



Journal of Management and Research (JMR)

Volume 9 Issue 1, June 2022

ISSN_(p): 2218-2705 ISSN_(E): 2519-7924

Journal DOI: <https://doi.org/10.29145/jmr>

Issue DOI: <https://doi.org/10.29145/jmr/91>

Homepage: <https://ojs.umt.edu.pk/index.php/jmr>

Article: **Influence of Corporate Governance on Sustainability Disclosure in Bangladesh**

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Article DOI: <https://doi.org/10.29145/jmr/91/05>

Article History: Received: October 14, 2020
Revised: December 07, 2021
Accepted: June 06, 2022
Published Online: July 19, 2022

Citation: Sarkar, S. H. (2022). Influence of corporate governance on sustainability disclosure in Bangladesh. *Journal of Management and Research*, 9(1), 122–153.
<https://doi.org/10.29145/jmr/91/05>

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A publication of the
Dr. Hassan Murad School of Management,
University of Management and Technology, Lahore, Pakistan

Influence of Corporate Governance on Sustainability Disclosure in Bangladesh

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Abstract

This research aims to investigate the relationship between an organization's corporate governance and sustainability disclosure in Bangladesh. The study further designates sustainability reporting disclosure practices. The study used content scrutiny of the yearly statement of 175 companies listed in Dhaka Stock Exchange (DSE) for the year 2018, applying determinants count procedure and ordinary least square (OLS) regression analysis. Findings revealed that the level of sustainability reported among the listed companies in Bangladesh is deficient. Board independence and audit independence have a positive relationship with sustainability reports, but the female members in the board, audit committee size, and corporate governance compliance index have a negative relationship with sustainability as reporting. The board size of the companies is not a significant determinant of sustainability reported. The use of content analysis method for the measurement of sustainability report considering the quantity and ignoring the quality of disclosure, data consideration for only one year may contain subjectivity matter from the researcher's perspective. Future research should be conducted based on content analysis with a mixed method to increase the quality. The findings of this study guided the essentials for step-up and the pursuance of corporate governance on sustainability exposure. This study contributes to works of literature on the association of corporate governance with sustainability disclosure.

Keywords: Sustainability disclosure, board characteristics, corporate governance, listed companies, Bangladesh

Acknowledgement: The article is part of the research project financed by Jatiya Kabi Kazi Nazrul Islam University, Trishal, Mymensingh-2224, Bangladesh.

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Introduction

At the beginning of the 1990s, Corporate governance received extensive consideration as a result of the discharge of CEOs and also at the beginning of the 2000s, after the vast bankruptcies of Enron and World.com, and it turns into a striking matter for Asian researchers, particularly later than the economic crisis in 1997 (Zabri et al., [2016](#)). Reports on Sustainability have become a more relevant matter in business and academics since the end of the 1990s (Hahn & Kuhnen, [2013](#)). United Nations Agenda 2030 and the directives of the European Parliament together with the council of the European Union[†] in recent times encouraged a noticeable improvement in sustainability, especially for larger companies or groups (Taliento et al., [2019](#)). Italian lawmakers convey the order on keen force with the governmental ruling No.254/16, which indebted the public-interest body to practice the non-financial information in the organisation's report (Fiandrino et al., [2019](#)). Promising to govern the company, corporate social responsibility (CSR), and the ecology is evident for the business to avert companies from the operations that may influence stakeholders' views positively (Buallay et al., [2020](#)).

Sustainability and CSR in the history of evolution are two different terms, but they have the same aim and objective in harmonising both communal and ecological economic responsibilities (Bhatia & Tuli, [2017a](#)). Sustainability includes sustainability, CSR and integrated information (Esch et al., [2019](#)). Companies can attempt to bring sustainable growth through implementing the triple bottom line report of CSR with the combination of ecological, communal, and financial parts (Wang, [2017](#)). There are some facilities, dares, and prospects of sustainability in corporate governance that reveals the attractiveness to integrate these element into organisational management (Jaimes-Valdez & Jacobo-Hernandez, [2016](#)). Amplifying business worth and sales, and enhancing company's goodwill are some of the advantages of sustainability and corporate governance (Jaimes-Valdez & Jacobo-Hernandez, [2016](#)).

