# RISK REPORTING

## The Extent of Risk Disclosure of Selected Non-Financial Companies in Bangladesh

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## Abstract

Risk reporting in the annual reports of corporate sector is playing an important role to its preparers, users, investors and advisers. Though shareholders and stakeholders are entitled to better information, the companies are reluctant to report their internal situation. As a result there always remains an expectation gap between what organization want to disclose and what the investors and other users are seeking to know. This empirical study, through investigation of the existing risk disclosure requirements and extent of risk disclosure by non-financial listed companies in Bangladesh, tries to find the correlation between company specific characteristics and risk disclosure of the selected companies. A content analysis of the annual reports of 32 non-financial firms across seven sectors was conducted to determine level of risk related disclosure quantity and quality. It was found that the firm size measured by total assets, revenue and market capitalization was positively correlated with the level of quantity risk disclosures and foreign investments also had a positive association with quantity of risk disclosures. The results also support the hypothesis that there exists a significant positive correlation between quality of risk disclosure and the company's specific characteristics like debt to equity ratio and company size on all three measures of total assets, revenue and market capitalization. But on the other firm characteristics there was a negative and insignificant relationship with risk disclosure quantity and quality. Also, these non-financial institutions are disclosing mostly mandatory and very little voluntary risk information in their annual reports. Hence the overall risk disclosure is also unsatisfactory in all the seven sectors examined. The study hopes to provide empirical evidence regarding the current inadequate risk reporting disclosures in annual reports.

**Keywords:** Risk, Disclosure, Content Analysis, Pearson Correlation Coefficient, Non-Financial Institutions

## Introduction

Creating transparency about risks in the annual reports is vital for the well-functioning of an organization. An organization has to deal with the stakeholders' need for information. Stakeholders need information about all aspects of the organization, including risks to make sound judgments. Another reason why the topic of risk reporting received more attention is the financial crisis, (called credit crunch) particularly in 2007 and 2008 when the world witnessed major collapsed in financial market and forced government intervention changed the financial sector significantly. And these ultimately create the necessity for companies to develop strategies in order to anticipate risks.

Most of people think high quality risk reporting companies are more confident about their operational activities, thus they can rely on the management. In this case, high-quality risk reporting is adding value to the firm. Whereas low-quality risk or aggressive risk reporting responsible for mitigating the firm's value. It can distract the potential users as well. Organizations are not willing to disclose their condition of internal risk as they are treating risk reporting is a threat. But greater disclosure is a chance to demonstrate the strength of the company's controls and management. Signaling theory can help us explain this phenomenon. "*Signaling theory suggests that companies with a high quality should signal their advantages to the market. On the one hand, signaling would make investors and other stakeholders reassess the value of the company, and then make decisions more favorable to the company on the other hand, the favor of various stakeholders would make a company obtain more investment, and therefore reduce the costs of raising capital.*" *(Razek, 2014).*

There are also some other theoretical frameworks like agency theory, political cost theory, stakeholder theory, market for lemons notion that has been used in literature to explain risk disclosure practices. Still risk reporting is clearly in an evolutionary stage and the sensitive nature of risk means that preparers are still learning how best to approach the subject.

Previous studies on corporate risk disclosure have mostly focused on western developed environmental setting where culture is significantly different than that of countries like Bangladesh. So, this study analyses and evaluates the current risk reporting environment (i.e. laws, standards) and actual disclosure scenario of non-financial listed companies of Bangladesh.

## Objectives of the study

The main objective of this study is to find out the current risk reporting practices (both regulatory and voluntary) of selected non-financial companies in Bangladesh. The study specifically highlights the following issues:

- To empirically study the overall quality and quantity of corporate risk disclosures made by non-financial companies in Bangladesh.
- To know the volume of corporate risk disclosures made in the annual reports of the selected listed companies in Bangladesh.
- To determine whether there is any relationship between level of risk reporting and company characteristics.

## Theoretical Framework

Changing economic and regulatory environments, more complex business structures, risk management, increasing reliance on financial instruments, international transactions and prominent corporate crises have forced non-financial sectors to give rise to financial and non-financial risk reporting (Dobler, 2008). These factors forced the International Accounting Standards Board (IASB) to come up with the publication of a new International Financial Reporting Standard (IFRS), namely IFRS 7 Financial Instruments: Disclosures. This has been adopted in Bangladesh by the ICAB as BFRS 7 since January 2010 to report risks and create more transparency in the annual reports. Creating transparency about risks in the annual reports is vital for the well-functioning of an organization (Deumes, 2008). An organization has to deal with the stakeholders' need for information. Stakeholders need information about all aspects of the organization, including risks to make sound judgments.

