An Empirical Investigation of the Association Between Company Attributes and Disclosure Score of Indian Companies

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Abstract

The main thrust of this paper is to investigate the company attributes and their influence on corporate disclosure. The study examined the level of disclosure on the basis of index of disclosure consisting of 101 items by analyzing the annual reports of 19 public sector and 23 private sector non-financial Indian companies selected on the basis of their market capitalization from BSE-500 index. The study covers a period of eight years from 2003-04 to 2010-11. This study investigates the impact of company attributes i.e. Turnover of the Company, Fixed Assets of the company, ROCE (Profitability of the company), Age of the Company, Board Size, Proportion of Independent Directors on Board, Attendance of Independent Directors in Board Meetings, Listing Status of the Company, Promoters' Holding, Institutional Holding , and Nature of Industry on Disclosure score of public and private sector companies in India by using the multiple regression analysis. The study indicates that Turnover, Proportion of Independent Directors, and Institutional Holding have a positive and significant impact on Disclosure score of public sector companies. In case of the private sector, the study highlights that Turnover, Age, Listing Status, D_3 (Minerals and Metals), and D_4 (Chemical and Fertilizers) industries have a positive and significant influence on the Disclosure score.

Keywords: **disclosure index, public sector, private sector, company attributes, association**
JEL Classification: C2, C12, D22, L32

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Disclosure has been defined as the process to communicate all details regarding activities of the business which are to be disclosed either statutorily or otherwise, and to convey a true and fair view of the operating results and financial position to the users of the financial reports. Corporate disclosure is the reporting of accounting information of an entity (individual, firm, company, government enterprise etc.) to a user or a group of users. Kohler's Dictionary for Accountants defines it as an explanation, or exhibit, attached to a financial statement, or embodied in a report (e.g., an auditor's report) containing a fact, opinion, or detail required or helpful in the interpretation of the statement or report. Corporate disclosure is of utmost importance in the globalized economy for the effective working of capital markets and to meet the needs of the information users. Ever increasing importance of the corporate sector in the national economy has necessitated a complete and analytical disclosure of accounting information as a whole. It has gained importance in the recent past due to the expansion and growth of the company form of organization, change in the requirements of the stakeholders and shareholders, and due to competition and various amendments that have taken place from time to time in the laws relating to disclosure practices.

Corporate disclosure of information can be made through several forms such as annual reports, prospectus, press releases, financial dailies and magazines, interim reports, and so forth. However, an annual report is one such important medium through which public and private sector companies make disclosure of their annual information on a regular basis. In India, disclosure practices of both public and private-sector companies are governed by various laws and regulatory bodies such as Companies Act, Securities and Exchange Board of India, Bureau of Public Enterprises, Institute of Chartered Accountants of India, and so forth. In addition to it, the management philosophy on disclosure differs from concern to concern. Many large and listed companies disclose the information beyond mandatory requirements. Due to this, differences are found in the disclosure practices of various companies.

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Review of Literature

Company characteristics or attributes also have a significant influence on the extent of disclosure. This has been highlighted in many empirical, descriptive, and qualitative studies carried out in the field of corporate disclosure by various research scholars. Some of these studies have been discussed briefly below :

Khanna and Singh (1981) examined the annual reports of 45 companies operating in different industries for the year 1976-77. They found that Net Worth, Net Sales, Total Assets, Net Profit, and Rate of Return influenced the Disclosure of marketing information, whereas other attributes Age, Earning Margin, Nature of Industry, and Ownership Structure did not influence the Disclosure of marketing information by private sector concerns. Lal (1985) revealed a positive association between Asset Size, Earnings Margin, Nature of Industry and the Quality of Disclosure. However, the Size of the Company had a better association with the Extent of Disclosure than other variables.

Chander (1992) examined and compared disclosure practices of public and private sector companies in India. The study was based upon a sample of 50 public sector and 50 private-sector companies for the period from 1980-81 to 1984-85. It highlighted the positive and significant association between four independent variables, i.e., Size of the Company as measured by its Assets/Turnover, Profitability as measured by ROI, Age, and Industry variables and Disclosure score. Kohli (1998) analyzed and compared the Disclosure practices of U.S. and Indian companies. The study showed that Total Assets, Turnover, Profit/Turnover, Age of a Company had a positive association with the Disclosure score, whereas Profits/Total Assets revealed a negative association for Indian companies in 1990-91. In 1994, Disclosure level of companies of both the countries showed a positive and significant association with Total Assets, Turnover, Profit/Total Assets, and Age of a Company.

