FACTORS AFFECTING THE SUSTAINABILITY REPORTING: EVIDENCE FROM BANGLADESH

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ABSTRACT

Background: Sustainable corporate reporting becomes a burning issue in the world but literature in the context of a developing country is still in the take-off stage. Purpose: The study is conducted to add value in sustainability literature by exploring the factors influencing sustainable corporate reporting in developing country context. Methodology: A sample of 40 listed companies of DSE has been considered to examine the effect of board characteristics and organisational characteristics on sustainability reporting. An un-weighted index based on GRI has been developed. Results: It has been found that the age of the company, earning per share and foreign members on board have a significant positive impact on sustainability reporting while for the other variables we do not found any significant association. Conclusion: The outcome of the study will help the corporate peoples to dungeon their concentration on factors stimulating to perform sustainable activities and encourage them to disclose more sustainable information.

KEYWORDS: Sustainable Reporting, Board Characteristics, Corporate Characteristics & Sustainable Development

INTRODUCTION

Sustainability reporting becomes a popular and widespread issue in the last decades due to change in reporting framework and response from different stakeholders, accordingly the study attempts to synchronize the literature of corporate social, environmental and financial reports of the organization (Jones, Hillier, & Comfort, 2016; Kuzey & Uyar, 2017; Uyar, 2017). Corporate sustainability is a way of operating the business organizations that ensure the optimization of the wealth of the organizations and its stakeholders without hampering the prospective social, environmental and other resources (Dyllick & Hockerts, 2002; Yu & Zhao, 2015). Corporate sustainability ensures both the commitments of an organization towards the voluntary social and environmental activities outside the core business and the optimization of regular business performances. In addition, it also includes social issues beyond direct stakeholder pressures and fundamental business issues (Schaltegger, Etxeberria, & Ortas, 2017). Several global sustainability framework namely, Global Reporting Initiative (GRI), World Business Council for Sustainable Development (WBCSD), SIGMA project, the Global Compact, Carbon Disclosure Project etc. concerning to the harmonization of sustainability reporting provide continuous and consistent guidelines for the development of unique disclosure of sustainability reporting for the last three decades (Siew, 2015). The application phase of these frameworks is still on the way of extensive consideration. All of these frameworks have their pros and cons, thus
provide ample research opportunities in the field of sustainability reporting.

Sustainability comprise three different types of dimension, which are economic activities, social responsibilities and environmental responsibilities (Figge, Hahn, Schaltegger, & Wagner, 2002; Lozano & Huisingh, 2011; Zhen et al., 2005). According to sustainability reporting framework 2.0, these three dimensions are interconnected and may occur trade-off between those (International Federation of Accountants, 2011). Likely, the trade-off between social responsibility and environmental responsibility leads to a higher level of trust and belongingness among employees, communities and other stakeholders. Those elements are not separate from economic activities as well as business entities have continuous involvement with other stakeholders. In the course of business, an organization has to deal with different stakeholders and need to ensure their interest through social and environmental responsibility.

Although the literature of sustainability reporting advances in the developed country, it requires tremendous effort to adopt it in the developing countries due to lack of expertise and cost associated with practice (Aktas, Kayalidere, & Kargin, 2013). Previous studies on sustainability have mostly conducted on developed countries or on a global scale (Kuzey & Uyar, 2017). It will be a remarkable task to generalize the findings of the developed countries to the developing countries. According to (Masum, Uddin, Ahmed, & Uddin, 2019), the culture, enforcement of laws, norms and ethics in a developing country are divergent, even most of the cases it depends from country to country. Developing countries like, Bangladesh has very little advancement in the literature of sustainability reporting even in social responsibility, environmental responsibility and corporate social responsibility reporting (Ali, Frynas, & Mahmood, 2017; Masum, Fakir, & Hussain, 2017; Masum, Uddin, et al., 2019). Obviously, these will pave the way of substantial research opportunity in the field of sustainability reporting and encourages the emerging research opportunity in financial reporting literature. This study has been conducted to explore the factors influencing sustainable corporate reporting in developing country context. The outcome of the study will help the corporate peoples to dungeon their concentration on factors stimulating to perform sustainable activities which consequently lead to the sustainable development of the economy of the country. The second section of the study entails literature of sustainable reporting in developed and developing countries along with respective hypothesis. Section three of the study includes details of the samples, variables and their measurement and model summary. Section four depicts the findings and analysis of the study and last section includes a conclusion and future scope of sustainability research.