The Board of directors plays vital roles such as setting strategies and formulating policies (Handajani et al., [2014](#)) and also formulating

[†] Directive n.2014/95/EU available in <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0095&from=FI>

acceptable practices of CSR (Frias-Aceituno et al., 2013) because policies are formulated by them (Fernandez-Feijoo et al., [2014](#)). They also take part in playing essential roles such as organising the business to determine and direct its profit maximisation considering the benefits of more stakeholders (Donaldson & Davis, 1991, as cited in Ismail & Latiff, [2019](#)). Policies made by the board of commissioners are expected not only to focus on short-range for income but also for long-standing corporate sustainability (Handajani et al., [2014](#)). The board of directors' role as the inside primary administration of a firm is vital for implementing any business (Mudiyansele, [2018](#)). There is an essential impact of corporate governance on sustainability and allied disclosures, and this has turned into a fastening dynamic dispute in modern business literature (Mudiyansele, [2018](#)). Corporate sustainability has grown consequently and led to financial expansion, ecological regulation-stewardship, and a drive for communal fairness and impartiality (Christofi et al., [2012](#)). Sustainability reporting practices are increasing due to precision which assumes that the published information afford nearly all comprehensive as well as an authentic picture of the potential positive and negative impact of companies operations (Boiral, [2013](#)).

Sustainability reporting allows benchmarking and assessment of a firm's performance to sustainable advances (Laskar & Maji, [2016](#)). Board diversity may reduce narrow views and enhance new ideas and better problem solving, including improvement of strategic planning and accountability of CSR implementation (Handajani et al., [2014](#)).

Fragile corporate governance of the board and its decision-makers resulted to the issues arising from the environmental, social, and governance (ESG) matters as seen today (Ismail & Latiff, [2019](#)). There are companies with a low level of awareness yet they benefit from the society, these companies will have ecological and social effects in the long run, and will also have a terrible impact on social and environmental sustainability (Saputra et al., [2017](#)). Industrialisation and business expansion without environmental compliance are significant causes of environmental pollution (Sarkar et al., [2020](#)).

It has been stated by most literature that Investors concentrate more on issues such as financial and non-financial as well as environmental, social, and governance as part of investment measures before deciding on any investment of a company (Ferrero-Ferrero et al., [2016](#); Ismail & Latiff, [2019](#)). Sustainability reports deliver valuable financial data with additional

information that assists the stakeholders to understand financial reporting properly (Swarnapali, [2019](#)).

Thus, it is crucial to discover that the characteristics of the corporate governance are directing the companies to voluntarily introduce sustainability information after the issuance of GRI G4 guidelines and how these are vital for sustainability disclosure in emerging economy countries like Bangladesh.

This study incorporates board diversity attributes such as board size, independent directors in the board, female directors in the board, audit committee size, and independent members in the audit committee, and corporate governance compliance practices as independent variables.

Literature Review and Hypotheses Development

Theoretical Review

Though the research on sustainability began in the 1990s whereas CSR articles began to appear in the 1970s (Bhatia & Tuli, [2017a](#)). Sustainability reporting covers the transformation of a green economy, eventually to a sustainable future by presenting readers with a comprehensive picture of a company's performance including ecological and social information along with financial performance (Bhatia & Tuli, [2017b](#)). Conventionally, materiality is one of the guidelines for financial reporting, however, there is more influential and a rising drive to apply a more extensive definition that will include disclosure of the perils and prospects posed by sustainability issues such as ecological transformation, human rights, and board accountability (Ribera, [2017](#)). Theoretical development is essential to the execution of the most outstanding performances of corporate governance to ensure sustainability (Jaimes-Valdez & Jacobo-Hernandez, [2016](#)). Agency theory put forward the role of boards' pursuance for observing the firms along with diminishing agency cost and information irregularity in corporate governance literature (Brennan & Solomon, 2008; Dalton et al., 2003; Hendry, 2005; Hillman & Dalziel, 2003; Roberts et al., 2005, as cited in Shamil et al., [2014](#)). On the other hand, stakeholder theory lays more emphasises on stakeholders' benefit through which business policies are executed to clarify firms' sustainability tactics and behaviours and this will become a practical approach to communal, ecological, and sustainability research (Wang, [2017](#)). Management provides a signal to its stakeholders through the information of the disclosure of sustainability practices as a

signaling theory to gain competitive advantages like the reduction of equity cost to better or easy financing (Cheng et al., 2014; Dhaliwal et al., 2011, as cited in Moses et al., [2020](#)). Moses et al. ([2020](#)), Aguilera et al. ([2008](#)) stated that a large number of studies that are connected to board governance were directed based on agency theory. Moses et. al. ([2020](#)) conducted research that brought to light the agency theory with legitimacy, stakeholder, critical mass, resource dependence, and Socio-Emotional Wealth (SEW) theories to show the connection between sustainability reporting quality and board attributes. The researchers tried to provide messages to its stakeholders considering the signaling theory, agency theory and stakeholders theory regarding the connection between attributes of corporate governance and sustainability disclosure.