Barako, Hancock, and Izan (2006) examined the relationship between corporate governance attributes and voluntary disclosure in annual reports of Keynesian companies for the period from 1999 to 2001. They investigated the relationship between Extent of Voluntary Disclosure with attributes i.e. Board Composition, Board Leadership Structure, Board Audit Committee, Foreign Ownership, Institutional Ownership, Shareholder Concentration, Firm Size, Leverage, External Auditor Firm, Profitability, Liquidity, and Industry type. The study showed a positive association between Voluntary Disclosure Practices and Audit Committee, whereas Board Composition variables and Board Leadership structure revealed a negative association with Disclosure.

Mahajan and Chander (2007) studied the quantum of Corporate Disclosures and its association with corporate attributes, such as Size, Age, Profitability, Leverage, Listing Status, Shareholding Pattern, Audit Firm, and Residential Status of a Company. The study revealed that a significant association existed among Size, Profitability and Size of an Audit Firm and Disclosure Level through multiple regression analysis. Khlifi and Bouri (2008) examined the impact of corporate governance mechanism on the level of Voluntary Disclosure in the annual reports. The study showed a negative and significant relation between the level of Voluntary Disclosure information in annual reports and the Proportion of Independent Directors and the Ownership Concentration. It highlighted a positive relationship between Disclosure and control variables, that is, Firm Size, Industry Type, and Audit Firm Size. However, Board Size and Institutional Ownership did not show any significant effect on the extent of Voluntary Disclosure.

Bapat and Raithatha (2010) conducted an empirical study of disclosure practices in 100 non-financial Indian companies listed on the BSE to examine the level of compliance with disclosure requirements of the accounting standards and to determine the relationship between Disclosure and Company Attributes. The study revealed that there was no relationship between Compliance Index (CI) and company characteristics namely Size, Profitability, Leverage, Age of the Company, Foreign Listing, Promoter Group, and Promoter Nationality. However, FII Ownership was found to have a positive relation with Compliance Index through regression analysis.

Kansal (2011) analyzed annual reports of 82 Indian companies listed on the Bombay Stock Exchange to explore the extent and nature of corporate disclosure practices for the period from 2000-01 to 2008-09. The study examined the extent of association between Social Disclosure and corporate characteristics such as Size, Profitability, Risk, and Age. The study highlighted a positive and significant association of Age, Average Capital Employed, Total Assets, PAT, and PBT with the Disclosure score. On the other hand, Size, Revenue, ROCE, RONW, and Risk Profile pointed out an insignificant association. Ragini (2012) examined and compared the various disclosure practices of intangibles of the top one hundred of each of Indian, U.S., and Japanese companies for the period of five years from 2001 to 2005. The study examined the impact of Firm Attributes, that is, Organizational Size, Profitability, Market to Book value ratio, Leverage and Industry type on the Disclosure level of intangibles by top Indian, U.S., and Japanese companies.

The study highlighted a significant association of disclosure score with Industry type, Organizational Size, and Profitability in case of Indian companies. Whereas, Industry type was a significant factor in case of U.S. companies. However, in case of Japanese companies, Organizational size was revealed to have a significant association with disclosure score.

Verghese (2012a) analyzed the annual reporting of 160 Indian companies to know the quality of financial reporting. The study covered the period of three years, that is from 2001-02 to 2003-04. The study explored the relationship between the extent of Disclosure and selected Company characteristics. The study revealed a positive and significant association of Size, Profitability, International Listing with the Disclosure score. However, Industry type had an insignificant impact on the extent of disclosure by a company during the period of study. Bhayani (2012) examined the Firm's characteristics i.e. Age of the firm, Listing Status, Ownership Structure, Leverage, Size of theAudit Firm, Residential Status, Size, and Profitability, and their influence on Corporate Disclosure on a sample of 45 listed non-financial firms of India. The study was based on a sample of NSE 50 firms for the period from 2008-09 to 2010-11. The study used the disclosure index with 74 reporting items. The analysis showed significant influence of Listing Status, Ownership Structure, Leverage, Size of the Audit Firm, Size, and Profitability of the firm on the Disclosure level. However, the Age of a company and Residential Status did not have a significant impact on the level of Corporate Disclosure.