Risk is generally referred to as uncertainty associated with both a potential gain and potential loss. (ICAEW, 1997) Crouhy et al. (2006, p. 25) defined risk in their book as 'the volatility of returns leading to unexpected losses, with higher volatility indicating higher risk'. From these definitions, it is clear that risk can have various effects both positive (upside) and negative (downside) on companies and therefore, it can be categorized in different manners. So, in analyzing risk disclosures in the annual report, disclosure of both negative and positive outcomes (potential losses and opportunities) have been considered for this study. Risk can be understood in a number of different ways (Collier, 2009): risk as threat, risk as

uncertainty and risk as opportunity. Risk as threat refers to negative events (downside) when things go wrong. Risk in the context of opportunity refers to positive events (upside) and potential for gain (ibid). Finally, risk as uncertainty refers to either upside or downside risk (Collier, 2009). This study has used this definition of risk in the content analysis and defines three categories, namely risk as uncertainty, risk as threat and risk as opportunity.

In literature different authors have used different risk categories and classification for their research purposes as provided in Table-1:

### Table-1: Risk classifications

| Authors | Risk categories |
|---|---|
| Beretta and Bozzolan (2004) | Risk classified into three risk factors: (i) company strategy (organization objectives, mission, goals for performance), (ii) company characteristics (financial structure, corporate structure, technological structure, organization and business process) and (iii) the environment surrounding the company (regulation and legislation, political, social and economic factors). |
| Cabedo and Tirado (2004) | Risk classified into two groups: non-financial (business and strategic) and financial (market, credit, liquidity, operational and legal). |
| Lajili and Zegal (2005) | Risk grouped into eleven components: financial, political, technology, environmental, weather, government regulations, seasonality risk, operational, cyclicality, suppliers and natural resources. |
| Abraham and Cox (2007) | Risk disaggregated into three components: business, financial and internal control that corresponds to the three classes of risk reporting guidance in the UK. |
| Deumes (2008) | Risk grouped into eight components: macro environmental sources, industry sources, internal sources, other sources, loss and probability of loss, variance, lack of information and lack of control. |

**Source:** (Ali & Taylor, 2014)

So, it is evident that different authors have used different risk categories and classification for their papers. In general, all these risk types can be classified in 4 broad categories of risk: Environmental, Financial, Operational and Strategic. (Ali & Taylor, 2014)

## Risk reporting and disclosure practices

Improved risk reporting and disclosure (both narrative and quantitative) is fundamental to improved corporate governance. There is a strong agreement among the preparers, different user groups, and stakeholders regarding the need for proper guideline and format of risk reporting. They all think that current scenario of risk disclosure practice needs to improve. (ACCA, 2014) For instance, investors and users are keen to discern the key risks the company faces, an explanation of why management believes these risks to be critical, an explanation of what management is doing to mitigate these risks, identification of emerging and new risks, and an explanation of how management assesses risk throughout the year. (Crocombe, 2016) But there is no universally accepted standard of how the companies should provide this information. Major corporate scandals like Enron, WorldCom etc. in the last decade has shown that inadequate check & balance in corporate risk management is a major concern. These high-profile corporate bankruptcies had increased the interest in risk reporting for better corporate governance in the years following 2000. Then the global financial crisis of 2007-8 made the regulators and investors to start thinking about it more. (ACCA, 2014) Since there is no established accounting standard or framework that governs the complete corporate risk reporting, potential risk disclosures are mostly voluntary.

In Bangladesh, bank and other financial institutions are closely regulated by Bangladesh bank and other applicable laws like companies act, Basel II etc. regarding risk management. But the manufacturing and service sector companies are mostly subject to some regulations and a few voluntary risk disclosures. So, this study tries to analyze the risk disclosure practices by these companies in term of firm size, sector, market cap and other factors.

Major laws and regulations found by this study to be in place and related to risk-related disclosures and reporting of non-financial companies in Bangladesh are:

I. Dhaka Stock Exchange (Listing) Regulations, 2015
II. BSEC Notification No: SEC/CMRRCD/2006/158/143/Admin/44, dated: August 07, 2012
III. IFRS 7 - Financial Instruments: Disclosures
IV. IAS 37 - Provisions, Contingent Liabilities and Contingent Assets

### I. Dhaka Stock Exchange (Listing) Regulations, 2015

As per sub-section 2(O) of section 10 (Direct Listing/Re-listing Procedures) of this regulation, an 'Information document' shall be submitted with specified format by the MD, CEO or any other authorized person for listing/re-listing in the DSE.