Corporate Governance and Sustainability Disclosure

Board Size

Few researchers employed board size as a clarifying variable for the disparity in disclosure position of the corporate sector. Most of the studies (Bae et al., [2018](#); Giannarakis, [2015](#); Handajani et al., [2014](#); Hu & Loh, [2018](#); Lone et al., [2016](#); Mahmood et al., [2018](#); Majeed et al., [2015](#); Mudiyansele, [2018](#); Olayinka, [2021](#); Shamil et al., [2014](#); Wang, [2017](#)) showed a remarkable affirmative association between board size and CSR/sustainability exposure. Rao and Tilt ([2016](#)) recognised a statistically meaningful association between board size affiliation and sustainability/CSR exposure. Akhtaruddin et. al. ([2009](#)) confirmed a meaningful positive correlation between board size and voluntary exposure. Cancela et al. ([2020](#)) stated that the larger the board size, the fewer the agreement in the measures of performance. Tjahjadi et al. ([2021](#)) found that size has a positive consequence on economic performance, an adverse effect on communal, and no effect on ecological sustainability performance.

From this point of view, board size is likely to unveil more information on magnificent sustainability on which the first research hypothesis was proposed:

Hypothesis 1: Company's board size has a significant positive relationship with the degree of sustainability disclosure.

Board Independence

Most empirical research observed the connection between the board's independent member(s) and the extent of sustainability exposure. Some of

the studies (Akhtaruddin et al., [2009](#); Bae et al., [2018](#); Garcia-Meca & Sanchez-Ballesta, [2010](#); Hu & Loh, [2018](#); Mudiyansele, [2018](#); Ong & Djajadikerta, [2020](#); Ullah et al., [2019](#); Wang, [2017](#)) showed a meaningful affirmative association between the ratio/ number of independent board member(s) and the level of sustainability/ voluntary/ CSR disclosure. Ismail and Latiff ([2019](#)) showed a negative significant association between the independent member(s) in the board and sustainability disclosure. Barako ([2008](#)), Cucari ([2017](#)), Jizi ([2017](#)) and Lone et al. ([2016](#)) found that firms' CSR exposure/ disclosure is linked to the independent director. Rao and Tilt ([2016](#)) found an unclear influence of independent directors on CSR disclosure. Handajani et al. ([2014](#)), Olayinka ([2021](#)), and Shamil et al. ([2014](#)) found that board independence does not affect corporate social disclosure/ sustainability disclosure.

Though the conclusion is contradictory, i.e., either positive, negative, or no relationship of board independence to the level of sustainability reporting, most of the studies found a positive correlation between the variables—with the suppositions from the literature, a positive relationship was expected between the variables. Therefore, the second hypothesis was formulated based on the board independence of the company.

Hypothesis 2: Board independence has a remarkable affirmative association with the level of sustainability disclosure.

Female Director

Gender multiplicity is a vital issue for a successful application of corporate governance since it brings about unbiased and fair business judgment and also gears the firm's actions (Terjesen et al., [2009](#); Vafaei et al., [2015](#); Ismail & Latiff, [2019](#)). Many theoretical and empirical research has examined the relationship between the board's female member(s) and sustainability exposure. Anazonwu et al. ([2018](#)), Lone et al. ([2016](#)), Madaleno and Vieira ([2020](#)), Mahmood et al. ([2018](#)), Mudiyansele ([2018](#)), Nadeem et al. ([2017](#)), Olayinka ([2021](#)), Ong and Djajadikerta ([2020](#)), and Ullah et al. ([2019](#)) stated that there is an optimistic significant connection between the role of female directors in the board and sustainability/ CSR exposure. Argento et al. ([2019](#)); Handajani et al. ([2014](#)), Ismail and Latiff ([2019](#)), Majeed et al. ([2015](#)), and Shamil et al. ([2014](#)) explained that female member(s) in the board has negative connection with sustainability disclosure/ corporate social disclosure/ CSR disclosure in

companies. Barako (2008), Bear (2010), Fernandez-Feijoo et. al. (2014), and Harjoto (2015) found that when female members represent the board it significantly improves disclosure. Jizi (2017), and Rao and Tilt (2016) in their studies observed a potential influence of gender on CSR disclosure, and (Frias-Aceituno et al., 2013) the integrated dissemination of information. Khan (2010) found no crucial association between female members' participation in board and CSR disclosure. Cancela et al. (2020) stated that women are more conscious of the firm's performance.

There is either a positive or negative connection between female participation in the board and the extent of sustainability disclosure based on an inequitable guess from empirical studies. Therefore, the third hypothesis was formulated regarding the female director on the board of the company.

Hypothesis 3: Female director(s) in the board has a significant connection with sustainability disclosure volume.

Audit Committee Size

A few number of studies found a robust affirmative association of the audit committee with the level of voluntary disclosure (Ho, 2001), sustainability reporting disclosure (Wang, 2017), CSR disclosure (Said et al., 2017). Cancela et al. (2020) found that the audit committee rises safekeeping for more profitability.

The above empirical studies suggested a positive relationship between the audit committee's size and the quantity of sustainability disclosure. So, the fourth hypothesis was formulated based on the audit committee size of the company.

Hypothesis 4: The size of the audit committee has a significant positive relationship with the amount of sustainability disclosure.

