Chapter 2

### Research Design

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Chapter 2

Research Design

2.1 Prior Research

The aim of this section is to review empirical studies dealing with corporate financial disclosure. Much of the large body of empirical studies devoted to corporate disclosure have been emerging out over the last forty years envisaging the issue from various angles and with varied degrees of emphasis on different aspects of corporate disclosure. This section reviews empirical studies on corporate disclosure from the standpoint of (i) the regulatory framework of corporate disclosure; (ii) the users’ information needs and users’ perception of published accounts; and (iii) the extent of disclosure and variables associated with different disclosure levels to the relevance of international environment and relevance to Bangladesh, India and other developing countries.

2.1.1 Studies on Regulatory Framework in Bangladesh and India

There has been some work done on regulatory framework of financial reporting by different researchers in Bangladesh and India but there is an overall lack on this issue in both the countries.

M. Hossain (1996) in his study titled “The Factors Influencing Financial Reporting in India, Pakistan and Bangladesh” attempted to identify the major factors that influence the financial reporting practices of the companies in India, Pakistan and Bangladesh as well as the possible causes of divergence in financial reporting practices. The financial reporting practices of companies in India, Pakistan and Bangladesh are influenced by many factors viz. economic, political and social and legislation and adopted national accounting standards, as he mentioned. It has been found that legislation is the main basis for the financial reporting practices in India, Pakistan and Bangladesh. Other factors are the influence of adopted national accounting standards, the influence of capital markets and the influence of the subsidiaries of multi national companies. However, the latter factors have relatively little impact on the financial reporting practices in these three countries. As the basis of the disclosure requirements came from the British accounting and reporting system and the British Companies Acts in particular, the companies in three under study may be expected to disclose in the same fashion. However, as the requirements of the legislation governing the financial reporting in the three countries have been changed overtime, it will not be a surprise if there exist divergent financial reporting practices.

Karim et. al. (1998) had a study on “Financial Reporting on Bangladesh: The Regulatory Framework” wherein they examined the institutional, professional and legal framework that constitute the body of disclosure regulation in Bangladesh. They
showed that the framework is characterized by inheritance of the British Companies Act, predominance of government ownership in the industrial sector and lack of broad based capital market. The main piece of legislation governing corporate disclosure is the Companies Act, 1994 in terms of its coverage. The 1987 Securities and Exchange Rules (SER) deals with a number of additional disclosure by the listed companies. It was found that the Companies Act 1994 made significant progress in the disclosure requirements and coupled with the SER 1987, it can now be used as the launching pad for ensuring some degree of comprehensiveness in corporate financial reporting in Bangladesh. However, both the main pieces of legislation suffer from certain weaknesses particularly in the area of qualitative disclosure. Other acts and ordinances dealing with specific type of companies have little additional disclosure requirement over those of Companies Act and SER. Therefore; there is a case for extending the umbrella of disclosure requirements of the Companies Act. By investigating the area concerning corporate financial reporting in companies act, they revealed some shortcomings of the new act. They referred name of Ahmed and Kabir (1995) who identified the following shortcomings of the act: (1) the Companies Act does not require companies to furnish interim reports; (2) the basis (cash or working capital) of preparing the statement of changes in financial position is not specified; (3) the content of the profit and loss account is not specified; (4) there is no requirement for providing forecasts; and (5) the level of user sophistication is not considered. They (Karim el.al.) have also mentioned some further shortcomings of the act, which are: First, the act does not require a cash flow statement; a value added statement, a profit & loss appropriation account, or a detailed analysis of the company’s debt and receivables. Another problem of the act, they mentioned, is that it does not provide strict guidelines for its own enforcement. Third, the act failed to appreciate adequately the role of Directors’ Report in communicating information to a majority of users who do not have accounting orientation. Though the act provides for some disclosure in the directors’ report, it does not go far enough to specify the information that could be disclosure in the directors’ report. The study also identified some additional information that could be provided in the directors’ report which are: (1) management-employee relationship; (2) future capital expenditure programme; (3) discussion of the industry trends; (4) discussion of new product development; (5) transactions with government; (6) stock market activities; (7) discussion of factors affecting future business of the company; (8) basic policies and objectives of management; (9) backlog and projection of orders; (10) price indices affecting products and raw-materials; (11) discussion of competitive position of the company; (12) proportion of local raw-materials; (13) extent of dependence on few customers and/or suppliers; (14) details of technical and/or other agreements with related companies; (15) details of foreign correspondents and representatives; (16) information about labour market as affecting the company; (17) market share in major products areas; (18) employee information; (19) indication of employee morale; (20) proportion of raw-materials extracted from natural sources; (21) extent of
environmental damage caused by company’s operation etc. They are also of the opinion that some of the information suggested above may be viewed as potentially detrimental to the interests of the company as they might lead to disclosure of company secrecy and their costs may outweigh their benefits but also of the opinion that to avoid possible divulges of secrecy, such information would be disclosed only when the company thinks it appropriate to do so.

B. Banerjee (2002) made a comprehensive study through a project entitled “Regulation of Corporate Accounting and Reporting in India”. He examined provisions of laws relating to regulation of accounting in corporate sector in India, the role of the professional and other bodies, the impact of international developments on regulation, the present reporting practices in the corporate sector and the perceptions of various user-groups. He opined that regulation of corporate accounting and reporting has been in operation in India, following the British tradition, since 1882. He mentioned that the process has been evolutionary and has been operating satisfactorily. This trend should not be disturbed and be allowed to continue with emphasis on self-regulation for standard setting and compliance thereof. Thus the basic structure would continue to be provided by the Companies Act, which is to be re-enforced by self-regulation. He identified some major weakness of the Indian regulatory system as: (1) the objective, elements and qualitative requirements of financial statements have not been clearly defined. Regulatory measures will become more effective only when we are clear about the objective, elements and qualitative criteria of financial statements; (2) the provisions contained in the companies act relating to accounting and reporting are lagging behind the international practices and hence they need to be updated; (3) there is lack of structural independence in the standards-setting process. Also the procedure to be followed in formulating a standard should incorporate public debate, etc. to ensure input from all sections of the users of accounts; and (4) there is no machinery to enforce compliance with legal provisions and accounting standards. Based on the analyses, he made certain suggestions and recommendations for: (1) increasing the quality and quantity of accounting information to make them more useful to the users for their economic decision; (2) improving the responsibility and objectivity of all those associated with reporting and auditing; (3) strengthening the control system to ensure better managerial responsibility through performance measures; (4) updating the standard of reporting to make it competitive with reporting practices at the international level; (5) introducing structural independence in standard-selling process; (6) detecting non-compliance with accounting standards; (7) enforcing stricter compliance with regulatory measures; (8) improving effectiveness of the regulatory regime by suggesting respective functions of the various agencies/bodies operating within the system; and (9) making cost-benefits or benefits-cost analysis for evaluation of regulation and disclosure.
2.1.2 Studies on the Users’ Information Needs and Users’ Perception of Published Accounts