LITERATURE REVIEW

The literature of corporate sustainability reporting is comparatively a new and emerging issue in reporting literature (Hohnen, 2012). While the traditional environmental reporting only includes the environmental aspects of reporting, the sustainable reporting includes environmental problems as well as social issues, like labor practices, human right, community, corruption and economic issues (Hohnen, 2012; Khan, 2015). Sustainable reporting becomes an expanding issue since the introduction of the concept of sustainable development launching in the late 1987s by the United Nation’s Brundtl and. In 1992, the Business Council for Sustainable Development also mentions the necessity for corporate sustainability in the book Changing Course. Subsequently, the global economic crises in the last two decades compel the corporate people to disclose more non-financial information along with the financial information, as the non-financial information pave the long run operating smoothness of the business entities (Masum et al., 2017). The termination of several large organization raises questions about the corporate governance and corporate sustainability of the organizations worldwide. In addition, now-a-days, the business entities are more accountable, in term of their financial activities, social activities as well as environmental activities towards
the stakeholders of the business (Hasan & Huq, 2010; Masum & Hoque, 2014).

Due to the glass house concept of business, every activity of the business entity becomes visible to the stakeholders and the consumers and investors keep their close eyes not only on the financial achievements of the business but also on the social contribution, the environmental contribution of the organization (Masum et al., 2017). Frankincense, besides the regular acceleration of the operating reports of the organization, the stakeholders of the organizations also want to see how the organization deals with various social and environmental issues affected by them (Amran & Keat Ooi, 2014). Now a days the stakeholders of the organizations are more aware and emphasize on corporate sustainability, and they want to see whether the organization play its role in sustainable development. In the same way, the core peoples concerned to the organization like the employee and consumers search the organizational information to take their optimum decision (Eccles & Saltzman, 2011). One of the significant modes to provide information to the stakeholders in corporate reporting. The business people are inherently obliged to disclose more information in their reporting due to numerous reasons like-protecting brand, reputation and transparency in reporting (Amran & Keat Ooi, 2014).

Sustainability reporting culture in Bangladesh is very new and emerging issues and a very few listed companies in Bangladesh grab the concept of sustainability reporting in either a standalone form or composite form. Mahmud, Biswas, and Islam (2017) have conducted a study to assess sustainability reporting practices in Bangladesh. They have taken the data from the DSE listed companies, especially listed bank and the study covers the period from 2011 to 2015. It was found that only eight listed commercial banks publish the sustainability report out of thirty DSE listed bank. All the sustainability reports were prepared by following the GRI guidelines and complied very little with the guideline of the GRI. So it added another research paradigm to the sustainability literature in developing country. It becomes a massive research opportunity to identify the factors which stimulate the companies to adopt the sustainability reporting and the determinants of sustainability reporting. Several studies have been conducted to explore the factors assumed most crucial to publish sustainability reporting (Kuzey & Uyar, 2017). It becomes a major challenge to identify the factors both internal and external which significantly influenced the sustainability reporting (Ali et al. 2017). Especially the enthusiastic involvement of the top management puts a pivotal role to go for high-quality sustainable reporting (Hasan & Rahman, 2017; Schaltegger & Burritt, 2017). Thus, the board characteristic is essential to prepare a good quality sustainability report. Based on the above discussion, two factors, namely, board characteristics and corporate characteristics are selected as the independent variables in the study in order to measure their influences on the application of sustainability reporting. Thus, the following hypotheses are tested throughout the study:

- Board Characteristics has a significant positive relationship with sustainability reporting.
  
  Hypothesis 1.1: Board size has a significant positive relationship with sustainability reporting.
  