Audit Independence

Buallay and Al-Ajmi (2019) identified a meaningful positive connection between independent members in the audit committee and sustainability disclosure.

Based on these presumptions from the above result, a positive link between audit independence and sustainability disclosure level is expected.

Thus, the formulation of the fifth hypothesis is based on the audit independence of the company.

Hypothesis 5: Audit independence has a significant positive link to the sustainability disclosure level.

Corporate Governance Practices

Amidjaya and Widagdo (2019), and Utamiet al. (2020) found a meaningful affirmative association of sustainability exposure with the company's governance. On the other hand, Dienes et al. (2016) found no statistically significant relationship between corporate governance practices and sustainability. Rashid (2018) found that there is no convincing corporate governance on a firm CSR's coverage.

Based on this contradictory conclusion, a positive significant relationship of corporate governance practices with the level of sustainability exposure is expected. Therefore, the sixth hypothesis was formulated based on the corporate governance practices of the business.

Hypothesis 6: Corporate governance practices have a notable association with the level of sustainability disclosure.

The independent variables, their brand, estimated symbols, and relationships are presented and described in Table 1.

Table 1

Independent Variables

Variable Labels	Variables	Description	Hypotheses	Expected Sign
SIZE	Board size	SIZE has a positive relationship with the sustainability disclosure	H1	+
IND	Independent members on board	IND affirmatively associated with the sustainability disclosure	H2	+
FEM	Female director(s) on the board	FEM associated with the sustainability disclosure	H3	+/-

Variable Labels	Variables	Description	Hypotheses	Expected Sign
AUDSIZE	Audit committee Size	AUDSIZE has a positive relationship with the sustainability disclosure	H4	+
AUDIND	Audit Independence	AUDIND affirmatively associated with the sustainability exposure	H5	+
CGCI	Corporate governance compliance index	CGCI has a relationship with the levels of sustainability disclosure	H6	+/-

The variables used in this study take into consideration of previous studies undertaken by other researchers. Six corporate governance attributes recognises board size (indicated by the number of directors in the board), board independence (indicated by the number of independent director(s) in the board), female director (proxied by the number of female member(s) in the board), audit committee size (proxied by the member(s) in audit committee), audit independence (proxied by the independent member(s) in the audit committee), and corporate governance practices (proxied by corporate governance compliance index). The above paragraphs justified taking into consideration the corporate governance trait chosen as explanatory variables.

The Methodology of the Study

The research is empirically based on secondary sources of data collected through content analysis of the number of determinants of the yearly report of Bangladeshi listed companies with Dhaka Stock Exchange (DSE).

Population and Sample

There were 316 companies listed in 2018 with Dhaka Stock Exchange (DSE), Bangladesh. Based on the Krejcie and Morgan table ([1970](#) cited in KENPRO), the research used 175 companies (175 samples for population

size 320) as a sample. Therefore, the sample includes 175 companies from 18 categories based on DSE classification as follows.

Table 2

Population and Sample

Categories	Population	Sample	Percent
Bank	30	23	76.67
Financial Institutions	23	13	56.52
Insurance	47	15	31.91
Pharmaceuticals and Chemicals	31	15	48.39
Jute	3	2	66.67
Textile	55	30	54.55
Cement	7	5	71.43
Services and Real Estate	4	3	75.00
Foods & Allied	17	9	52.94
Tannery Industries	6	4	66.67
Engineering	38	19	50.00
Ceramic Sector	5	4	80.00
Fuel and Power	19	14	73.68
Telecommunication	2	2	100.00
IT Sector	9	3	33.33
Paper and Printing	3	2	66.67
Travel & Leisure	4	3	75.00
Miscellaneous	13	9	69.23
Total	316	175	55.38

*Source (DSE Website and own calculation)

Measurement Procedure

Different measurement procedures were used to assess the level of sustainability disclosure practices by earlier researchers. Akter et al. (2018), and Molla et al. (2019) used content analysis to collect data on sustainability disclosures from the one-year annual report and websites. Bhatia and Tuli (2017a), Bhatia and Tuli (2017b), Boiral (2013), and Ong and Djajadikerta (2020) used content analysis. Dissanayake et al. (2019) used word count content analysis for measurement procedure. Ferri (2017) used content analysis of a seven-point Likert scale. Haladu and Salim (2017), and Hossain (2017) used content analysis applying disclosure checklist a score of 1 awarded if an item is reported; otherwise, 0 assigned by browsing the sample companies' websites.