A number of empirical studies were conducted on the importance of information needed to various user groups in different countries. The common aim of most of the studies is to identify the degree of importance the users attach to the information sources and thereby to try to assess the information needs of the users surveyed. The approach generally followed by the studies was the use of a likert-type five-point scale signifying different degree of importance the users may attach to each information item (Karim, 1996). User groups use financial information to make economic decision. The groups include financial analyst, present and potential shareholders, present and potential bondholders, employees and labour organization, customers, suppliers and potential suppliers, tax authorities and regulatory agencies, social action groups and the general public (Venjamir and Stanga, 1977). They examined the needs of these specific user groups and the degree of importance they attach to individual information items are now reviewed that follows.

Baker and Haslem (1973) attempted to find out the information needs of individual investors in common stock. They argued that the information needs of the average investors are different from generally more knowledgeable and sophisticated analysts. It also identifies important sources of information used by investors in their analysis of common stock. The result of the responses shows clearly that the investors consider stockbrokers and advisory services as the most important sources of information for investment analysis. Chandra (1974) examined whether consensus exists between preparers and the major users of corporate annual reports about the value of information disclosed. Poor consensus was found between accountants and security analysts and strong consumers among accountants, put into a dual role as preparers and users of information. Chandra (1975) conducted a research by expanding the Baker-Haslem (1973) study by enquiring about ‘the information needs of professional security analysts,’ a major group of users not covered by Baker and Haslem. He found that individual information items pertaining to income statement and statement of financial position dominated the high value items; earnings per share came out to be the most valuable information; balance sheet items and items concerning details and breakdown of information emerged to be moderate information value; and information about investment in subsidiary companies, stock option plans, long-term leases, advertising and publicity were all considered to be low value items.

Belkaoui, Kahl and Peyrard (1977) found a strong level of consensus between Canadian and US financial analysts and a poor level of consensus between North American and European financial analysts with regard to the perceived importance of 29 information items. Benjamin and Stanga (1977) conducted a study by formulating a questionnaire encompassing 79 kinds of information that bank loan officers and professional financial analysts might need for decision-making process. They intended to identify the differences in disclosure needs of the above two major user of
financial statements. They found that the perceived informational needs of the two major user groups are different for a majority of the information items under study. Chunhall and Juchau (1977) attempt to identify the information needs of Australian private investors. Additional information was collected to gather the respondents’ socio-economic background and risk preferences, and to identify the main sources of information for investors. The findings challenged the general assumption about the level of reliance placed by the average investor on corporate financial statements, as corporate annual reports did not have a dominant place as a source of information to the investors studied.

Baker et. al. (1977) carried out a study concerning cross-national comparison of information needs between individual investors in the United States and Australia. It was found that Australian investors and US have varying degrees of emphasis of various major sources of information. Another cross-country study of investors’ use of financial statements was carried out by Chang and Most (1981). They aimed at testing the following hypothesis: financial statements published as a part of corporate annual reporting are used for investment decisions. Potential users were classified into individual investors, institutional investors and financial analysts. They found that all three-user groups in all the three countries have greater importance on the corporate annual report as a source of information to make investment decision. Financial analysts of all the countries have greater importance on corporate annual reports than did institutional investors, and the latter have greater importance on them than did individual investors. Among different parts of the annual reports, all the three user groups in all three countries rated the financial statements as more important than any other part. While analyzing the educational, occupational, and personal characteristics, the study also found that financial analysts and institutional investors could be treated as homogeneous and individual investors as diverse. Further analysis of the responses showed that “a shareholder’s view of the usefulness of the various items in the annual report is significantly dependent on the shareholder’s previous employment in accounting or finance.” Within individual investors, the more sophisticated subgroup rated the corporate annual report items more highly than did the unsophisticated subgroup.

Anderson (1981) reported on the objective of the institutional investors, information sources used, usefulness of the different parts of annual report, and the investors’ desire for further information. It was found that an equal combination of dividend income and capital gains is their most important objective. Analysis to responses to another question reveals that annual reports the most important sources of information, followed by company visits. The study also shows that the most widely read sections of an annual report are balance sheet, income statement, notes to accounts and chairman’s statement. Investors ranked income statement, balance sheet and notes to account as most important for hold-sell decisions, while, for buy decision, chairman’s address and fund statements are used in conjunction with the
three part just mentioned. And finally, a huge majority (72.4%) of respondents opined, they need further information in annual reports. Chang, Most and Brain (1983) carried out a comparative study on the utility of annual reports to individual investors, institutional investors and financial analysts across three countries: the USA, New Zealand and the UK and found that among the twelve parts in a company annual report, income statement was ranked 1 in all countries. Balance sheet was ranked 2 in the USA and New Zealand but 1 in the UK. Statement of changes in financial position was ranked 3 in the USA and the UK but 4 in NZ. As part of a comparative study of investment appraisal methods of the USA and the UK Arnold et. al. (1984) asked 505 UK investment analysts and 400 USA financial analysts about eighteen and fifteen financial information sources respectively to indicate how influential they perceive each of the sources while evaluating the stock of a particular company. A very high percentage of analysts of both the countries perceived the income statement and balance sheet to be the two most important sources of information. Wallace (1987) made a comprehensive study of the perceived importance of a number of information sources and various parts of company annual reports among 1200 Nigerian users. He found that there is no consensus across users groups in their perceptions about the importance of particular sources of information and different parts of corporate annual reports.

