technique to test the hypothesized relationships. The results showed that comprehensive CSR reporting was linked with the presence of the sustainability committee. This result is consistent with the findings of previous studies pointing out that companies having sustainability committee disclose better information (Amran et al., 2014; DeBoskey et al., 2018; Eberhardt-Toth, 2017; Liao et al., 2015). Further, comprehensive CSR reporting in Pakistan was positively linked with the existence of a sustainability policy, sustainability strategy, and sustainability assurance. These results correspond with previous studies notably Helfaya and Moussa (2017) pointing out that CSR orientation of board positively contributes to CSR disclosure.

The significant positive impact of sustainability governance attributes on comprehensive CSR reporting shows that sustainability governance attributes contribute to comprehensive CSR reporting encompassing contents and quality of CSR information in Pakistan. These results can be explained with the help of legitimacy theory. Companies that implement these sustainability governance mechanisms are more likely to seek structural legitimacy by reflecting adoption of socially accepted governance structures and attributes. CSR reports have been criticized for lack of quality, relevance and credibility (Hąbek & Wolniak, 2016; Husillos et al., 2011). There is a consensus that CSR reports will only be helpful if they comprehensively present CSR information. By adopting sustainability governance attributes, companies are more likely to carry out comprehensive CSR reporting and subsequently earn the trust and confidence (legitimacy) of stakeholders (Odriozola & Baraibar-Diez, 2017).

Contrary to findings of previous research showing a positive association between the presence of sustainability department and CSR reporting (see Adams & Frost, 2008; Kato & Kodama, 2018; Leitoniene & Sapkauskiene, 2015; Lock & Seele, 2016), this study found an insignificant relationship between the variables. This might have happened due to the appointment of a person who is not well versed with CSR as a sustainability officer in the firm or a lack of resources to carry out their mandate. Due to which, the officer might not be able to adequately portray CSR related information in the corporate reports. Similarly, opposite to the expectations of a positive influence of sustainability officer (Kanashiro & Rivera, 2017; Liao et al., 2015; Strand, 2013, 2014; Wiengarten et al., 2017), the presence of sustainability officer was found to have an insignificant relationship with comprehensive CSR reporting. This result could be attributed to various attributes such as lack of knowledge, willingness, and skills of sustainability officers to promote CSR reporting in Pakistan. Consequently, this officer might struggle to effectively convey CSR-related information in corporate reports.

Our findings have several implications for various stakeholders concerned with the usefulness of CSR information (Helfaya & Moussa, 2017). The positive role of sustainability governance attributes in promoting comprehensive CSR reporting highlights the significance of sustainability governance attributes in comparison to the traditional governance structures such as board size, independence etc., in influencing CSR reporting. This suggests companies should not solely focus on the quantity of governance mechanisms but rather on the effectiveness of the structure in promoting comprehensive CSR reporting. This may enable companies to provide balanced, comparable, accurate, on time, precise, and reliable CSR information to their stakeholders, enabling companies to gain, maintain, or repair legitimacy with stakeholders. Companies may voluntarily adopt these sustainability governance mechanisms to improve the comprehensiveness of CSR reporting. For policymakers and regulators, the positive link between various sustainability governance attributes and comprehensiveness of CSR reporting is most relevant. CSR reports are highly criticized for their lack of relevance, credibility, and emphasis on the quantity of disclosures rather than quality. To reduce credibility gaps, policymakers and regulators in developing countries in general and Pakistan in particular must implement sustainability governance attributes to enhance the quality of CSR reporting for greater societal benefit. In addition, the Pakistan Stock Exchange may include these sustainability governance attributes in its evaluations to rank the top 100 firms to

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encourage corporations to implement sustainability governance processes at a firm level to improve sustainability reporting in Pakistan.

This research is not free from limitations. Firstly, this study employed cross-sectional data and focused on one developing country. Future research, therefore, could encompass a cross-country sample and longitudinal data to prove the broader applicability of these findings. Secondly, the results of this study are limited to CSR reporting made in stand-alone CSR reports and annual reports. Therefore, further research may address this issue by examining other sources of corporate communication such as websites and social media (e.g., Ali & Frynas, 2018; Helfaya & Moussa, 2017). Thirdly, this study employed the proportion of female directors on board to measure gender diversity and did not account for other measures such as age, educational level, and experience level (Helfaya & Moussa, 2017; Setó-Pamies, 2015). Therefore, future research could use these measures in examining the determinants of comprehensive CSR reporting. Finally, this research relied on limited measures of sustainability governance. Therefore, further research could develop an index by considering comprehensive sustainability governance factors, including board sustainability orientation and board diversity, to determine the composite impact of sustainability governance elements on comprehensive CSR reporting.

This study focuses on the effect of sustainability governance mechanisms on comprehensive CSR reporting and does not delve deeper into whether this reporting necessarily translates into meaningful CSR outcomes. A more thoughtful analysis of the link between governance attributes, reporting accuracy, and genuine CSR impact would add a valuable dimension to the sustainability literature. Therefore, future research needs to be targeted addressing the potential gap between reported CSR activities and their actual impact on sustainable development. This is particularly crucial in the context of developing countries, which are often perceived as high-risk areas in terms of sustainability practices by numerous NGOs. Further, future studies need to delve into the specific mechanisms by which sustainability governance attributes impact comprehensive CSR reporting and to investigate potential moderating effects of contextual factors to make a valuable addition to the existing literature.

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