The content of this information document as specified in the annexure-10 of this regulation has a part namely 'Risk Factors and Management's Perception about the Risks'. In this part, management should disclose all risk factors and their perception about those risks which may include interest rate risk, exchange rate risk, market and technology related risk, potential or existing government regulation, potential change in global or national policies, operational risk etc.

### II. BSEC Notification No: SEC/CMRRCD/2006/ 158/143/Admin/44

This notification by BSEC supersedes its earlier notification no. sec/cmrrcd/2006-158/admin/02-08 dated 20th February, 2006 and imposes some additional conditions in order to improve corporate governance. These conditions are on 'comply' basis and the companies listed with any stock exchange in Bangladesh are required to comply with the revised conditions. Condition 1.5 of this notification states that the directors of the companies should include some additional statements in the Directors' Report prepared under section 184 of the Companies Act, 1994 (Act No. XVIII of 1994). Among those statements some are related to risk disclosures. And the statements that are closely related to risk include:

- Industry outlook and possible future developments in the industry
- Risks and concerns
- An explanation if the financial results deteriorate after the company goes for Initial Public Offering (IPO), Repeat Public Offering (RPO), Rights Offer, Direct Listing, etc.
- If significant variance occurs between Quarterly Financial performance and Annual Financial Statements, the management shall explain about the variance on their Annual Report.
- There are no significant doubts upon the issuer company's ability to continue as a going concern. If the issuer company is not considered to be a going concern, the fact along with reasons thereof should be disclosed
- Significant deviations from the last year's operating results of the issuer company shall be highlighted and the reasons thereof should be explained.

All these disclosures can help the investors to analyze current and potential risk factors of a company, although mere compliance rather than quality disclosure will defeat the purpose of these disclosures.

### III. IFRS 7 - Financial Instruments: Disclosures

IFRS 7 requires both qualitative and quantitative disclosure of risk arising from financial instruments. Risk types mentioned in the standard includes but not limited to 3 categories: credit risk, liquidity risk and market risk (i.e., foreign exchange risk, interest rate risk). Disclosure requirement of IFRS 7 is as follows:

*Qualitative disclosures*

For each type of risk arising from financial instruments, an entity shall disclose:

(a) the exposures to risk and how they arise;

(b) its objectives, policies and processes for managing the risk and the methods used to measure the risk; and

(c) any changes in (a) or (b) from the previous period.

*Quantitative disclosures*

For each type of risk arising from financial instruments, an entity shall disclose:

(a) summary quantitative data about its exposure to that risk at the reporting date. This disclosure shall be based on the information provided internally to key management personnel of the entity (as defined in IAS 24 Related Party Disclosures), for example the entity's board of directors or chief executive officer.

(b) the disclosures required by paragraphs 36-42, to the extent not provided in (a), unless the risk is not material (see paragraphs 29-31 of IAS 1 for a discussion of materiality).

(c) concentrations of risk if not apparent from (a) and (b). If the quantitative data disclosed as at the reporting date are unrepresentative of an entity's exposure to risk during the period, an entity shall provide further information that is representative.

But, unfortunately most companies do not disclose any meaningful disclosure with quantitative information, charts or graph. Even some companies just provide the definitions of these risks and make vague announcement on their management.

### IV. IAS 37 - Provisions, Contingent Liabilities and Contingent Assets

IAS 37 (Provisions, Contingent Liabilities and Contingent Assets), first issued in September 1998 and effective in Bangladesh from 1 January, 2007,

outlines the accounting treatments like recognition criteria and measurement bases for contingent assets (possible assets) and contingent liabilities (highly probable obligations). This allows users to be informed about potential risks and make informed investment decision. IAS 37 defined provision as 'a liability of uncertain timing or amount'. This disclosures and other disclosure requirement by different accounting standards guides the recognition and reporting of several types of risk related information in the financial statements. But these are very inadequate and no integrated risk reporting standard is available. Also, the enforcement of these standards and ensuring the quality of reporting is a mammoth task.

## Literature review

It seems there is general agreement among the corporate word that companies need to disclose information regarding risk and risk management in their annual reposts. The reporting of risk, voluntary or otherwise will enable the potential investors, regulators and various other stakeholders to better assessment of company fundamentals.

Solomon et al (2000) have examined the corporate risk disclosure aspects in the proposed conceptual framework (turnbull report) for internal control in the UK interim reports. They asserted that to reduce cost of capital, a firm should try to manage its market reputation through disclosing its risk management policies and raise people's confidence. The basic assumption being that improved investor relations and corporate governance can reduce the information asymmetry and therefore attract investors. It also stated that investors uses risk disclosures in the annual report or other places to take effective decisions about risk diversification of their portfolio.