Karim (1996) examined with a structured questionnaire to identify user's perception about a number of aspects of the published corporate annual reports in Bangladesh. The study encompassed six user groups e.g., accountants, bankers, stockbrokers, academicians, tax officials, and financial analysts. Out of 650 users to whom questionnaire was sent, a total of 289 usable responses were received making an overall response rate of 44.46%. The study was an attempt to examine empirically the perceptions of a sample of users of financial information regarding their purpose of using financial reports, the perceived importance of different sources of information, the relative importance of different parts of corporate annual reports and the perceived adequacy and reliability of the company annual reports. Non-parametric tools were used to examine whether significant difference exists across user categories. The results show that most respondents use company annual reports for making decisions on behalf of clients or employer. The annual reports of companies are considered to be the most important source of information about a company. Within the annual report, both balance sheet and income statement are ranked to be of paramount importance. An overwhelming majority of the respondents believe that the existing publication delay could be reduced and a poor percentage believes that the annual reports contain adequate and reliable information.
2.1.3 The Extent of Disclosure and Variables Associated with Different Disclosure Levels.

This section deals with the empirical studies so far conducted by different researchers on the extent of disclosure and the variables used for judging the extent of disclosure with different disclosure levels irrespective of the positive/negative association or no association of variables with the extent of disclosure. The approach used has been to determine the extent to which specific items of information are disclosed in corporate annual reports. In all cases, a disclosure index is constructed based either on the user's survey or on resorting the prevailing corporate reporting literature. Both weighted and unweighted disclosure indices have been used. While the disclosure indices constructed to measure the quality and extent of disclosure vary considerably from study to study, all share the basic idea of usefulness of information for the investment decision process (Inchausti, 1997). And all look at the information contained in the corporate annual report. Some of these studies look at only mandatory information, some look only at voluntary information, and yet others have looked at both mandatory and voluntary information. The number of items included in disclosure index varies from researcher to researcher. Most studies are country specific, although some measured the extent of disclosure between or among countries. With a view to showing the disclosure standards of developed and developing (countries under study) countries, this section is split off into two parts: (a) Relevance to international environment and (b) Relevance to Bangladesh, India and other developing countries.

Relevance to International Environment: Cerf (1961) carried out study selecting 31 items on the basis of a study of the investment decision process, review of relevant literature, interviews with security analysts, and an examination of analyst's reports. The items were classified into four categories according to their relative importance and were given weights ranging from 1 to 4. The annual reports of 527 US corporations were examined against the index, which provided a disclosure score for each company. He used asset size, number of shareholders, listing status and profitability as measured by the rate of return as corporate characteristics to examine the possible association with the extent of disclosure. He found significant association between firm size and number of shareholders and the extent of disclosure but no significant association between listing status and profitability and the extent of disclosure. He also found that the companies listed on New York Stock Exchange disclosed more information than those on regional stock exchanges. Singhvi (1967) examined annual report of 100 companies listed on the New York Stock Exchange, 55 OTC companies, and 45 companies listed on Bombay Stock Exchange. He included both mandatory and voluntary information in his disclosure index. He found that disclosure quality was significantly associated with asset size, number of stockholders, earnings margin, security price fluctuations, listing status and CPA firm while no significant association between rate of return and the extent of disclosure.
Buzby (1972 and 1974) examined the disclosure of financial and non-financial information of 88 small and medium sized companies using a disclosure index of 39 items. He found that the coefficient of correlation between the relative importance of the items and the extent of disclosure was small. Buzby (1975) extended the previous work to examine the effect of company size and listing status on disclosure levels. The results indicated that the extent of disclosure was positively associated with company size measured by assets but not affected by listing status. Stanga (1976) used sales (to measure the company size) and industry type as company characteristics while studying with a sample of 80 US company annual reports. He found significant relationship between industry type, and no significant relationship between size, and extent of disclosure.

Belkaoui and Kahl (1978) examined corporate disclosure in 200 Canadian companies with 30 disclosure items using 6 explanatory variables viz., size of the firm (as measured by sales and assets), profitability, liquidity, capitalization ratio and industry type. They found that two size variables, liquidity, and industry type were positively associated with disclosure while profitability and capitalization ratio were found to have a negative association with disclosure.

Firth (1979) examined the association between the extent of corporate disclosure and the firms' characteristics. He used three specific characteristics viz., size of the firm as measured by sales, stock market listing and the audit firm. Studying a sample of 180 UK company annual reports with 48 disclosure items, he found positive association between listing status, and size of the firm and disclosure levels while no significant association between audit firm and the extent of disclosure.

Cooke (1989) examined corporate disclosure levels of 90 Swedish companies incorporating both listed and unlisted companies. He found that the mean disclosure indices of the listed companies are higher than those of unlisted companies. His study also revealed that the size and the listing status were important in determining the extent of disclosure. Cooke (1992) also examined the impact of size, stock market listing, and industry type on levels of corporate disclosure. He examined with a sample of 35 Japanese companies using an unweighted disclosure index comprising 165 items of information. The result showed that disclosure increases with size, manufacturing companies disclose more information than non-manufacturing ones, and companies with multiple listings disclose more than companies only listed on Tokyo Stock Exchange.

Relevance to Bangladesh, India and other Developing Countries: As in the developed countries, few numbers of studies have been made on the association between the level of disclosure in corporate annual reports and corporate characteristics in the developing countries. A brief review has been made as under.