Aktas et al. (2013), Bhatia and Tuli (2018), Ching et al. (2013), and Ching et al. (2017) used content investigation following the GRI framework. Alam et al. (2018) measured the level of sustainability reporting practices according to the GRI G-3/3.1, reviewing annual reports, and results were shown as full disclosure, partial disclosure, and no disclosure. Laskar and Maji (2018) used content examination according to GRI 3 and 3.1 frameworks to measure the exposure level of corporate sustainability performance. Akhter and Dey (2017) used content analysis techniques to analyse sustainability disclosures in the annual report and website based on GRI G4 guidelines. Laskar (2018) used content investigation (binary 0 and 1) to compute the disclosure volume of sustainability performance, considering the GRI setup.

Argento et al. (2019) used content analysis to develop a sustainability disclosure index. Atan et al. (2016) used content assessment of the yearly plus stand-alone statement to establish a modified index. Content analysis is a tool for extracting numeric forms of information being used extensively in social sciences research from published documents (Laskar & Maji, 2016). Szekely and Brocke (2017) used semi-automated text-mining techniques, whereas Nur et al. (2016) used the UN Global Compact framework for sustainability reporting to measure sustainability disclosure. Ismail and Latiff (2019) used Thomson Reuters ESG scores of listed companies.

This study considered content investigation of the yearly report using the 2018 report to compute determinants of sustainability disclosure. The yearly reports are considered as a source of data because of its legislation, there is an obligation to produce regularly all listed companies so that it will be easy to make relative comparisons (Tilt, 2001, as cited in Akbas, 2014).

Data Analysis Techniques

This study used descriptive statistics to determine the stage of sustainability exposure in the corporate sector in Bangladesh. In contrast, the ordinary least square (OLS) regression model applied using multiple regression techniques to examine relationships between corporate governance and the intensity of sustainability disclosure.

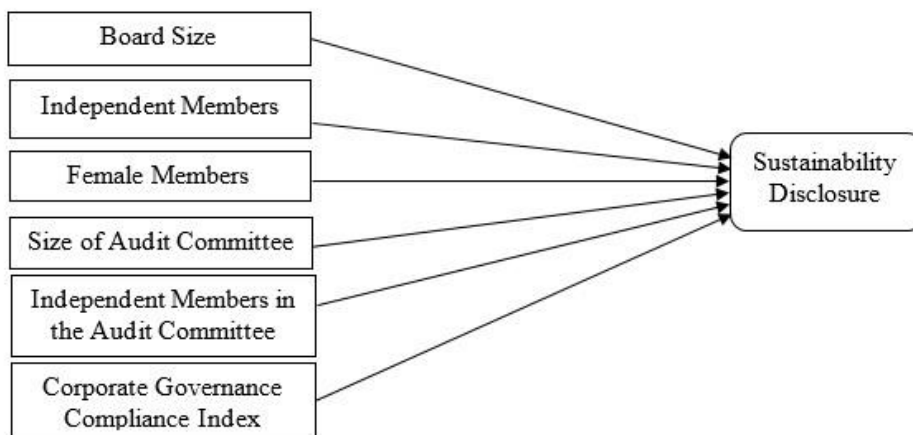
Dependent and Independent Variables

The number of determinants disclosed in the yearly sustainability report (economic, environmental, and social) is determined by its sustainability

disclosure score (SDS) as a dependent variable for each of the companies studied. In the process, the researcher counted the number of determinants disclosed on economic, social and environmental aspects at any place of the company's annual report by using content analysis. Determinants count was implemented as a means of the message with a whole meaning. Dissanayake et al. (2019) used the number of determinants as dependent variables in their research on sustainability reporting in the context of Sri Lanka. Moreover, Ufere et al. (2017) used the number of determinants to collect environmental disclosures from a one-year annual report in Malaysia, whereas Abubakar (2017) used the number of determinants to collect environmental exposures in Nigeria. Independent variables are taken through the review of the literature. Figure-1 shows the association of independent and dependent variables.

Figure 1

Independent and Dependent Variable



*Source (Author)

Multiple Regression Models

Multiple linear regression models developed for the study thus; -

$$SDS_i = \alpha + \beta_1 SIZE_i + \beta_2 IND_i + \beta_3 FEM_i + \beta_4 AUDSIZE_i + \beta_5 AUDIND_i + \beta_6 CGCI_i + \varepsilon_i$$

SDS= quantity of sustainability exposure in 2018 (Total determinants on sustainability in the yearly report of the company)

α = intercept

SIZE: board size of the company (number of members in the board of directors)

IND: independent member(s) in the company's board

FEM: female member(s) in the company's board

AUDSIZE: company's audit committee size (members in the audit committee)

AUDIND: independent member(s) in the audit committee of the company

CGCI: corporate governance compliance index of the company

ε = the error term

Data Analysis and Results

The result section of the study is presented and discussed in three parts. In the first part, univariate statistics of the variables are presented in the table with a brief description. In the second part, the Pearson correlation matrix was employed to test the relationship among variables. In the last part, an ordinary least square regression model was tested and presented.

Descriptive Statistics

Table 3 presents univariate statistics of independent and dependent variables, i.e., mean, median, mode, standard deviation, minimum and maximum. Measures of skewness and kurtosis were also presented.