The ICAEW, in its position paper on risk disclosure (Financial Committee ICAEW, 2002) stated that risk reporting along with risk management and good corporate governance will decrease cost of capital for companies. The institute urged company directors to disclose more risk exposure and management information in prospectuses and annual reports for the benefit of potential investors. The benefits of forward looking risk information and overall protection systems can build confidence among the investors.

Ntim, Lindop & Thomas, 2013, have related different theories of corporate governance like agency theory, legitimacy theory and institutional theory to the significance of corporate risk disclosure. They found that the nature of corporate risk disclosures are mainly comprised of qualitative (non financial), historical, positive information over the period investigated. They also found negative association between block ownership, institutional ownership with the level of risk disclosure whilst board size and independent directors are positively correlated.

There were several studies on the determinants of risk disclosure. Some have tried to develop models to explain level of risk disclosure in the annual reports. Elzahar & Hussainey (2012) have studied interim reports of UK non-financial companies to measure the level of risk information. They took a sample of 72 companies and looked for possible determinants of narrative risk disclosure. The study found positive association between industry type (sector) and risk disclosure. But interestingly there was no significant effect of liquidity position, leverage, profitability (firm-specific characteristics) on level of risk disclosure. On the other hand, et al (Ahmed & Courtis, 1999) found positive relationship between disclosure levels and corporate size. They integrated all prior disclosure literature and performed a meta analysis of 29 studies. They also found positive relationships between firm leverage, listing status and disclosure level. Firm profitability or audit firm size apparently had no significant correlation with aggregate disclosure level. Prior studies have examined risk disclosures determinants in annual reports (e.g., Abraham and Cox, 2007; Rajab and Schachler, 2009; Beretta and Bozzolan, 2004) and demonstrate that firms' characteristics (e.g., activity, profitability, firm size, leverage and liquidity) and corporate governance (e.g., audit committee, board composition and size, institutional ownership, and family control) have a relationship with the level of risk disclosure (Oliveira et al., 2011;(cited in Khaledi, 2014).

According to Beretta & Bozzolan (2004) the quality of risk disclosures does not only depend on the quantity of disclosure, but also on the content, the richness of the disclosed information. In their research, quality is a function of quantity, density, depth and the outlook profile. Botosan (2004) concludes in his research that the quality of risk disclosure is very hard to measure and that there exists a positive relationship between the quantity and quality of risk information. Botosan (2004) introduces a new assumption that quality is a function of the qualitative characteristics as defined the International Accounting Standards Board (2001). The framework describes the qualitative characteristics of risk disclosures.

understandability, relevance, reliability and comparability which determine the usefulness for the decision making process for investors, creditors and other stakeholders.

In a recent study, (Hasan N. S, 2014) contributed to the RDQ literature by developing a framework to assess RDQ and then examining determinants of RDQ in the context of Egypt. The framework is based on four criteria of information quality: understandability, relevance, verifiability and comparability. He found that the risk disclosure content in the annual reports had the quality of relevance and understandability but lacked comparability and verifiability. The current study adopted this framework to determine risk disclosure quality.

## Methodology

This study is an empirical investigation of the existing risk disclosure requirements and extent of risk disclosure by non-financial listed companies in Bangladesh. Through analysis it also tries to investigate the correlation between company specific characteristics and risk disclosure of the selected companies.

Manual content analysis of annual reports of 32 non-financial firms across seven sectors have been used to determine the quantity and quality of risk related disclosures. There are 15 non-financial sectors currently listed in both Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE). To prevent the analysis from being biased by industry specific factors, companies from different sectors have been selected for this study. Seven listed sectors in the DSE and CSE have been intentionally selected. The selected sectors are Cement, Ceramics, Engineering, Food and Allied, Fuel & Power, Telecommunication and Textile. From these stratified seven sectors, five companies with publicly available annual reports from each sector have been selected. To be noted that the Telecommunication industry has only 2 companies, both of which have been selected (Table-2). Annual reports for the years 2014-15 and 2015-16 have been used for this study. The present study was conducted on the basis of secondary data which were collected from audited annual reports of the sampled listed companies, DSE website, Bangladesh Gazette, IFRS 7, research articles, etc. Maximum annual reports were collected from the websites of the respective companies and those not available were collected Lanka Bd online portal and DSE office.