Singhvi (1967) carried out a research on corporate disclosure in India and the USA. He included 45 Indian companies with 38 major items of disclosure index in his
study. He examined the impact of 4 corporate characteristics viz. size as measured by assets, management origin, profitability, and number of stockholders on the level of disclosure. The study revealed that the companies small in size in respect of assets and number of stockholders are less profitable and have inadequate disclosure and are managed by Indians. Singh (1983) examined the annual reports of 40 public sector and 45 private sector Indian companies using a weighted index of 35 financial and non-financial information to evaluate the disclosure of social performance using data of the year 1972-73. He also examined the extent of environmental disclosure in 12 public sector and 18 private sector companies in 1977-78. The results showed an association between corporate size, profitability and the extent of disclosure while age and industry type were not significant.

While analyzing annual reports of 62 non-financial companies in Bangladesh Alam (1989) found that the sample companies failed to comply the minimum disclosure requirements. Pradhan (1990) carried out study with a sample size of 102 annual reports of Indian companies using 23 items of weighted index. He found a positive correlation between size as measured by both sales and assets and level of disclosure but negative correlation between EPS and level of disclosure and an overall improvement in the extent of disclosure during the period 1981 to 1985. Wallace (1987) investigated the extent of disclosure by constructing both weighted and unweighted disclosure index comprising 185 items of information taking annual reports of 94 sample companies listed on the Nigerian Stock Exchange. He used assets size, sales, number of shareholders, multinational relationship, rate of return, liquidity, type of management, and the type of business as the explanatory variables. The results revealed a positive association between the type of management influence and the extent of statutory disclosure and a positive impact of asset size on overall disclosure. The rest of the explanatory variables were not significant at 0.05 levels. The results also showed that all the companies in the sample disclosed 12 items of information of which 4 are voluntary, while none of them disclosed 26 items of information of which 10 are required by either the Nigerian Stock Exchange or the Nigerian Accounting Standards Board, and the rest 147 items of information that are sometimes disclosed by the companies.

Parry (1989) and Parry and Groves (1990) made a comprehensive study with 42 sets of published accounts of companies comprising 12 private unquoted, 8 private quoted, 14 public sector and 8 subsidiary of multinational company in order to examine the disclosure level and the quality of published accounts in Bangladesh. Disclosure index consisting of 30 items of information was constructed by dropping and adding few items of information with the Singhvi and Desai's (1971) index. To measure the extent of disclosure of the companies characteristics viz., size, ownership and the presence of qualified accountant(s) were used along with the simple linear regression equation. The study revealed an inverse relationship between disclosure levels and size, and positive association between ownership and disclosure while no significant
association between disclosure levels and the presence of qualified accountant(s) in the entities. Khandewal and Agarwal (1991) carried out a study on 17 public enterprises in India using a 32-item index and found that disclosure levels were not significantly different between years but that they varied significantly across companies. He did not examine any association between disclosure and company characteristics.

Ahmad and Nicholas (1994) made an empirical study with a sample size of 63 non-financial companies listed on Dhaka Stock Exchange. He examined the impact of selected company characteristics viz., corporate size, leverage, multinational company influence, qualification of the principal accounting officer, and the company auditor on compliance with mandatory disclosure requirements. He used an unweighted index consisting of 94 statutory disclosure items. By using multiple regression model he found that subsidiaries of the multinational companies and large audit firm have a significant positive impact on the level of disclosure while the accountant's qualification in the reporting company has less influence. He observed that only 4 of the 63 companies studied complied statutory disclosure scores of more than 90 percent and that the index of 37 companies (58.7% of the sample) was between 60% and 80%.

Karim (1996) also attempted to examine empirically the association between a number of corporate attributes and levels of disclosure in corporate annual reports in Bangladesh using multiple linear regression models. Karim himself stated that his study largely replicated the approach followed by Wallace (1987) in the Bangladesh context and expanded part of the work done by Parry and Groves, and Ahmed and Nicholls. A total of 161 annual reports of quoted, unquoted, financial, non-financial, public and private sector companies for the year ending between January and December 1992 were collected and the extent of disclosure was measured by using an unweighted and weighted index comprising 113 items of information. The study revealed that corporate size, profitability, active trading in the stock exchange, employment of qualified accountant(s), size, international link of company's auditor, and multinational subsidiary are all significantly associated with the extent of disclosure. Leverage, language of annual report, date of year end were not found to have any significant impact on disclosure. In some of the models government ownership and the number of languages used in preparing the annual reports was found significant.

M. Hossain et. al. (1996) investigated the extent of disclosure in corporate annual reports of Bangladesh, India and Pakistan with a sample size of 78 non-financial companies listed on Dhaka Stock Exchange, 80 non-financial companies listed on Bombay Stock Exchange and 103 non-financial companies listed on Karachi Stock Exchange using the annual reports for the year ended 1992-1993. He constructed an unweighted and weighted disclosure index comprising of 94 items of mandatory and voluntary information to examine the impact of the level of disclosure on the firm's
characteristics viz., size (measured by both sales and assets), debt-equity ratio, profitability, internationality, audit firm, industry type, proportion of assets-in-place and presence of public debentures in companies debt by using two multiple regression models. The study revealed that in consideration of the means of the unweighted and the weighted index of overall disclosure levels in the three countries, disclosure is highest in Pakistan and lowest in Bangladesh under both indices. This study reports significant differences in the level of disclosure, as measured by the mean values of the two disclosure indices among the sample developing countries. While finding the reason for lowest disclosure of Bangladeshi companies, he pointed out that it might be due to more upto-date regulation in Pakistan (the Companies Ordinance 1984) relative to India (Companies Act, 1956) and Bangladesh (Companies Act, 1913). While analysing the relationship between disclosure and firm characteristics of the three country by using multiple regression models, it was found that in case of Bangladesh the subsidiary of multinational company variable had significantly positive influence on disclosure under both the indices while the industry type variable was also significant at 10% level. The industry type variable was also significant at 5% level as suggested by stepwise regression in both the index models. All other variables were significant for both the index model. In the case of Indian companies, size, presence of debenture and rate of return on assets variables were significant at the 5% level in both the indices model. However, the international link of the audit firm variable was also significant at 5% level as suggested by stepwise regression. All other variables were insignificant in both the indices model. In the case of Pakistani companies, size, presence of debenture, and asset-in-place were significant at the 5% level in both the indices model. However, the international link of the audit firm variable was also significant at 5% level as suggested by stepwise regression. All other variables were insignificant in both the indices model.