The mean value of SDS is 88.26, with a vast volume of deviation (SD 118.43, minima 4, and maxima 720) among companies. The result indicated that the deviation of disclosure on information sustainability in the annual report of the companies under this study is large. Table 3 also illustrated that the mean SIZE is 9.59 (median 9.00 and mode 5) with a high volume of deviation (standard deviation 4.034 and range 17), which is comparable (mean 7.77) to the result of Shamil et al. (2014) and (mean 8.135) found in the study of Mudiyansele (2018) in Sri Lanka. The mean of IND is 2.09 (median 2.00 and mode 2) with a high volume of deviation (standard deviation 0.899 and range 6). It should be mentioned here that the study found only 22 percent of the board members as independent whereas 39 percent in the work of (Shamil et al., 2014) and 42 percent

(Mudiyansele, [2018](#)) in Sri Lanka. The mean of the FEM on the board is 1.57 (median 1.00 and mode 0) with a high volume of deviation (standard deviation 1.566 and range 8). It should also be mentioned that the female involvement under this study is superior (16.37 percent) in Bangladesh than (8 percent) in Sri Lanka (Mudiyansele, [2018](#)). The mean of AUDSIZE is 3.99 (median 4.00 and mode 4) with a high deviation (standard deviation 1.202 and range 9), mean of AUDIND is 1.39 (median 1.00 and mode 1) with a high volume of variation (standard deviation 0.66 and range 4), and the mean of CGCI is 82.28 with a standard deviation of 10.06.

Table 3

Descriptive Statistics of Dependent and Independent Variables

Variable	Obs.	Mean	Med.	Mode	Std. Dev.	Min.	Max.	Skew.	Kurt.
SDS	175	88.26	45.00	12	118.43	3	720	2.885	9.849
SIZE	175	9.59	9.00	5	4.034	4	21	.948	0.270
IND	175	2.09	2.00	2	.899	0	5	1.212	2.817
FEM	175	1.57	1.00	0	1.566	0	8	1.219	1.700
AUDSIZE	174	3.99	4.00	4	1.202	0	9	0.265	4.071
AUDIND	174	1.39	1.00	1	0.66	0	4	0.593	0.952
CGCI	175	82.28	84.94	89.16	10.06	41.57	100	-.721	0.878

Correlation Matrix

Table 4 demonstrates the Pearson correlation matrix of the independent and dependent variables. The correlation analysis indicated that size of the board and independent board members have a maximum (0.552) correlation coefficient among the independent variables. There is no intolerable limit of multicollinearity among the independent variables. Farrar and Glauber (1967, as cited in Akbas, [2014](#)) recommended that the correlation coefficients of 0.8 to 0.9 among independent variables should not be detrimental.

Table 4*Pearson Correlation Matrix*

Variables	SDS	SIZE	IND	FEM	AUDSIZE	AUDIND	CGCI
SDS	1						
SIZE	.303	1					
IND	.516*	.552**	1				
FEM	-.051*	.370	.179	1			
AUDSIZE	.044*	.296	.209	.031	1		
AUDIND	.442*	.141	.405	-.084	.246	1	
CGCI	-.311*	-.247	-.120	-.116	-.072	-.130	1

*Significant at the 0.05 level (2-tailed) of significance

**Highest correlation coefficient between independent variables

*Source (Analysis of data collected using content analysis of annual reports)

The analytical result indicated that the level of sustainability disclosure is, as expected, positively correlated to IND and AUDIND, whereas negatively correlated to FEM. The level of sustainability disclosure is negatively correlated, contrary to the expectation, with AUDSIZE and CGCI at the 5 percent significance level. However, the SIZE is not statistically interconnected to the level of sustainability disclosure, conflicting its future.

Regression Results

Table 5 shows the estimated value of the company SIZE 2.734, and its t-value is 1.176 with a p-value of 0.241, the estimated value for IND is 51.009, and its t-value is 5.012 with p-value 0.000, the estimated value for FEM is -11.799, and its t-value is -2.426 with p-value 0.016, the estimated value for AUDSIZE is -13.950, and its t-value is -2.230 with p-value 0.027, the estimated value for AUDIND is 47.259, and its t-value is 3.896 with p-value 0.000, the estimated value for CGCI is -2.777, and its t-value is -3.842 with p-value 0.000. Statistical results indicated that IND and AUDIND have a meaningful statistical positive relationship with sustainability disclosure.