**Table-2: Selected Sectors, Number of Companies Available & Selected Sample**

| S. N. | Sectors (DSE & CSE) | No. of listed companies | No. of companies selected |
|---|---|---|---|
| 1 | Cement | 7 | 5 |
| 2 | Ceramics | 5 | 5 |
| 3 | Engineering | 33 | 5 |
| 4 | Food & Allied | 18 | 5 |
| 5 | Fuel & Power | 18 | 5 |
| 6 | Telecommunication | 2 | 2 |
| 7 | Textile | 45 | 5 |
| | Total | 128 | 32 |

In order to analyze and measure both risk disclosure quantity and quality, a manual content analysis of the selected annual reports was done. According to Krippendorff (2004) , " content analysis is a research technique for making replicable and valid inferences from texts to the contexts of their use". Bryman and Bell (2011) state that content analysis is an approach to the analysis of documents and texts , which seeks to identify content in terms of predetermined categories and in a systematic and replicable manner. Content analysis is used to determine the themes of risk disclosure and can be used to note either the presence or absence of a theme in a written broadcast or other verbal material (e.g. Abraham & Cox, 2007, Linsley & Shrives, 2006).

This study adopts the concepts of risks including downside and upside risk based on whether risk is perceived as a threat, as an opportunity or as an uncertainty (Khaledi 2014). Table-3, shows risk categories and keywords related to each category. Total number of words in paragraphs (used here as the unit of analysis to measure risk disclosure quantity),where specific keywords related to risk which are mentioned and found to be relevant to risk have been counted for this purpose. The Annual reports were divided into 2 broad sections, narrative reporting section and financial statements section, and then word count were recorded section wise and in total.
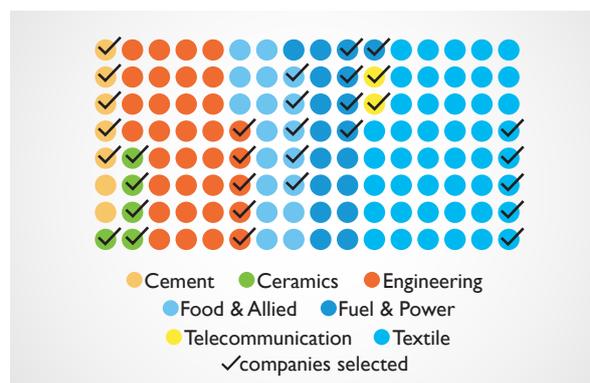


Legend: Cement, Ceramics, Engineering, Food & Allied, Fuel & Power, Telecommunication, Textile, ✓companies selected

**Table-3 : List of Risk Keywords (category wise, adapted from Khaledi , 2014)**

| Risk Category | Keywords |
|---|---|
| Risk as uncertainty | vary, varies variation<br>change, changed, changes, changing<br>differ, differs, different, difference<br>fluctuate, fluctuates, fluctuation<br>alternate, alternative, altered<br>uncertain, uncertainty, uncertainly |
| Risk as threat | risk, risky<br>significant, significance<br>probable, probably, probability, probabilities<br>threat, threats, threatening<br>decline, declining, declined, decrease,<br>decreasing, decreased<br>surprise, surprisingly<br>shock, shocking, shocked<br>harm, harmful, harmed<br>danger, dangerous, dangerously, hazard<br>accident, accidental |
| Risk as opportunity | gain, gained, gaining, gainful<br>increase, increased, increasing<br>grow, growing, grew<br>opportunity, opportunities, opportune<br>likely, likelier, likelihood<br>potential, potentially<br>safety, safe, safely, security, secure |

**Source:** (Khaledi, 2014)

In this study, to measure risk disclosure quality, the RDQ factor has been calculated using a disclosure index based on the four criteria developed by Hassan (2014).

The RDQ is measured through the development of a disclosure index, which can be expressed by the following equation :

RDQ Factor =   Actual Score / Σ Maximum Score (24 Points)

Where :

RDQ Factor: A factor of the risk disclosure quality.

Σ Actual Score: Total actual points of disclosed items.

Σ Maximum Score: Total points of Maximum disclosed items (consist of 24 points).

Each item gets the value (1) If it is disclosed, while gets the value (zero) if it is not disclosed. There is one item "the disclosure of any changes in disclosure or measurement bases and its causes and impact" included in the criterion of comparability, gets the value (zero) if it is not disclosed, and gets the value (2) if it is disclosed because it replaces two items at the same criterion, these items are consistency in the presentation bases of risk information from period to period, and consistency in the measurement bases of risk from period to period. Table-4 presents number of disclosure items for each

criterion and number of points allocated for each item.

**Table-4. Risk Disclosure Index Point Distribution**

| Risk Disclosure Criteria | Number of Disclosure Items | Number of Points Allocated for Disclosure Index Items |
|---|---|---|
| Relevance | 5 | 5 |
| Understandability | 7 | 7 |
| Comparability | 7 | 8 |
| Verifiability | 4 | 4 |
| Total | 23 | 24 |

This study also test whether there is any significant association or correlation between risk disclosure and company characteristics. Risk disclosure quantity is measured by the total number of words and risk disclosure quality is measured by the RDQ factor. Total assets, gross revenue, number of employees have been used as a measure of firm size. ROE is used as a measure of firm profitability. Some other variables like market capitalization, debt to equity ratio, age of the firm, percentage of shares owned by public, foreign investment were also used. The values of total assets, gross revenue and market capitalization was converted to their natural logarithm value because of nonlinearity (Table-5).