Objective of the Study

The present paper is an attempt to empirically investigate the degree of association of a number of key company attributes like Size, Profitability, Age, Board Size, Proportion of Independent Directors, Attendance of Independent Directors on Board, Listing Status, Promoters' Holding, Institutional Holding, and Nature of Industry with the Disclosure.

Research Methodology

↳ **Sample Size :** The study is based on 42 Indian companies included in the BSE 500 index (19 from the public sector and 23 from the private sector as per the Annexure 1) from five industries - namely Oil Drilling & Exploration, Refineries, Power Generation and Distribution, Metals and Minerals, Chemicals and Fertilizers, and Heavy engineering. It covers a period of eight years, that is from 2003-04 to 2010-11.

↳ **Sources of Data Collection :** The study is based on secondary data collected from the annual reports of the respective companies on the basis of index of disclosure.

↳ **Construction of the Index and Scoring :** For the study, an index of disclosure consisting of 101 items was constituted. Out of 101 items, 99 items were applicable in the private sector. Company wise, a disclosure score sheet had been prepared on the basis of the disclosure index, and both the unweighted scoring method (which assigns equal weightage to all the items of the disclosure index) and the weighted scoring method had been used. The unweighted scoring method assigned score 1 for the items disclosed in the annual reports and 0 for the items that were not disclosed in the annual reports for all the items of the disclosure index, except for eight items namely Schedules, Notes to Accounts, Accounting Policies, Use of Charts/graphs, Past Year Dividend Statistics, Financial Ratios, Financial highlights regarding past, and Production Statistics. These items were assigned weights as under:

(a)	**No. of Schedule**	**Weight**
	Upto 20	1
	More than 20	2
(b)	**Notes to accounts**	
	Upto 20	1
	From 20 – 30	2
	Above 30	3
(c)	**Accounting policies**	
	Upto 10	1
	More than 10	2

(d)	**Use of charts/graphs**	
	Upto 10	1
	More than 10	2
(e)	**Past year dividend statistics**	
	Upto 5 years	1
	More than 5	2
(f)	**Financial ratios**	
	Upto 10	1
	More than 10	2
(g)	**Financial highlights regarding past**	
	Upto 10	1
	More than 10	2
(h)	**Production statistics**	
	Upto 5 years	1
	More than 5 years	2

The maximum score applicable to the public sector companies and private sector companies is 110 and 108 respectively because two items (i.e. Comments of Comptroller and Auditor General of India and Guidelines of Bureau of Public Enterprises) in the disclosure index are not applicable in the private sector. Disclosure score for all the years of the study for each company in the public and private sector was calculated by applying the following formulas :

1) Disclosure Score = $\frac{\text{Total scores obtained by a company}}{\text{Total scores application to that company}}$

2) Mean Disclosure Score = $\Sigma X/N$

Where, ΣX = Sum of all the values of the variable X; where X represents disclosure score from 2003-04 to 2010-11.
N = Total number of observations

3) Karl Pearson's Coefficient of Correlation (r) : Before multiple regression analysis, it is necessary to check the existence of multicollinearity among the independent variables. For checking the multicollinearity, Pearson's coefficient of correlation was computed:

$$r = \frac{n\,\Sigma xy - (\Sigma x)\,(\Sigma y)}{\sqrt{n\,(\Sigma x^2) - (\Sigma x^2)}\;\sqrt{n\,(\Sigma y^2) - (\Sigma y)^2}}$$

In addition to this, the variance inflation factor was also taken into consideration to check the multicollinearity among the variables.