  Hypothesis 1.2: Foreign members on Board have a significant positive relationship with sustainability reporting.

- Corporate Characteristics has a significant positive relationship with sustainability reporting.
  
  Hypothesis 2.1: Age of company has a significant positive relationship with sustainability reporting.
  
  Hypothesis 2.2: Return on Assets has a significant positive relationship with sustainability reporting.
  
  Hypothesis 2.3: Log of Assets has a significant positive relationship with sustainability reporting.
**Hypothesis 2.4**: Debt-Equity ratio has a significant positive relationship with sustainability reporting.

**Hypothesis 2.5**: Earning Per Share has a significant positive relationship with sustainability reporting.

**RESEARCH METHODOLOGY**

**Sample Design**

To achieve the objectives of the study, we have collected samples from the Dhaka Stock Exchange (DSE) listed companies, the largest stock market in Bangladesh. There are 578 listed companies on 22 broad chunks of industry listed on DSE as of 1st November 2018. For our study, we have excluded some of the industries namely, treasury bond, mutual funds, Bank, insurance, financial institutions, and serving industry as their formation and reporting are highly customized and some of the previous studies are also excluding them (Ahmad, Rashid, & Gow, 2017; Bhatia & Tuli, 2017; Hasan, Molla, & Khan, 2019; Hasan & Rahman, 2020; Uwuigbe, Eluyela, Uwuigbe, Obarakpo, & Falola, 2018). Out of the selected industries, some of the companies do not publish regular annual reports (as they are categorized “Z” by DSE) and most of the companies do not publish substantial information on sustainability on their annual reports. Thus, for a total population of 192 companies we have selected 40 samples which are available at the time of the study (approximately 21% of the population). Previous study of sustainability reporting in developing countries (Akhter & Dey, 2017; Khan, Azizul Islam, Kayeser Fatima, & Ahmed, 2011; Rahman Belal & Momin, 2009; Uwuigbe et al., 2018) also used the similar sample size. As we have mentioned that sustainability reporting has a take-off stage in a developing country (Aktas et al., 2013), the volume of sustainability information on the annual report is still scarce. The details of the sample size and population are given in table 1.

| Name of the Industry       | Population (N) | Random Sample (n) |
|---------------------------|----------------|-------------------|
| 1 Cement                  | 7              | 2                 |
| 2 Ceramics Sector         | 5              | 2                 |
| 3 Engineering             | 36             | 6                 |
| 4 Food & Allied           | 18             | 4                 |
| 5 Fuel & Power            | 18             | 4                 |
| 6 IT Sector               | 8              | 2                 |
| 7 Jute                    | 3              | 1                 |
| 8 Paper & Printing        | 2              | 1                 |
| 9 Pharmaceuticals & Chemicals | 29         | 6                 |
| 10 Services & Real Estate | 4              | 1                 |
| 11 Tannery Industries     | 6              | 2                 |
| 12 Telecommunication      | 2              | 1                 |
| 13 Textile                | 50             | 7                 |
| 14 Travel & Leisure       | 4              | 1                 |
| **Total**                 | **192**        | **40**            |

*Sources: Websites of DSE visited on 30.06.18*

**Variable Design**

To execute the study, sustainability reporting score has been used as the dependent variable. We have used content analysis to measure the sustainability reporting of the selected samples. Content analysis is a widely accepted techniques to measure the sustainability reporting performance over the years (Ahmad et al., 2017; Bhatia & Tuli, 2017; Jones et al., 2016; Uwuigbe et al., 2018). By using the content analysis the researchers can make valid inferences from data to their respective context (Krippendorff, 1989). Moreover, it includes both qualitative and quantitative methods in converting information from the annual reports to measurable scores (Gery Djajadikerta & Trireksani, 2012). An un-weighted disclosure index based on
Global Reporting Initiative (GRI) guidelines has been used to determine the sustainability score of the study as GRI framework is used mostly all over the world (Bhatia & Tuli, 2017; Daizy, 2014; Lock & Seele, 2016; Siew, 2015). Therefore, to select the contents of the disclosure index, we have to consider both the GRI guidelines and the cultural context and operating atmosphere of the materials (Aktas et al., 2013). By discussing these issues, we have followed the disclosure index prepared by Bhatia and Tuli (2017) based on GRI to determine the sustainability score of Indian companies, as the cultural context and operating atmosphere of the South Asian region are similar. In addition, total of 75 contents of the disclosure index have been finalized after being scrutinized by the sustainability experts in Bangladesh.