In contrast, FEM, AUDSIZE, and CGCI have a remarkable pessimistic statistical association with sustainability disclosure at a five percent level of significance. However, SIZE has no significant statistical relationship with sustainability disclosure. Since the variance inflation factor (VIF) values are <two, independent variables do not have multicollinearity. The result of the correlation matrix found no variable with a higher correlation in the data set. The Durban Watson test statistical value is 1.347, which lies within the standard series of 1.0 to 2.5. Field (2009) put forward that values below one or over 3 are a matter of anxiety. So, the result indicated that there is no autocorrelation. Figure-2 shows a typically distributed data set. The R^2 value for this model is 0.420, and the $AdjR^2$ value is 0.399, which implies that the predictor variables explain about 42.0 percent of the entire disparity by R^2 and about 39.9 percent of the absolute deviation by $AdjR^2$.

Table 5

Result of OLS Regression Showing the Link Between the Level of Sustainability Information and Governance of the Company

Model	Regression Coefficients	t-value	P-value	Collinearity Statistics	
				Tolerance	VIF
Intercept	192.730	2.737	.007		
Board size	2.734	1.176	.241	.554	1.806
Board Independence	51.009	5.012	.000	.582	1.719
Female director(s)	-11.799	-2.426	.016	.839	1.191
Size of audit committee	-13.950	-2.230	.027	.866	1.155
Audit independence	47.259	3.896	.000	.763	1.310
Corporate governance compliance index	-2.777	-3.842	.000	.923	1.083

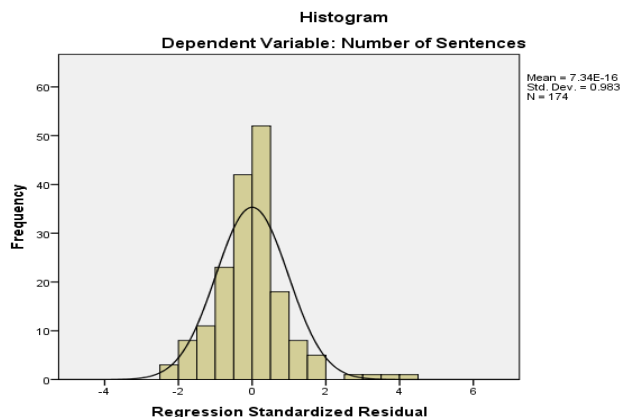
Model	Regression Coefficients	t-value	P-value	Collinearity Statistics	
				Tolerance	VIF
R-Squire	.420				
Adjusted R-Squire	.399				
Durbin-Watson	1.35				
F-statistic	20.125				
p-value of F-statistic	.000				

a. Dependent Variable: Number of sentences

*Source (Regression coefficient of data)

Figure 2

Histogram



Discussion

This study investigated the connection of sustainability exposure with attributes of corporate governance using secondary sources of data collected from content investigation of the 2018 yearly statement of 175 companies listed in the DSE Bangladesh. The determinants employed to quantify the extent of sustainability disclosure in this study are six corporate

characteristics considered as independent variables based on previous literature.

The mean disclosure of sustainability information is 88.26 with a high deviation (standard deviation 118.43 and range 716). The mean of the SIZE is 9.59 with a median of 9, and mode 5, mean of IND is 2.09 with median and mode 2, mean FEM of the selected companies is 1.57 with median 1 and mode 0, mean of the size of the audit committee is 3.99 with median and mode 4, and mean of AUDIND is 1.39 with median and mode 1. The mean CGCI of the selected companies is 82.28, with a standard deviation of 10.06.

The correlation matrix shows that the multicollinearity is not at an intolerable limit among the independent variables because the uppermost coefficient value of the independent variables is 0.552 between the board size and independent members in the board.

The result from the regression computed indicated that five out of six hypotheses are supported. The empirical result means that IND (hypothesis 2) has a positive statistical association with a degree of sustainability exposure as expected. Hypothesis 2 specified that the board comprises more independent directors influencing the company to disclose a large volume of sustainability information in their annual reports. This findings is similar to the previous results of Akhtaruddin et al. (2009), Garcia-Meca and Sanchez-Ballesta (2010), Mudiyansele (2018), Ong and Djajadikerta (2020), and Wang (2017). The empirical result also found that AUDIND (hypothesis 5) has a statistically significant affirmative connection with the size of sustainability disclosure as expected. The results indicated that companies' audit committee have more independent auditors who discloses a higher quantity of sustainability information in their annual reports, which is similar to the result of Buallay and Al-Ajmi (2019).

The statistical result in (hypothesis 3) confirmed that FEM has a noteworthy negative statistically affiliation with the extent of sustainability exposure. The outcome indicated that the companies disclose a higher quantity of sustainability information in their annual reports, the boards are composed of a lower number of female members and this is in line with the studies of Argento et al. (2019), Handajani et al. (2014), Ismail and Latiff (2019), Majeed et al. (2015), and Shamil et al. (2014).

On the other hand, the AUDSIZE (hypothesis 4) is contrary to expectation, it has a negative affiliation with the extent of sustainability exposure and this indicate that the companies unveil a lower quantity of sustainability matter in their annual reports; especially those with large size of the audit committee. CGCI (hypothesis 6) is also contrary to the expectation, indicating a negative significant connection to the volume of sustainability disclosure. The results of hypothesis 6 indicated that the companies disclose a lower quantity of sustainability information in their annual reports; those with high CGCI.