4) t -test : t - test is used to check the significance of the regression coefficient at 5% level of significance (Bajpai, 2010). For the purpose of the study, the value of the t test had been computed in the following manner :

$$t = \frac{b_j - \beta_j}{S_{bj}}$$

Where,
b_j = Slope of the variable j, with independent variable Y holding all other independent variables constant.
β_j = The hypothesized population slope for variable j, holding all other independent variables constant.
S_{bj} = The standard error of the regression coefficient.

Theoretical Framework of Independent / Explanatory Variables

In previous studies, researchers have examined the extent of association between a number of company attributes and the disclosure level. The rationale for taking these factors is as follows :

↳ **Size of the Company and Corporate Disclosure :** Size of the firm is measured in terms of its turnover and fixed assets. The firms which are larger in size enjoy economies of scale and have the ability to afford higher costs of disseminating information. However, due to problems of coordination and communication among the managers at different levels of the organization resulting from large scale operations, delays in disclosures are generally seen. The studies undertaken by Chander (1992), Mahajan (2008), Bhayani (2012), and Varghese (2012b) showed positive association between Size and Disclosure. However, Bapat and Raithatha (2010) found no relationship between Size and Disclosure. Therefore, the hypothesis for the present study is as given below:

$H_0$1 = There is no significant association between Size (as measured by turnover and asset size) and Disclosure score.

↳ **Profitability and Corporate Disclosure :** Higher the profitability, the more is the ability of an organization to disclose information to the public at an affordable cost. On the other hand, companies with lower profitability may disclose less information as they fear that more disclosure may further endanger their profitability. Bhayani (2012) revealed a positive significant association between Profitablility and Disclosure score. However, the studies by Chander (1992), Mahajan (2008), and Varghese (2012b) did not reveal any significant association. In the present study, return on capital employed (ROCE) had been considered for the purpose of studying the relationship between Profitability and the Disclosure score.

$H_0$2 = There is no significant association between Profitability (as measured by return on capital employed) and Disclosure score.

↳ **Age of the Company and Corporate Disclosure :** It is generally believed that old companies disclose more information than new companies because old companies do realize the benefits of more disclosure within a certain span of time. However, the studies by Chander (1992), Mahajan (2008), and Bhayani (2012) revealed a positive significant impact of Age on Disclosure score.

$H_0$3 = There is no significant association between Age of a company and the Disclosure score.

↳ **Board Size and Corporate Disclosure :** Board size shows the effectiveness with which companies are managed and controlled. There are different views given by researchers regarding the size of the board. Khlifi and Bouri (2008) found a negative and insignificant association between Board Size and Voluntary Disclosure.

$H_0$4 = There is no significant association between Board Size and Disclosure score.

↳ **Independent Directors and Corporate Disclosure :** The Independent Directors are not the full time employees of the companies, therefore, they provide their services as experts only. Existing literature suggests that the Independent Directors are more in favour of disclosing the information to outside investors.

$H_0$5 = There is no significant association between proportion of Independent Directors on Board and the Disclosure score.

↳ **Participation Rate of Independent Directors in Board Meetings and Corporate Disclosure :** It is assumed that Independent Directors are for the protection of outside investors, and their participation in board meetings should be more so that good decisions are taken and disclosure of relevant information is made to the interested parties.

$H_0$6 = There is no significant association between Attendance of Independent Directors in board meetings and the Disclosure score.

↳ **Listing Status and Corporate Disclosure :** Companies which are listed on foreign stock exchanges have to follow the guidelines of that particular stock exchange in addition to guidelines issued in their home country. It is ,therefore, expected that companies listed on overseas stock exchanges disclose more information than domestic listed companies.

$H_0$7 = There is no significant association between Listing Status and the Disclosure score.

↳ **Promoters' Holding and Corporate Disclosure :** It is the general perception that Holdings by Promoters are

negatively associated with Disclosure because they do not prefer to disclose more information to the public.

$H_0$8 = There is no significant association between Promoters' Holding in ownership structure and the Disclosure score.

↳ **Institutional Holdings and Corporate Disclosure :** The research conducted by Khlifi and Bournio (2008) revealed a negative and insignificant association between Disclosure and Institutional Holdings. However, some studies have shown that the institutional investors compel the companies to disclose more information and ,therefore, its relationship is positive.