Eventually, we have determined the sustainability score by applying the three level (GRI, previous literature, experts’ opinions) cross checked contents of the disclosure index. List of the contents of GRI index are given on appendix: 1 which presents all 75 discloser contents. If any company disclose any one of the contents on its annual report, it gets one otherwise zero for that contents. Thus, the maximum possible score for each selected sample can be obtained seventy-five (75). After that for better understanding and comparability, the relative CSR scores for each selected sample has been determined by using the following formula:

\[ \text{Sustainability score of each sample} = \left( \frac{f}{\sum f} \right) \times 100 \]

Where,

- \( f \) = frequency or the actual value of each sample company (0 or 1)
- \( \sum f \) = Sum of total frequency or maximum sustainability score of each company

Independent variables of the study are selected on the basis of previous sustainability literature. To measure the corporate characteristics, Earning per Share, Return on Asset (ROA), debt-equity ratio, a log of assets and age of company has been used as proxy variables whereas the board size and foreign board members has been used as a proxy of board characteristics (Abdulsamad, Yusoff, & Lasyoud, 2018; Assenga, Aly, & Hussainey, 2018; Hasan et al., 2019; Hasan & Rahman, 2017). Numerous researchers (Ameer & Othman, 2017; Chau & Gray, 2010; Huafang & Jianguo, 2007; Omar & Simon, 2011; Uyar & Kılıç, 2012a) have used the leverage ratios as the proxy of corporate characteristics. Debt Equity ratio has been used as a leverage ratio which is determined by scaling the total debt by the total assets(Abdulsamad et al., 2018; Hasan & Rahman, 2017; Huafang & Jianguo, 2007). Amount of assets has been used as another corporate characteristic. For the homogeneity of the assets, this study applied a log of asset which has also been used by Lassaad and Khamoussi (2012), Othman, Darus, and Arshad (2011). The EPS is used as another proxy variable of corporate characteristics, which is reported as per the international accounting standard (IAS) 33 (International Accounting Standards Board, 2008), on the annual report of the respective company. Age of the company has been determined by considering the duration between the year of incorporation of the company and the year of publishing the sustainable report and annual report. Return on an asset which is measured through dividing the reported net income by the total asset, has been taken from the published annual report of the respective company. Board size and foreign members on board are used as the proxy of board characteristics which are determined on the basis of total number of members on the board and proportion of foreign members on the board (Ameer & Othman, 2017; Assenga et al., 2018; Hasan & Rahman, 2017).
Figure 1: Model Summary.

Model Summary

\[
\text{SUS\_Score}_t = \alpha + \beta_1 \text{Age}_t + \beta_2 \text{L\_Assets}_t + \beta_3 \text{ROA}_t + \beta_4 \text{EPS}_t + \beta_5 \text{D/E ratio}_t + \beta_6 \text{B\_size}_t + \beta_7 \text{B\_F\_members}_t + \mu
\]

Where,

- SUS\_Score = Sustainable reporting score
- Age = Age of the company
- L\_Assets = Log of total reported assets
- ROA = Return on equity
- EPS = Earnings per share
- D/E ratio = Debt equity ratio
- B\_size = Board size
- B\_F\_members = Foreign members on board