An empirical study was made by Karim (1998) to examine the impact of regulatory change on corporate disclosure in Bangladesh with a sample of 86 annual reports of the companies listed on Dhaka Stock Exchange for the year 1991 and 1998. An unweighted disclosure index comprising 57 mandatory and 66 voluntary information items was constructed for the purpose of study. The study revealed that the aggregate, voluntary and mandatory disclosure levels in the year 1998 were all significantly higher than those in 1991. The results suggested that disclosure levels have generally improved over time but the improvement might not necessarily be attributable to the regulatory changes of the nineties including enactment of the Companies Act of 1994, rather the improvement may be due to factors including increased user pressure, a change in preparer’s attitude, or the adoption of International Accounting Standards. Mizan (1999) made an empirical study on compliance of mandatory and voluntary disclosure requirements in Bangladesh in respect of relevant statutory regulations and International Accounting Standards presented in six-parts of annual report. The extent of disclosure in annual reports of 20 non-financial listed companies was examined using an unweighted index. He found that only 68% mandatory information and 44%
voluntary information were disclosed in annual reports and overall 56% relevant information was disclosed by Bangladeshi companies.

The main points that have emerged out from the language of the researchers as depicted above are: the regulation of corporate accounting and reporting has been in operation in Bangladesh and India, following the British tradition, since 1882. The process has been evolutionary and has been operating satisfactorily (Banerjee, 2002). The accounting and financial reporting systems in the two countries are generally influenced by the history of British colonial rule. The origin of laws and regulations governing financial reporting are similar or the same (in this case British Companies Act) and the social, economic and political characteristics of the two countries are similar to some extent (M. Hossain, 1996). The financial reporting practices in Bangladesh and India are influenced by many factors viz., economic, political, social, legislation, and national accounting standards.

Disclosure of information in corporate annual reports has been an important area of research in both developed and developing countries and the issue has drawn more considerable attention in the developed countries than the developing ones. A number of different methodologies have been used in this area of research. In most of the studies, a disclosure index was prepared in order to measure the extent and level of disclosure in the annual reports based either on a user's survey or on a search of corporate reporting literature. In some studies, disclosure index was prepared by surveying a sample of users to determine the user's perception as to the important items of information to be reported in the annual report as well as the weight to be assigned to the items of information incorporated in the disclosure index while in other studies weightage have been given based on the researcher's own subjective assessment. In some studies emphasis has been given on the adequacy of total disclosure based on a checklist consisting of mandatory and voluntary disclosure items. Some studies have used mandatory items only whereas some others have used voluntary items. However, a review of literature suggests that the number of items included in various disclosure indices generally range from 10 to 289. It means that the concept of adequate disclosure varies across researchers.

There are some studies wherein only weighted index has been used, where as other researchers used unweighted disclosure index (as in most of the cases the both weighted and unweighted indices have given the identical results). Some researchers have used both weighted and unweighted indices. But, it is surprising that the weighted and unweighted models produce only slightly different results in terms of significant and insignificant variables (M. Hossain, 1996).

There are researchers who have measured the extent of disclosure longitudinally to determine whether quality of disclosure has improved over time, whereas most of the studies have focused on only one year. The number of companies included in the samples in those studies has varied from 14 to 527. No disclosure study, as reviewed, other than M. Hossain (1996) was industry specific. The number of corporate
characteristics that were examined by researchers to measure the extent of disclosure has ranged from 2 to 11. Some researchers have found some corporate attributes significant relationship while others have found no such relationship with the same attributes. Most studies are country specific, although, few in developed countries and a few in developing countries are among or between the countries. To establish the relationship between the extent of disclosure and company variables, some researchers have used multiple ordinary least square regression, while some others have used stepwise regression or simple linear regression and others have used rank correlation coefficient as a statistical tool. Whatever may be the variables and method of analysis, disclosure index can provide useful tools for measuring disclosure adequacy and practices if the results obtained from the disclosure index are complemented by qualitative analysis.

2.2 Hypothesis of the Study

The major objectives of the study as mentioned earlier are to make an overall comparison of the degree of disclosure of the companies between the two countries and to assess whether there is an association between corporate attributes and the extent of disclosure. The analysis has been made at two levels. At the first level, the comparison of the degree of disclosure has been made and at the second level, the expected association between corporate attributes and the extent of disclosure has been examined. With this end in view the following hypotheses have been drawn:

\[ H_0 : \text{No Significant difference of the degree of disclosure exists between the companies of the two countries under study.} \]

\[ H_1 : \text{Corporate attributes viz. size (measured by sales), profitability (measured by rate of return on total assets), and trading-category of the company in the stock market have a significant positive-impact on the extent of disclosure.} \]

\[ H_2 : \text{The extent of disclosures varies across industries.} \]

2.3 Methodology

2.3.1 Sample Design - The Population and the Sample of the Companies

The quality of financial reporting in a country depends on the legal requirements governing disclosure together with professional recommendations, which may have a varying degree of effectiveness depending on the influence of the professional bodies concerned (Marston, 1986). In addition, national and international accounting standards and stock exchange requirements may have an impact on the disclosure of information in corporate annual reports. Companies usually disclose information in a number of ways, such as through annual reports and accounts, interim and quarterly reports, prospectus, employee reports and announcements to the stock exchange. It
may be strongly argued that the most important medium of external financial disclosure is the corporate annual report (M. Hossain).