$H_0$9 = There is no significant association between Institutional Holding in Ownership Structure and the Disclosure score.

↳ **Nature of Industry and Corporate Disclosure :** Nature of industry also has an influence on the extent of disclosure by the companies belonging to it. Chander (1992) highlighted a significant association of Nature of Industry with the Disclosure score in case of public sector companies, whereas Varghese (2012a) found an insignificant impact of the Industry type on the extent of Disclosure by the company.

In order to know the extent of association between the Disclosure score and the Nature of the Industry, the companies were divided into 5 categories, that is, D_1 (Oil Drilling and Exploration), D_2 (Power Generation and Distribution), D_3 (Minerals and Metals), D_4 (Chemicals and Fertilizers), and D_5 (Heavy Engineering).

$H_0$10 = There is no significant association between Nature of Industry and the Disclosure score.

Model Development

To study the association between corporate disclosure and company attributes, ordinary least square method was used on eight years pooled data. The following regression models have been used:

↳ **For the Public Sector:** The following model is applicable for the public sector, as both measures of Size had been considered.

Model I :

$$Y = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \beta_7 X_{7it} + \beta_8 X_{8it} + \beta_9 X_{9it} + \beta_{10} X_{10it} + \beta_{11} X_{11it} + \beta_{12} X_{12it} + \beta_{13} X_{13it} + \beta_{14} X_{14it} + \mu_{it}$$

↳ **For the Private Sector**

Model I: It is applicable for the private sector, when Turnover was considered for measuring the Size of the company:

$$Y = \beta_0 + \beta_1 X_{1it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \beta_7 X_{7it} + \beta_8 X_{8it} + \beta_9 X_{9it} + \beta_{10} X_{10it} + \beta_{11} X_{11it} + \beta_{12} X_{12it} + \beta_{13} X_{13it} + \beta_{14} X_{14it} + \mu_{it}$$

Model II: It is applicable for the private sector, when Fixed Assets were considered for measuring the Size of the company :

$$Y = \beta_0 + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \beta_7 X_{7it} + \beta_8 X_{8it} + \beta_9 X_{9it} + \beta_{10} X_{10it} + \beta_{11} X_{11it} + \beta_{12} X_{12it} + \beta_{13} X_{13it} + \beta_{14} X_{14it} + \mu_{it}$$

Where,

Y = Disclosure Score,

β_0 = Intercept,

i = Company identifier,

t = time identifier,

β_1 to β_{14} = Regression Coefficients,

X_1 = Log of Turnover,

X_2 = Log of Fixed Assets,

X_3 = ROCE,

X_4 = Age,

Table 1: Correlation Matrix (Public Sector)

Variables	Turnover (in crores)	Fixed Assets (in crores)	ROCE (%)	Age	Board Size	Proportion of Independent Directors	Attendance of Independent Directors	Listing Status	Promoters' Holding (%)	Institutional Holding (%)
Turnover (in crores)	1									
Fixed Assets (in crores)	0.636**	1								
ROCE	-0.073	-0.305**	1							
Age	0.060	-0.070	0.146	1						
Board Size	0.029	0.109	-0.035	0.026	1					
Proportion of Independent Directors	0.154	0.117	0.162*	0.218**	0.225**	1				
Attendance of Independent Directors	0.091	0.031	0.076	0.026	0.085	0.335**	1			
Listing Status	0.005	0.079	0.256**	-0.029	0.026	0.102	0.195*	1		
Promoters' Holding	-0.082	-0.097	-0.029	0.115	-0.008	-0.027	-0.010	-0.214**	1	
Institutional Holding	0.157	-0.045	0.235**	-0.037	0.026	0.282**	0.149	0.340**	-0.648**	1

**Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Source: Calculations based on annual reports of selected public sector companies from 2003-04 to 2010-11

Table 2: Correlation Matrix (Private Sector)