RESULTS AND DISCUSSIONS

Descriptive Statistics

Like the other sustainability study conducted on Bangladeshi company (Akhter & Dey, 2017; Khan et al., 2011), we have found that the quality of sustainability reporting is not good (see table 2) as its maximum possible score is 75, whereas the mean sustainability score is only 11.13 with a standard deviation of 6.36. This results implies that the disclosures on sustainability information of the sample companies are varied a lot. And we have found that some of the companies a have sustainability score of only “1” which demonstrate the vulnerable picture of corporate sustainability disclosure practices of the country. On the other hand, the maximum sustainability score is 26, which is below 35% of the possible score. This findings is similar to the findings of Masum, Uddin, et al. (2019) who also found very low CSR disclosures on their annual report. Further, a study on climate change reporting based on the annual report, Masum, Hassan, and Jahan (2019) also found minimal corporate climate disclosures in Bangladesh. It is also interesting that, about 16% of the board members have foreign
members on the board with a standard deviation of 9%, and six companies have no foreign members on their board. Since there is a legal requirement to have a range of members on boards in Bangladesh, we have found that the average board size is around 10 with a standard deviation of 1.82. Also, we have found that the mean age of the selected sample is 18 years with a standard deviation of around six years. This represents that the sample companies used in the study have an average of 18 years’ operating experiences.

Table 2: Descriptive Statistics

|                  | N  | Minimum | Maximum | Mean  | Std. Deviation |
|------------------|----|---------|---------|-------|----------------|
| SUS_Score        | 40 | 1.00    | 26.00   | 11.125| 6.36169        |
| B_F.members      | 40 | .00     | .36     | .1643 | .08881         |
| Age              | 40 | 9.00    | 32.00   | 18.050| 5.78216        |
| L_assets         | 40 | 1.34    | 12.01   | 6.9693| 2.12493        |
| ROA              | 40 | .07     | .13     | .1040 | .02158         |
| EPS              | 40 | 12.00   | 54.00   | 28.650| 13.16863       |
| Debt-Equity ratio| 40 | .25     | .51     | .3760 | .07459         |
| B_size           | 40 | 7.00    | 13.00   | 9.7000| 1.81447        |

Furthermore, the descriptive statistics of the asset volume reflect the heterogeneity of the asset volume. The mean return on asset of the sample companies is 10.40% and the mean EPS is 28.65 while the standard deviation is only 2.16% and 13.17 respectively which indicates that most of the sample companies are profitable. The mean D/E ratio is 37.60% with a standard deviation of 7.46% which ensures the smooth long run operations of the sample companies.

Correlation and Collinearity Statistics

To check the collinearity of the variables, both the tolerance value and VIF value has been used in the study. In case of tolerance value, Tabachnick and Fidell (2007) said that tolerance value should be more than 10% while the others, like Menard (1995) said that the minimum tolerance value should be 20% and Huber and Stephens (1993) said that the minimum value should be 25%. In this study it is found that all the variables have more than 10% tolerance value. Thus, on the basis of tolerance value, the independent variables have no multi-collinearity problems. In addition, the VIF values of the variables are also checked to test collinearity. There are divergent views of using the VIF values. Hair, Anderson, Tatham, and Black (1995) and Neter, Wasserman, and Kutner (1989), said that the maximum value for VIF value should be 10, while Rogerson (2001) said that it should be 5 and Pan and Jackson (2008) said that it should be 4 . In this study, it is found that the VIF values for the variables are less than 2 which indicate that the independent variables have no multi-collinearity problems in terms of VIF value. In addition, from the correlation co-efficient table (see table 3), it is found that none of the correlation co-efficient is more than 0.7. Thus, we can firmly say that there is no significant relationship among the selected independent variables.

Table 3: Correlation Co-Efficient

|          | SUS_Score | Age    | L_assets | ROA    | EPS    | D/E_ratio | B_size | B_F.members |
|----------|-----------|--------|----------|--------|--------|-----------|--------|-------------|
| SUS_Score| 1.000     |        |          |        |        |           |        |             |
| Age      | .379      | 1.000  |          |        |        |           |        |             |
| L_assets | -.343     | -.196  | 1.000    |        |        |           |        |             |
| ROA      | .024      | .009   | .009     | 1.000  |        |           |        |             |
| EPS      | .216      | .044   | .074     | .049   | 1.000  |           |        |             |
| D/E_ratio| .070      | .029   | -.023    | .053   | -.189  | 1.000     |        |             |
| B_size   | .039      | -.172  | -.018    | -.119  | -.240  | .135      | 1.000  |             |
| B_F.members| .227     | .054   | -.156    | -.008  | .014   | .601      | .120   | 1.000       |
Regression Analysis