**Table-5 : Measurement of the Variables used in the hypothesis**

| Variable | Measurement |
|---|---|
| Disclosure Quantity | No of words |
| Disclosure Quality | RDQ factor |
| Total Assets | Log of Total Assets |
| Gross Revenue | Log of Gross Revenue |
| No of Employees | Total Number of Employees |
| ROE | Earnings/Common Equity |
| Market Capitalization | Log Of (Number of Shares Outstanding * Price) |
| Debt to Equity ratio | Debt/Equity |
| Age of Company | No Of Years In Operation |
| Public ownership | % Of Shares Owned By Public |
| Foreign Investment (dummy variable) | 1 If Yes, 0If No |

Two sets of hypothesis was developed to test whether there was any correlation between company characteristics and risk disclosure quantity and risk disclosure quality

**Hypothesis 1: Positive correlation between company characteristics and quantity of risk disclosure**

Hypothesis 1(a): Positive correlation between total assets and the quantity of risk disclosures
Hypothesis 1(b): Positive correlation between gross revenue and the quantity of risk disclosures
Hypothesis 1(c): Positive correlation between

number of employees and the quantity of risk disclosures

Hypothesis 1(d): Positive correlation between return on equity and the quantity of risk disclosures

Hypothesis 1(e): Positive correlation between market capitalization and the quantity of risk disclosures

Hypothesis 1(f): Positive correlation between debt to equity ratio and the quantity of risk disclosures

Hypothesis 1(g): Positive correlation between age of a company and the quantity of risk disclosures

Hypothesis 1(h): Positive correlation between public ownership and the quantity of risk disclosures

Hypothesis 1(i): Positive correlation between foreign Investment and the quantity of risk disclosures

To measure hypothesis 1, Pearson correlation coefficient was used to measure the linear correlation between the variables of quantity of risk disclosures and company characteristics.

Pearson correlation coefficient can be measured as follows

$$r = \frac{\sum_i (x_i - \overline{x})(y_i - \overline{y})}{\sqrt{\sum_i (x_i - \overline{x})^2}\sqrt{\sum_i (y_i - \overline{y})^2}}$$

Where

*x* is quantity of risk disclosures and *y* is the company characteristics

## Hypothesis 2: Positive correlation between company characteristics and quality of risk disclosure

Hypothesis 2(a): Positive correlation between total assets and the quality of risk disclosures

Hypothesis 2(b): Positive correlation between gross revenue and the quality of risk disclosures

Hypothesis 2(c): Positive correlation between no of employees and the quality of risk disclosures

Hypothesis 2(d): Positive correlation between return on equity and the quality of risk disclosures

Hypothesis 2(e): Positive correlation between market capitalization and the quality of risk disclosures

Hypothesis 2(f): Positive correlation between debt to equity ratio and the quality of risk disclosures

Hypothesis 2(g): Positive correlation between age of a company and the quality of risk disclosures

Hypothesis 2(h): Positive correlation between public ownership of a company and the quality of risk disclosures

Hypothesis 2(i): Positive correlation between foreign Investment and the quality of risk disclosures

Using the Pearson coefficient correlation, here x is the quality of disclosures and y is the company characteristics.

The rationale underlying the development of the hypotheses is as follows:

*Firm size:* According to agency theory, larger firms need to disclose more information to different user groups which leads to a decline in agency costs and to reduce information asymmetries. Also, large companies with larger revenues have comparatively more ability to pay for the production of additional risk disclosures. (Watts & Zimmerman, 1983) (Hassan, Giorgioni, & Romilly, 2006)

Hence, based on the agency theory perspective Hypothesis 1(a), 1(b), 1(c), 1(e), 2(a), 2(b), 2(c), 2(e) has been formulated.

*Investments:* Foreign investors and institutional investors are powerful stakeholders of a company. Also, general shareholders lack necessary knowledge to analyze annual reports fully. They mostly invest based on market rumors. Therefore, companies are not interested to disclose costly risk related information when there is little benefit to the users.

Based on the Stakeholder theory, Hypothesis 1(h), 1(i), 2(h), 2(i) has been formulated.

*Age:* Experienced companies which been operation for a long time are considered to be more efficient in reporting.

Hypothesis 1(g), 2(g) tests this theory.