As one of the objectives of the present study is to compare disclosure practices of the companies of the two countries under study, it needs to take samples from both the country. As such, considering the influence of concerned regulatory and professional bodies only the listed public Ltd. companies have been selected without regard to the private limited companies. Government owned companies are excluded being not within the purview of this study. Companies listed on Dhaka Stock Exchange and Mumbai Stock Exchange have been taken into account as two units of population from Bangladesh and India respectively on judgmental basis. All the listed companies of the two units are not entirely suited to the needs of this study. Listed financial companies (e.g. bank and insurance companies) are excluded from the population of both the countries. Since the financial companies are different from non-financial companies and they prepare their annual reports according to their different statutes and have specialized nature of operations and financial disclosures. The companies are selected by using a stratified random sampling approach. Companies are identified keeping an eye to the objectives of the study and grouped according to type of industry. Ultimately the sample companies are picked up proportionately from each industry-type group on random sampling basis. For Bangladesh, the sample represents 50% of the whole population of the non-financial companies listed on Dhaka Stock Exchange. The total numbers of companies in the year under review are 198, out of which 100 companies are selected. There are around 2500 non-financial companies listed on Mumbai Stock Exchange, among which 100 companies are selected from each industry-type group proportionately. These companies are also listed on Delhi Stock Exchange. That is, the population unit has been aimed at the companies listed on Bombay as well as Delhi Stock Exchange and on the basis of stratified random sampling 100 companies have been picked up. The companies listed on Dhaka Stock Exchange and Bombay Stock Exchange (also listed in Delhi Stock Exchange) have also been stratified on the trading or market category viz. ‘A’ category company, ‘B’ category company and ‘Z’ category company. The Bombay Stock Exchange has also split ‘B’ category into ‘B1’ and ‘B2’. While taking samples, both the industry-type and the trading category have been taken into account. The survey of annual reports covers companies, which published their annual reports during the period ended between June 30, 2002 and December 31 2002. Ultimately distribution of samples in the light of both the categorization has come to this shape that follows:
2.3.2 Disclosure Score-sheet Design - Information Items Included in the Disclosure Index

Disclosure score-sheet is operationally prepared as the checklist for corporate governance disclosure based on the selected items of financial information, which may be disclosed in corporate annual report for measuring the extent of disclosure. The major task of the present study is to develop a suitable disclosure score-sheet comprising items of information that are expected to be disclosed in corporate annual reports. A disclosure score-sheet is constructed based either on a user survey or on a search of the corporate reporting literature. Studies examining users' information needs have revealed that different groups of users perceive the importance of information items differently from each other. Even within the same group of users, say, private investors, the perceived importance of various information items differ.
depending on the professional and academic background of the user concerned’ (Karim 1997). As one of the main objectives of the study is to examine the disclosure norms and practices of the two countries under study, the mandatory disclosure items have been developed by studying thoroughly the disclosure requirements set forth by the regulatory framework (e.g., Companies Act, Securities and Exchange Rules, Accounting Standards) currently in force in Bangladesh and India. The voluntary items are selected through extensive review of disclosure literature and the information that are being disclosed by the sample companies. Though ultimate analysis and comparison of the disclosure of companies between the two countries will be made on the basis of the mandatory disclosure, voluntary disclosure has been used as additional information. The numbers of disclosure items in the annual reports finally selected are as follows:

<table>
<thead>
<tr>
<th>Parts of annual report</th>
<th>No. of disclosure items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bangladesh</td>
</tr>
<tr>
<td>1. Mandatory Items:</td>
<td></td>
</tr>
<tr>
<td>(i) Disclosure on the face of Balance Sheet or in the Notes</td>
<td>51</td>
</tr>
<tr>
<td>(ii) Disclosure on the face of the Profit &amp; Loss Account or in the Notes</td>
<td>55</td>
</tr>
<tr>
<td>(iii) Disclosure of Accounting Policies, Description, Assumptions, Measurement and Valuation Bases</td>
<td>22</td>
</tr>
<tr>
<td>(iv) Mandatory information items to be disclosed other than Balance Sheet and Profit and Loss Account</td>
<td>20</td>
</tr>
<tr>
<td>Total Mandatory Items</td>
<td>148</td>
</tr>
<tr>
<td>2. Voluntary Items</td>
<td>13</td>
</tr>
<tr>
<td>Total Items</td>
<td>161</td>
</tr>
</tbody>
</table>

Table 2.3 : Numbers of disclosure Items in the Annual Reports

2.3.3 Score Index Design - Scoring in the Disclosure Score-Sheet

To determine the level of disclosure in corporate annual reports, various approaches have been used in different researches. Some researchers like Kahl and Belkau (1981), Cooke (1992), Alam (1989), Ahmed and Nicholls (1994), Karim (1998) have used unweighted index and dichotomous procedure in their research in which an item scores is one if disclosed and zero if not disclosed while Courtis (1979), Barret (1976, and 1977) and Marston (1986) used weighted disclosure index. On the other hand, in
some researches both weighted and unweighted index were seen to be used. The weights were predetermined either subjectively by the researchers or on the basis of users’ perceptions through the questionnaire survey. In this case the fact is that if various users of accounting information are asked to weigh the importance of different items of information in the disclosure index, they may attach different weights to the same items of information (M. Hossain). Spero (1979) found that attaching weights was irrelevant because the enterprises that are better at disclosing ‘important items’ are also better at disclosing ‘less important items,’ i.e., the firms are consistent in their disclosure policies. The choice of an unweighted index over a weighted one does not produce substantially different results (e.g. Chow and Wong-Boren, 1987, M. Hossain 1986) and there are researchers who favoured the use of unweighted index (e.g., Spero, 1979 and Rubbins and Austin, 1986).

In this study, approach to scoring items is essentially dichotomous in that an item scores one only if disclosed and zero if not disclosed. However, where an item of disclosure is clearly not relevant to a particular company, the entity is not penalized for non-disclosure. This is considered to provide a more realistic assessment than a strict dichotomous approach. The disclosure model thus measures the total disclosure (TD) score of a company each for mandatory and voluntary as additive as follows:

\[ TD = \sum_{i=1}^{n} di \]

And, Disclosure Index (DI) = \( \frac{m}{n} \)

Where, \( d = 1 \), if the item \( i \) (ith relevant item) is disclosed;
\( d = 0 \), if the item \( i \) (ith relevant item) is not disclosed;
\( d = \) not applicable.