The results of the regression model are presented in Table 4 where regression model applied sustainability score as dependent variable and proxy variables of board characteristics and corporate characteristics as independent variables. The model has been found significant at p<0.01. The adjusted R square for the model is 0.17 which explains the variation in sustainability information disclosed by the selected sample companies have been influenced by the proxy variables of board characteristics and corporate characteristics. These findings indicate the significant influence of board formation and organisational characteristics on the sustainability information disclosed by the sample company which are also supported by Bhatia and Tuli (2017) although their adjusted R square is higher than us. Castelo Branco, Delgado, Ferreira Gomes, and Cristina Pereira Eugénio (2014) and Artiach, Lee, Nelson, and Walker (2010) also get similar findings while exploring the same relationship between corporate characteristic and sustainability disclosures.

On the basis of coefficient of regression, presented in table 4, it is found that the age of the company has highest (β1 = 0.34) unique contribution on sustainability scores among all the independent variables which is statistically significant at p<0.05. It implies that the experienced companies disclose more sustainability-related information than the new companies. Since, sustainable reporting is an emerging issue in developed country, new and comparatively low capital intense company can hardly grab the concept of sustainability (Khan et al., 2011). Therefore, our hypothesis 2.1 on this regards has been accepted, although Hossain, Momin, Rowe, and Quaddus (2017) and Bhayani (2012) do not find any significant relationship between age of company and sustainability disclosures. The second highest (β4=0.26) unique contribution to sustainability score is by the EPS, which is also statistically significant at p<0.05. That means companies having more profit tends to disclose more information on sustainability. Hence, the hypothesis related to this has been accepted. This results also complies with the findings of Bhatia and Tuli (2017) and Castelo Branco et al. (2014). We have also found that the companies having foreign members on board has a unique contribution (β7=0.15) on sustainability score, which is statistically significant at P<0.01. As the multinational companies are more aware of sustainability (Akhter & Dey, 2017) findings also provide the similar evidence that companies having foreign members on board disclose more sustainability information on the face of the annual report. Thus, our hypothesis 1.2 has been accepted.

Table 4: Model Summary

| Variable       | Age  | L assets | ROA   | EPS   | D/E ratio | B-size | B_F member | Adj. R² | Constant |
|----------------|------|----------|-------|-------|-----------|--------|------------|---------|----------|
| Beta (t-Stat)  | Beta (t-Stat) | Beta (t-Stat) | Beta (t-Stat) | Beta (t-Stat) | Beta (t-Stat) | Beta (t-Stat) | Beta (t-Stat) | Beta (t-Stat) | Beta (t-Stat) | 0.17 | -0.089 |
| SUS_Score (t-Stat) | .341** | -.269*** | .029 | .263** | -.009 | .142 | .151* | -.089 |
| (2.254) | (-1.772) | (.200) | (1.689) | (-.045) | (.918) | (.799) |         |

On the other hand, it is found that the volume of assets has significant negative association (-0.269) with the sustainability reporting at p<.1. It implies that companies having more assets have a tendency to disclose less sustainability-related information. It also represents that the size of the firm has reciprocal relationship with the sustainability reporting practices in Bangladesh. Lungu, Caraiani, and Dascălu (2011) also do not find any significant relationship between the size of the firm and sustainability disclosure. Hence Hypothesis 2.3 has been rejected. In addition, we do not find any meaningful relationship between return on assets, board size and debt-equity ratio along with the sustainability reporting practices of the
sample company. Uyar, Kilic, and Bayyurt (2013) also do not find any significant relationship between board size and sustainability disclosures. It implies that in Bangladesh, the lending authority puts a little embargo on the disclosures of sustainability information. Therefore hypothesis 1.1, 2.2 and 2.4 are also rejected. A summary of the key findings of this study is presented in table 5.