*Leverage:* Capital structure of a firm may have an impact on the level of disclosure. Highly levered companies tend to provide more information because they are monitored by debtholders. The companies try to decrease monitoring cost by disclosing more in their annual reports (Jensen & Meckling, 1976). So this study tests for association between debt to equity ratio (leverage) and risk disclosure

Hypothesis 1(f) and 2(f) tests this association.

*Profitability:* Profitable companies are more likely to disclose information to attract investment for organizational growth. This reduces their cost of capital and increases market reputation.

Hypothesis 1(d), 2(d) tests this assumption.

# Findings and Analysis

## Descriptive analysis

*Risk disclosures quantity:* Industry wise sum, mean, standard deviation, minimum and maximum value of the quantity of risk disclosures measured by the number of words is shown in Table 6. From the table, it is apparent that Cement, Engineering, Fuel & Power, and Pharmaceutical companies comparatively disclosed more risk related information than the others. It is has also been found that one Ceramics company had disclosed only 110 words, one food & allied sector company had disclosed only 210 words. Both of which are considered as poor disclosures.

**Table-6: Industry Wise Summary and Descriptive Statistics of Risk Reporting Quantity**

| Industry | Sum (no. of words) | Mean (no. of words) | SD (no. of words) | Min. (no. of words | Max. (no. of words) |
|---|---|---|---|---|---|
| Cement | 11214 | 2242.8 | 605.8306 | 1299 | 2786 |
| Ceramics | 5139 | 1284.75 | 1257.433 | 110 | 3006 |
| Engineering | 10947 | 2189.4 | 534.5851 | 1387 | 2795 |
| Food & Allied | 7037 | 1407.4 | 1553.219 | 210 | 4105 |
| Fuel & Power | 13621 | 2724.2 | 1690.22 | 1658 | 5710 |
| Pharmaceuticals | 11650 | 2330 | 1689.771 | 1048 | 5134 |
| Telecommunication | 5259 | 2629.5 | 492.8534 | 2281 | 2978 |

*Risk disclosures quality:* Risk disclosures quality was measured by RDQ score ranging from 0 to 24. Industry wise sum, mean, standard deviation, minimum and maximum value of the quality of risk disclosures measured by RDQ score is shown in Table-7. From the table, it is evident that Cement, Engineering, Fuel & Power, Telecommunication companies comparatively disclosed better quality risk related information Maximum RDQ is scored by a fuel & power sector company.

**Table-7: Industry Wise Summary and Descriptive Statistics of Risk Reporting Quality**

| Industry | Sum (RDQ score) | Mean (RDQ score) | SD (RDQ score) | Min (RDQ score) | Max (RDQ score) |
|---|---|---|---|---|---|
| Cement | 64 | 12.8 | 2.247864 | 9.114 | 15.229 |
| Ceramics | 39.885 | 9.97125 | 3.845713 | 6.314 | 15.286 |
| Engineering | 72.829 | 14.5658 | 2.714901 | 10.029 | 16.571 |
| Food & Allied | 42.342 | 8.4684 | 6.2802 | 2.914 | 19.286 |
| Fuel & Power | 65.913 | 13.1826 | 3.79743 | 10.171 | 19.429 |
| Pharmaceuticals | 44.541 | 8.9082 | 3.887762 | 4.914 | 13.571 |
| Telecommunication | 28.943 | 14.4715 | 5.596751 | 10.514 | 18.429 |

Detailed descriptive analysis of all the variables under study is given in Table-8:

**Table-8: Analysis Of Risk Disclosure Content Based On Several Criteria**

| Variables | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| no_of_words | 31 | 2092.484 | 1265.79 | 110 | 5710 |
| Rdq_score | 31 | 11.563 | 4.386788 | 2.914 | 19.429 |
| total_assets | 32 | 8.831875 | 1.393736 | 5.38 | 11.79 |
| gross_revenue | 32 | 8.333438 | 1.724173 | 3.34 | 11.56 |
| no_of_emplyees | 29 | 1537.31 | 2155.307 | 78 | 7674 |
| Roe | 32 | 0.2010781 | 0.2302546 | -0.0471 | 0.9654 |
| market_cap | 32 | 9.303125 | 1.730078 | 5.75 | 12.8 |
| debt_to_equity | 32 | 0.1296969 | 0.2179798 | 0 | 0.9052 |
| Age | 32 | 26.40625 | 14.79943 | 7 | 67 |
| foreign_investment | 32 | 0.625 | 0.4918694 | 0 | 1 |
| Public_shareholdings | 32 | 0.2437531 | 0.1626172 | 0.0065 | 0.5895 |

*Relationship between disclosure quantity and quality*

In this study, Pearson's correlation coefficient was used to find the degree of correlation between the quantity and quality of risk disclosures. It measures the strength of a linear relationship between paired data, namely used here is the RDQ score and number of words disclosed. Positive values denote positive linear correlation and an absolute value of r within the range of .6-.79 (Evans, 1996) is considered strong. The following correlation analysis result shows that there was strong positive and significant correlation between RDQ score and no of words disclosed. The correlation is .75 between these 2 variables (Table-9). So, it seems companies that make large amount of disclosures also provides quality information or vice versa. It seems logical that a firm would most likely disclose more information if it already spent a lot on ensuring risk management quality.