And, \( m \leq n \);

\( m = \) the number of predetermined items which the company actually disclosed;
\( n = \) the number of predetermined items which the company is expected to disclose.

Thus, the disclosure index for a company is the total number of items disclosed divided by the total number of items in the score-sheet that applies to the company. And the additive model used here is unweighted on the implied assumption that each item of disclosure is equally important in view of the disclosure requirement set forth by the regulatory framework.
3.3.4 Dependent and Explanatory Variables

One of the two main objectives of this study is to assess whether there is an association between corporate attributes and the extent of disclosure. To examine the relationship total Mandatory Disclosure Index (MDI) has been used as the dependent variable in this study and calculated for each of the companies studied. The explanatory variables used in this study are some corporate attributes indicating different nature and magnitude of the companies. The corporate attributes taken are size (measured by sales), profitability (measured by rate of return on assets), industry type, and trading category of the company in the stock market. The following paragraphs provide a rational for selecting the corporate variables as explanatory variables:

Size of the Company: Size of the company may have the impact on the extent of disclosure in the corporate annual report. Larger company may disclose more information than the smaller one for a variety of reasons. Firstly, larger company has larger market share in respect of customers and volume of investment. Greater disclosure may bring in much confidence of the investors and the customers at large. Secondly, to maintain the social image and reputation greater companies may tend to disclose more information in their annual reports. Thirdly, as the cost of disclosure is one of the factors of disclosure, the larger companies have strong footing to bear cost of disseminating and accumulating information than those of the small ones. There are number of researchers who used size of the company as explanatory variable. Among those, Singhvi and Desai, 1971; Bazby, 1974; Wallace, 1987; Hossain et al, 1994, Karim, 1995 are mentionable.

Company size may be measured in different ways such as sales turnover, total assets, capital employed, etc. In this study, sales turnover has been used as the measure of company size as it is expressed in current price level than the other two measures. To avoid non-normality, natural log of sales has been used. The variable has been labeled ‘LNSALES’ as the size variable in the multiple regression model.

Trading Category of the Company: On the basis of trading in the stock market and extent of declaring dividend, companies have been categorized as ‘A’, ‘B’ and ‘Z’. ‘A’ category companies may tend to disclose more information than that of the other categories, as they are rated high in terms of these parameters and holding regular AGM and have declared more dividend than the other categories in the last financial year. On the other hand, companies falling ‘Z’ category may tend to disclose less information as they have failed to hold the current annual general meeting and have failed to declare any dividend and are not in operation continuously for more than six months. Besides, trading categorization of companies help develop image of the companies, which further promote these companies to disclose timely
and more information. This is a new variable in the disclosure studies to measure the variability in the extent of disclosure on this basis of categorization. The variable has been labeled ‘TRADCAT’ as one of the company-type variables in the multiple regression model.

**Industry-Type:** Industry type has been used by a number of researchers as an explanatory variable for differences in disclosure level. The existence of a dominant firm with a high level of disclosure in a particular industry may produce a bandwagon effect on levels of disclosure adopted by other firms in the same industry (Cook, 1991). No other firm may wish to be outscored by the leader firm and as a result, a particular industry have similar disclosure policies because of the follow the leader effect (Wallace, 1987; Belkaoui, 1978). In addition, the adoption of different industry-related accounting measurement, valuation and disclosure techniques and policies may lead to differential disclosure in financial reports published by enterprises within a country (Wallace, 1987). The variable has been labeled ‘INDUSTYPE’ as the industry-type variable in the regression model.

**Profitability:** Companies having higher profitability may disclose more information in their corporate annual reports than the companies with lower profitability (or losses) for a number of reasons. Companies are likely to feel more comfortable when disclosing favourable rather than unfavourable information, because one of the objectives of information disclosure is to increase share prices (Karim, 1996). If the profitability of a company is high, management may disclose more detailed information in order to experience the comfort of communicating it as it is good news. On the other hand, if profitability is low, management may disclose less information in order to cover up the reasons for losses or lower profits (Hossain et al). In this study rate of return on total assets has been used as the measure of profitability. The variable has been labeled ‘ROA’ as the profitability variable in the regression model.

### 2.3.5 Data Analysis

Since one of the two main objectives of the study is to show the comparison between the extents of disclosures of the various companies of the two countries under study, it has been attempted to apply descriptive statistical measures to see whether any difference exists. To show how much different parts of annual report of various companies of the two countries revealed their disclosures, the mean disclosures of different parts of annual report and the overall means of the two countries have been compared. To confirm the existence of any homogeneity of disclosures revealed by companies in the two countries, the null hypothesis has been developed as such:
H_0: No Significant difference of the degree of disclosure exists between the companies of the two countries.

To examine the homogeneity between the extent of disclosures of the companies of the two countries on the basis of 'industry-type' and 'trading-category', descriptive statistical measures have been used and 't'-statistic have been calculated for 'industry-type' and as the Trading-category used in Bangladesh and in India is not the same 't' statistic for 'trading-category' has not been possible to calculate. For better understanding, an ANOVA table has been presented to show 'F'-statistic to confirm whether or not to accept the null hypothesis.

As the second main objective is to assess whether there is an association between corporate attributes and the extent of disclosure, the expected association has been examined by testing the following hypotheses:

H_1: Corporate attributes viz. size (measured by sales), profitability (measured by rate of return on total assets), and trading-category of the company in the stock market have a significant positive-impact on the extent of disclosure.

H_2: The extent of disclosures varies across industries.