Variables	Turnover (in crores)	Fixed Assets (in crores)	ROCE (%)	Age	Board Size	Proportion of Independent Directors	Attendance of Independent Directors	Listing Status	Promoters' Holding (%)	Institutional Holding (%)
Turnover (in crores)	1									
Fixed Assets (in crores)	0.961**	1								
ROCE	-0.080	-0.094	1							
Age	0.144	0.089	0.149*	1						
Board Size	0.049	0.045	-0.108	0.160*	1					
Proportion of Independent Directors	0.028	0.095	-0.381**	-0.042	-0.042	1				
Attendance of Independent Directors	0.193**	0.156*	-0.272**	0.087	0.040	0.170*	1			
Listing Status	0.381**	0.346**	0.132	0.280**	-0.017	-0.064	-0.059	1		
Promoters' Holding	-0.078	-0.047	0.015	-0.448**	-0.106	0.094	0.013	-0.289**	1	
Institutional Holding	0.059	0.041	0.029	0.530**	0.127	-0.098	-0.059	0.341**	-0.826**	1

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Source: Calculations based on annual reports of selected private sector companies from 2003-04 to 2010-11

Table 3: Multiple Regression Results			
Dependent variable →	**Disclosure Score**		
Independent variables ↓	**Public Sector**	**Private Sector Model I**	**Private Sector Model II**
Constant	10.714 (2.915)**	26.630 (7.644)**	43.614 (17.974)**
Turnover	10.406 (9.950)**	5.551 (6.084)**	-
Fixed Assets	-0.088 (-1.135)	-	0.066 (1.336)
ROCE	0.107 (2.332)	-0.103 (-2.995)	-0.162 (-4.380)**
Age	-0.040 (- 0.724)	0.126 (4.166)**	0.231 (8.179)**
Board Size	0.045 (0.834)	0.035 (0.878)	0.053 (1.193)
Proportion of Independent Directors	0.068 (2.192)*	0.008 (0.191)	-0.005 (-0.098)
Attendance of Independent Directors	0.062 (1.114)	0.017 (0.394)	0.059 (1.294)
Listing	0.045 (0.747)	5.417 (3.475)**	8.853 (5.499)**
Promoters' Holding	0.000 (-0.003)	-0.103 (-3.421)**	-0.081 (-2.481)*
Institutional Holding	0.136 (2.560)*	-	-
D1	-5.827 (-3.444)**	0.102 (1.649)	0.049 (0.921)
D2	-0.039 (-0.550)	-8.917 (-5.199)**	-14.756 (-9.352)**
D3	-4.395 (-3.050)**	6.184 (3.578)**	3.762 (2.105)*
D4	-0.077 (-1.350)	5.023 (3.207)**	0.095 (1.897)
R^2	**0.610**	**0.743**	**0.683**
Adjusted R^2	**0.594**	**0.732**	**0.672**
F (sig)	**.000**	**.000**	**.000**
**denotes significant at 1 % level of significance			
* denotes significant at 5 % level of significance			
Source: Calculations based on annual reports of public sector companies from 2003-04 to 2010-11			

X_5 = Board Size,
X_6 = Proportion of Independent Directors,
X_7 = Percentage Attendance of Independent Directors,
X_8 = listing status,
X_9 = Promoter's holding,
X_{10} = Institutional holding,
X_{11} to X_{14} = Industry Dummy Variable,
μ = Regression residual

To avoid the problem of dummy variable trap, four dummies were introduced to represent the nature of industry, that is, one dummy less than the total type of industries.

Analysis and Results

The Table 1 presents the correlation among independent variables after pooling the data of eight years. It does not reveal a high degree of correlation between the variables. Therefore, multicollinearity was not a problem in the public sector.

The Table 2 presents the correlation matrix of the private sector for the pooled data of eight years. It reveals a high degree of correlation between Turnover and Fixed Assets; and also between Promoters' Holding and Institutional Holding. Therefore, two models have been used in case of the private sector after taking one measure of Size in one model. Institutional Holding was not considered to run the regression due to multicollinearity. The Table 3 shows the results of the regression analysis for the public and private sector companies respectively. Among all the variables introduced in the model, the Coefficient of Turnover, ROCE, Board Size, Proportion of Independent Directors,