**Table-9: Relationship between Disclosure Quantity and Quality**

| | rdq_sc~eno_of~ds | |
|---|---|---|
| rdq_score | 1.0000 | |
| no_of_words | 0.7500*<br>0.0000 | 1.0000 |

Apart from the quantity and quality of risk reporting in the annual reports, this study also analyzed the content of the disclosure text and analyses them based on some distinct criteria. The summary findings of this analysis are given in Table-10.

**Table-10: Analysis of Risk Disclosure Content Based on Several Criteria**

| Criteria of analysis | Number of Companies Fulfilling the Criteria |
|---|---|
| Qualitative Disclosures | 30 |
| Quantitative Disclosures | 19 |
| No. of risk types mentioned | Range: 1 - 11 |
| | Mean: 6 |
| No of sentences | Range: 10 - 309 |
| | Mean: 113 |
| Overall content quality | Professional: 7 |
| | Satisfactory: 6 |
| | Amateur: 11 |
| | Poor: 7 |

One interesting insight from this analysis is that despite being required by standard (IFRS 7) to disclose both qualitative and quantitative information about risks arisen from financial instruments, only 19 out of 24 companies on whom the standard applies disclosed some level of quantitative disclosure. So, there is severe lack of compliance by some of the companies.

*Hypothesis testing and outcome:*

To test the two sets of hypothesizes as discussed earlier the Pearson correlation coefficient was used. The result of the calculation along with the p value at 5% significance level to test for significance for the 1st set of hypothesis. It was found that there is significant correlation between log of total asset, log of gross revenue, log of market capitalization, level of public shareholding and foreign investment with the quantity of risk disclosures. But, the association between number of employees, ROE, debt to equity ratio and age with disclosure quantity is insignificant. So, we can accept Hypothesis 1(a), Hypothesis 1(b), Hypothesis 1(e), Hypothesis 1(h), Hypothesis 1(i) and reject the rest.

Therefore, the study finds that there exists positive association between total assets, gross revenue, market capitalization and foreign investment with the quantity of risk disclosures. Also, the association between % of public shareholding and quantity of risk disclosures was found to be negative.

The result of the calculation along with the p value at 5% significance level to test for significance for the 2nd set of hypothesis. It was found that there is significant correlation between log of total asset, log of gross revenue, log of market capitalization and debt to equity ratio with the quality of risk disclosures (RDQ score). But, the association between no of employees, ROE, age, level of public

shareholding and foreign investment with disclosure quality is insignificant. So, we can accept Hypothesis 2(a), Hypothesis 2(b), Hypothesis 2(e), Hypothesis 2(f) and reject the rest. Therefore, the study finds that there exists positive association between total assets, gross revenue, market cap and debt to equity ratio with the quality of risk disclosures.

## Conclusions:

The study was conducted over 32 firms across seven non-financial sectors to determine the level of risk related disclosure practices in their annual reports. The study also focused on finding an association between risk disclosure and company characteristics. Foreign investments and the size of the company measured by total assets, revenue, and market cap is found to be positively correlated with the quantity of risk disclosures. The results also supports the hypothesis that there exists a significant positive correlation between quality of risk disclosure and the debt to equity ratio and company size on all three measures of their natural log of total assets, natural log of revenue and log of market capitalization. But on the other firm characteristics there was a negative and insignificant relationship with risk disclosure quantity and quality. This study also finds that the overall risk disclosure quality is also unsatisfactory in all seven sectors examined and risk disclosures as per laws and standards were mostly on a comply basis. Mostly positive or upward risks are mentioned in the annual report with no or little decision usefulness to the users. Though shareholders and stakeholders are entitled to better information, the companies are reluctant to report their internal situation. Hence, what the actual users think about the benefit of risk reporting, how they want risk to be reported in Bangladesh is subject to another research. Risk disclosure literature in the context of Bangladesh is very inadequate which provides ample scope for further valuable research in this field. This paper is not without its limitations. The variables used and the time frame for the study was very limited. A longitudinal study across the sectors may provide a better understanding of risk disclosures.

"Know what you own, and know why you own it."

- Peter Lynch

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