| Hypothesis | Associations | Significance      | Decisions          |
|------------|--------------|-------------------|--------------------|
| 1.1        | Positive     | Insignificant     | Hypothesis rejected|
| 1.2        | Positive     | Significant*      | Hypothesis accepted|
| 2.1        | Positive     | Significant**     | Hypothesis accepted|
| 2.2        | Positive     | Insignificant     | Hypothesis rejected|
| 2.3        | Negative     | Significant***    | Hypothesis rejected|
| 2.4        | Negative     | Insignificant     | Hypothesis rejected|
| 2.5        | Positive     | Significant**     | Hypothesis accepted|

* Significant at 1% level, ** Significant at 5% level, *** Significant at 10% level

**CONCLUSIONS**

Sustainability reporting practices becomes a burning issues in the last two decades because of the overwhelming ingestion of natural resources by the corporate people (Hasan, Masum, & Islam, 2010). The developed countries have already got a platform (Ahmad et al., 2017; Aktas et al., 2013; Kuzey & Uyar, 2017) for sustainability research due to various factors but for developing countries like Bangladesh still it becomes a big challenge to initiate the sustainable reporting (Akhter & Dey, 2017; Hossain et al., 2017; Khan et al., 2011). Since, in the developing countries, the sustainable reporting practices lies on an inception stage, very few research activities are witnessed about this (Mahmud et al., 2017). Since, sustainability reporting practices is a new and emerging issue throughout the last decades, developing countries like Bangladesh have very little opportunity to work. As it is found from the study that the sustainability score within the selected sample companies is abysmal (µ = 11 % only). From the study, a significant relationship between sustainability reporting and board characteristics and corporate characteristics are obtained (r²=.17 at p<.01). It is expected that the findings of this study will encourage the top management of a company to focus on the most relevant factors which have significant influence on sustainability disclosures.

Moreover, the findings of the study also guide different stakeholders of sustainability reporting to consider the factors that influence the sustainability practices. In addition, during the study, seven independent variables are considered from two major stimulating factors of sustainability reporting namely, board characteristics and corporate characteristics, which will pave the way of future ample research opportunities in sustainability reporting practices. The study has several limitations, and firstly, the study considers the cross-sectional study. In contrast, longitudinal study may provide more robustness in the findings of sustainability literature in a developing country. Secondly, in the quantitative study approach of research is applied while ignoring the qualitative approach, which may generate different results. Finally, in the study only annual reports are considered as the source of secondary data other sources of secondary data like websites, various periodicals etc. may provide more sophisticated findings. The study is conducted to add value in sustainability literature by exploring the factors influencing sustainable corporate reporting in developing country context. Here only board attributes and organisational attributes are considered only some other vital factors like corporate governance, corporate performances, legal frameworks, public perceptions etc. can be tested on to explore their association with the sustainability practices.
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**APPENDIX: ONE**

**Sustainability Disclosure Index**

| A. Economic performance indicators |
|-----------------------------------|
| 1 EC1 Direct economic value generated and distributed |
| 2 EC2 Financial implications and other risks and opportunities due to climate change |
| 3 EC3 Coverage of org defined benefit plan obligations |
| 4 EC4 Significant financial assistance received from government |
| 5 EC5 Range of ratios of standard entry level wage compared to local minimum wage |
| 6 EC6 Policy, practices and proportion of spending on locally based suppliers |
| 7 EC7 Procedures for local hiring and proportion of senior mgt. hired from local community |
| 8 EC8 Development and impact of infrastructure investments and services (for public benefit) |
| 9 EC9 Understanding and describing significant indirect economic impacts |