Hypothesis on SIZE (hypothesis 1) has a positive statistical insignificant relationship. The result indicated that SIZE has a statistically insignificant connection with the level of sustainability disclosure—this is supported by the work of Rao and Tilt (2016).

Theoretical and Practical Implications

This is one the studies that advances the relationship between corporate governance and sustainability disclosure in Bangladesh. Among available literatures, we found that this is one pioneer study that shows the relationship between corporate governance and sustainability disclosure on listed companies in Bangladesh. The study results indicated that corporate governance influences sustainability reporting because board independence and audit independence have positive relationships with sustainability disclosure. Female directors, the size of the audit committee, and corporate governance have a negative significant relationship with sustainability reporting. If the shareholders of the companies appoint more independent directors in the board and more independent members in the audit committee, it will enhance sustainability disclosure. The study enriched the knowledge area on the association of corporate governance with sustainability exposure in Bangladesh, owing to this type of research mainly conducted in developed countries. It is also expected that the study provides valuable guidelines to policymakers and practicing authorities to implement corporate governance as a weapon to increase voluntary disclosure like sustainability disclosure to legitimate stakeholders. The research may open an avenue of sustainable development through more investment in the country's corporate sector by implementing corporate governance and sustainability reporting absolutely to ensure transparency, accountability, faithfulness, and reliability of the stakeholders.

Bhatia and Tuli ([2017b](#)) suggested that developing countries enthused from developed countries on practicing sustainability exposure and frame up a separate set of disclosure principles considering their constraints of financial resources, educational levels, stakeholder awareness, and other requirements. Buallay ([2020](#)) found that sustainability exposure affirmatively persuades the operational, economic, and market performance in the manufacturing segment and negatively influences the banking division. Petrescu et al. ([2020](#)) opined that the sustainability statement, on one hand is a mechanism to uphold business enterprise and, conversely, make information available to existing and potential investors, consumers, and other concerned parties about substantial impact of the enterprise's activity on civilisation and the ecology. Dhaka Stock Exchange (DSE, [2019](#)) stated that the GRI Sustainability Reporting Standards help companies convene transparently and consistently. Ioannou and Serafeim ([2011](#)) explored that obligatory exposure of sustainability information directly augment social responsibility of business, a prioritisation of sustainable growth with trained employees, efficient supervision of management, an increase in the execution of moral practices by firms, diminished bribery and corruption, and a step-up of administrative trustworthiness within the society.

Proper implementation of sustainability reporting can fulfill the state of agency theory and stakeholder theory by ensuring financial, communal, and ecological compliance and accountability. This is because sustainability reporting requirements all mentioned issues. Agency theory facilitates the implementation of various governance instruments to control the agents' acts in corporations (Panda & Leepsa, [2017](#)). Stakeholder theory suggests that the satisfaction of all who have stakes in the company should be taken into consideration (Ademola, [2014](#)).

Conclusion

The immense importance of the earth, ecology, resources, society, human rights, and welfare is directed to the concept of sustainability and sustainability reporting. Sustainability originated from the thinking of future generations at the time of consumption and practices by the present generation. Awareness of sustainability reporting was popular afterward at the United Nations General Assembly (UNGA) in 1987 (Ong, [2016](#); Moses et al. [2020](#)). In the era of globalization, technological development, urbanization, and rapid industrialization of the world is transforming from

natural systems to artificial platforms. The revolution consumes more natural resources to create artificial facilities and improper practices of emission leading to increased environmental degradation. In the capitalist economy, private ownership encourages malpractices of the uses of natural resources, labor practices, human rights, society, product responsibility, and customer privacy to earn more profit, leading to violation of human rights and welfare, less concentration on social services. In the changing world especially in the corporate sector, the board responsibility has been shifted from stockholders to the stakeholders and requires more attention beyond traditional responsibility. Keeping an eye on the above issues, the study examines the effect of corporate governance attributes to the sustainability disclosure of the DSE listed companies in Bangladesh using secondary data collected from content analysis of 175 companies' annual reports. Statistical results indicated that board and audit independence were found positive whereas the number of female directors, size of the audit committee, and corporate governance compliance practices have a negative and significant relationship with sustainability disclosure.

Limitations and Future Research

Mentionable limitations of the study include that research is based only on one-year data collected from annual reports of selected Bangladeshi companies, this quantity is without the consideration of the quality of disclosure considered. The future research should be conducted and gaps such as longitudinal data, quality of the disclosure, annual reports, and other company publications as data sources should be considered to overcome these limitations. There is plenty of research to determine the relationship between corporate governance and sustainability exposure of the companies in the south Asian countries.

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