The multiple linear regression technique has been employed to test the hypothesis. The model is created using the Mandatory Disclosure Index (MDI). The explanatory variables used have been discussed in the earlier section. To examine the correlation between the dependent and independent variables and with the dependent variables, Pearson product moment correlation coefficients (r) have been computed. A correlation matrix of all the values of r for the explanatory variables along with the dependent variable has been constructed and shown for Bangladeshi and Indian samples. Bi-variate analysis provides a basic intuition of the degree of relationship between variables. The exact nature of relationship needs to be sorted out in multiple regression setting in which the marginal effect of one explanatory variable upon the dependent variable (extent of disclosures) would be examined which the effects of other explanatory variables are separated out. In this study, four variables Sales (X_1), Rate of Return on Assets (X_2), Industry-Type (X_3) and Trading Category (X_4) have been identified as independent or explanatory variables while mandatory disclosure score (y) has been picked up as the dependent variable since the objective of constructing this model is to analyze the effects (if any) of the independent variables on disclosure of companies in Bangladesh and India. As we can see, two of the independent variables (X_1, X_2) are measured at interval level (quantitative variable) while the other two (X_3, X_4) are nominal variables (qualitative variables) and the dependent variable (y) is measured at interval level, the nominal variables (X_3, and X_4) are entered into the regression model with the use of dummy variables. Since all
the explanatory variables are of equal interest, multiple regression technique with dummy variables have been employed to analyze data. While creating dummy variables, each category of a nominal variable is treated as a distinct dichotomous variable, which can assume only two values – 0 and 1.

The Model: Let $X_1$, $X_2$ denote the interval level co-variants, $y$ is the dependent variable and $X_3$, $X_4$ are nominal variables each having more sub categories. Here the nominal variables are measured as dummy variables, $Indum_i = 1$ when industry type is ‘Engineering’, $Indum_i = 0$ when industry type is otherwise. Again, $Indum_2 = 1$ when industry type is ‘Pharmaceutical and Chemical’, and $Indum_2 = 0$ when industry type is otherwise, and so on. In this way, $Traddum_1 = 1$ when trading category is ‘A’, $Traddum_1 = 0$ when trading category is otherwise and $Traddum_2 = 1$ when trading category is ‘B’, $Traddum_2 = 0$ when trading category is otherwise, and so on. Hence, nine or ten (depending on the no. of industry and trading category) dummy variables have been introduced into the regression model. Therefore, the form of the model is:

$$y = \alpha + \sum_{i=1}^{n} \beta_i (x_i) + \sum_{i=1}^{n} \delta_i (Traddum_i) + \sum_{i=1}^{n} \rho_i (Indum_i) + \epsilon$$

Where, $\alpha$ = the constant; $n$ = number of variables; $i = 1, \ldots, n$; And, $\epsilon$ = the error term.

In the multiple regression analysis the proposed dependent and independent variables (with dummy variables) are as follows:

**Dependent Variable:**

$y = MDI =$ Mandatory Disclosure Index Scores.

**Independent Variables:**

$X_1 = SALES =$ Sales Turnover;

$X_2 = ROA =$ Rate of return on total assets.

$X_3 = INDUSTYPE =$ Industry type of the companies. Being nominal variable, INDUSTYPE variable has been applied with the use of dummy variables (and labeled $Indum$ in the model) as follows:

INDUMENG = Industry type - Engineering companies;

INDUMPHAR = Industry type - Pharmaceutical and Chemical companies;

INDUMTEX = Industry type - Textile companies;

INDUMFOOD = Industry type - Food and Allied companies;

INDUMSERV = Industry type - Service rendering companies;

INDUMMIS = Industry type - Miscellaneous companies.
X₄ = TRADCAT = Trading category of the companies in the stock market. Being nominal variable, TRADCAT variable has been applied with the use of dummy variables (and labeled TRADDUM in the model) as follows:

TRADDUM-A = Companies trading in the stock market as ‘A’ category;
TRADDUM-B = Companies trading in the stock market as ‘B’ category;
TRADDUM-B1 = Companies trading in the stock market as ‘B-1’ category;
TRADDUM-B2 = Companies trading in the stock market as ‘B-2’ category;
TRADDUM-Z = Companies trading in the stock market as ‘Z’ category;

In India, trading category ‘B’ as used in Bangladesh is classified as ‘B-1’ and ‘B-2’.

So, by placing the names of dependent variables and independent variables, the two final models (no. 1 for Bangladesh and no. 2 for India) for the Total Mandatory Disclosure based on the samples of the two countries stand as follows:

MDI = α₁ + β₁ LNSALES + β₂ TRADCAT + β₃ INDUSTYPE + β₄ ROA + β₅ INDUMENG + β₆ INDUMPHAR + β₇ INDUMTEX + β₈ INDUMFOOD + β₉ NDMSERV + β₁₀ INDMIS + β₁₁ TRADDUM-A + β₁₂ TRADDUM-B + β₁₃ TRADDUM-Z + ε₁ ..........(1)
MDI = α₂ - β₁ LNSALES + β₂ TRADCAT + β₃ INDUSTYPE + β₄ ROA - β₅ INDUMENG - β₆ INDUMPHAR - β₇ INDUMTEX - β₈ INDUMFOOD - β₉ NDMSERV - β₁₀ INDMIS - β₁₁ TRADDUM-A - β₁₂ TRADDUM-B - β₁₃ TRADDUM-Z - ε₂ ..........(2)

The model developed in this study has been tested for multicollinearity. The description of the four independent variables, their labels and expected signs and relationships are presented below:

<table>
<thead>
<tr>
<th>Variable labels</th>
<th>Variables</th>
<th>Expected sign and relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNSALES</td>
<td>Sales turnover</td>
<td>A significant positive impact with the level of disclosure</td>
</tr>
<tr>
<td>TRADCAT</td>
<td>Trading category of the companies in the stock exchange</td>
<td>A significant positive impact with the level of disclosure</td>
</tr>
<tr>
<td>INDUSTYPE</td>
<td>Industry type of the company</td>
<td>Has no indicated sign with the level of disclosure</td>
</tr>
<tr>
<td>ROA</td>
<td>Rate of return on total assets</td>
<td>A significant positive impact with the level of disclosure</td>
</tr>
</tbody>
</table>

Table 2.4: Description of the four Independent Variables, their Labels, Expected Signs and Relationships
Reference