| B. Environmental performance indicators |
|----------------------------------------|
| 10 EN1 Materials used by weight or volume |
| 11 EN2 Percentage of materials used that are recycled input materials |
| 12 EN3 Direct energy consumption by primary energy source |
| 13 EN4 Indirect energy consumption by primary energy source |
| 14 EN5 Energy saved due to conservation and efficiency improvements |
| 15 EN6 Initiatives to provide energy efficient products and services |
| 16 EN7 Initiatives to reduce indirect energy consumption |
| 17 EN8 Total water withdrawal by source |
| 18 EN9 Water sources significantly affected by withdrawal of water |
| 19 EN10 Percentage and total volume of water recycled and reused |
| 20 EN11 Location and size of land (in protected areas and areas of high biodiversity) |
| 21 EN12 Description of significant impacts of activities on biodiversity |
22 EN13 Habitats protected or restored
23 EN14 Strategies, current actions and future plans for managing impacts on biodiversity
24 EN15 Initiatives to reduce water pollution.
25 EN16 Total direct and indirect greenhouse gas emissions by weight
26 EN17 Other relevant indirect greenhouse gas emissions by weight
27 EN18 Initiatives to reduce greenhouse gas emissions and reductions achieved
28 EN19 Emissions of ozone depleting substances by weight
29 EN20 C NO, SO and other significant emissions by type and weight
30 EN21 Total water discharge by quality and destination
31 EN22 Total weight of waste by type and disposal method
32 EN23 Total number and volume of significant spills
33 EN24 Weight of transported waste deemed hazardous
34 EN25 Identity, size, protected status and biodiversity value of water bodies and related habitats affected by organization
35 EN26 Initiatives to mitigate environmental impacts
36 EN27 Percentage of products sold and their packaging materials that are reclaimed by category
37 EN28 Monetary fines and non-monetary sanctions for non-compliance with environmental laws and regulations
38 EN29 Environmental impacts of transporting
39 EN30 Total environmental protection expenditures and investments by type

C. Social performance indicators
(i) Labor practices and decent work
40 LA1 Total workforce
41 LA2 Total number and rate of employee turnover
42 LA3 Benefits provided exclusively to full-time employees
43 LA4 Percentage of employees covered by collective bargaining agreements
44 LA5 Minimum notice period(s) regarding operational changes
45 LA6 Percentage of workforce presented in formal joint management-worker health and safety committees
46 LA7 Rates of injury, occupational diseases, etc.
47 LA8 Education, training, etc., to assist workforce
48 LA9 Health and safety topics
49 LA10 Average hours of training per year per employee by employee by category
50 LA11 Programs for skills management and lifelong learning
51 LA12 Percentage of employees receiving regular performance and career development review
52 LA13 Composition of governance bodies and breakdown of employees per category
53 LA14 C Ratio of basic salary of men to women by employee category
(ii) Human rights
54 HR1 Investment agreements that include human rights clauses
55 HR2 Percentage of significant suppliers and contractors (have undergone screening on human rights)
56 HR3 Total hours of employee training on human rights aspects
57 HR4 Total number of incidents of discrimination and actions taken
58 HR5 Operations identified (in freedom of association and collective bargaining)
59 HR6 Operations identified of having risk (child labor)
60 HR8 Percentage of security personnel trained
(iii) Society
61 SO1 Nature, scope and effectiveness of any programs
62 SO2 Percentage and total number of business units analyzed for corruption
63 SO3 Percentage of employees trained in anti-corruption
64 SO4 Actions taken in response to incidents of corruption
65 SO5 Public policy positions and participation in public policy development and lobbying
66 SO6 Total value of financial and in-kind contributions (political)
(iv) Product responsibility
67 PR1 Life cycle stages in which health and safety impacts of products and services are assessed for improvement
68 PR2 Total number of incidents of non-compliance, health and safety impacts
69 PR3 Product and service information required by procedures
70 PR4 Total number of incidents of non-compliance with laws (products and services)
71 PR5 Practices related to customer satisfaction
72 PR6 Programs for adherence to laws, standards, etc., related to marketing communications
73 PR7 Incidents of non-compliance with regulations (marketing communications)
74 PR8 Substantiated complaints regarding breaches of customer privacy and losses of customer data
75 PR9 Fines for non-compliance with laws (products and services)

Author’s Contribution

Masum conceptualised the research idea, provide the theoretical framework and carried out the research work. Hasan supervised the research progress, put the references in line with the study and revised the article. Miraz contribute in the development of research framework and carried out necessary field work for the research.

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