Attendance of Independent Directors, Listing Status, Promoters' Holding, and Institutional Holding highlight the positive association with the Disclosure score. The *t*-values of Turnover, Proportion of Independent Directors, and Institutional Holding are significant at the 1 % and 5 % level of significance. On the other hand, Fixed Assets and Age have a negative influence on Disclosure score. The constant value of 10.714 is intercept value of category D_5, which has been used as the base in the analysis. By the addition or subtraction of the individual dummy coefficient from this base coefficient, we could calculate the intercept values of other categories. Dummies in the model had been introduced to know the influence of any special feature of the industry on Disclosure. It was found that coefficients of category D_1 (Oil Drilling and Exploration) and category D_3 (Minerals and Metals) showed a significant association with the Disclosure score. This shows that industry related factors have an effect on the Disclosure. The value of R^2 is 0.610, which indicates that 61% of the variation in the disclosure score is explained by Turnover, Proportion of Independent Directors, Institutional Holding, and Nature of Industry in the public sector. *F* value is significant at 1 % level of significance. Therefore, the null hypotheses, that is, $H_0$1, $H_0$5, $H_0$9, and $H_0$10 have been rejected for the public sector.

Among all the variables introduced in Model I (Table 3), in case of the private sector, only Turnover, Age, and Listing Status show a positive and significant association; whereas, Promoters' Holding show a negative and significant relationship at 1% and 5% level of significance. However ROCE, Board Size, Proportion of Independent Directors, and Attendance of Independent Directors did not have any significant influence on the Disclosure score. The constant value of 26.630 is intercept value of category D_5 , which has been used as the base in the analysis. Dummies in the model were introduced to know the influence of any special feature of the industry on the Disclosure score. The results reveal that coefficients of category D_2 (Power Generation and Distribution), category D_3 (Minerals and Metals), and category D_4 (Chemicals and Fertilizers) showed a significant association. This shows that the industry related factors have an effect on the Disclosure. The value of R^2, that is 0.743 indicates that 74.3% of the variation in the disclosure score is explained by Turnover, Age Listing Status, Promoters' Holding, and Nature of the Industry in case of category D_2 and D_4. *F* value is significant at 1% level of significance. This model explains 74.3% of the variation in the Disclosure score. Therefore, the null hypotheses, that is, $H_0$1, $H_0$3, $H_0$7, $H_0$8, and $H_0$10 have been rejected in case of the private sector.

Model II in Table 3 clearly shows that Fixed Assets, Age , Board Size, Attendance of Independent Directors, Listing Status, and companies from category D_1, D_3, and D_4 have positive regression coefficients; whereas ROCE, Proportion of Independent Directors, Promoters' Holding, and category D_1 (Oil Drilling and Exploration) have a negative association with the Disclosure score in case of the private sector. The *t*-values of ROCE, Age, Listing Status, and Promoters' Holding show a significant impact on the Disclosure score. The constant value of 43.614 is the intercept value of category D_5 , which has been used as the base in the analysis. Dummies had been introduced to know the influence of any special feature of the industry on the Disclosure score, and it was found that the coefficients of category D_2 (Power Generation and Distribution) and category D_3 (Minerals and Metals) showed a significant association with the Disclosure score. The value of R^2 0.683 reveals that 68.3% of the variation in Disclosure score is explained by ROCE, Age, Listing Status, Promoters' Holding for categories D_2 and D_3. *F* value is significant at 1% level of significance. Therefore, the null hypotheses, that is, $H_0$2, $H_0$3, $H_0$7, $H_0$8, and $H_0$10 have been rejected in the case of the Private Sector Model II.

Conclusion

From the above analysis, it can be concluded that Turnover, Proportion of Independent Directors, and Institutional Holding have a positive and significant impact on the Disclosure score of public sector companies, whereas Nature of the Industry has a negative and significant association with the Disclosure score. Therefore, the hypotheses in respect of association of Turnover, Proportion of Independent Directors, Institutional Holding, and Nature of Industry with the Disclosure score have been rejected in case of the public sector companies. Hence, the study implies that the companies with higher turnover, higher proportion of independent directors, and more institutional holding have more transparency and disclosure in the public sector. Whereas, the null hypotheses in respect of association of Fixed Assets, Profitability, Age, Board Size, Participation Rate of Independent Directors, Listing Status, and Promoters' Holding with the Disclosure score have been accepted.

For the private sector, the study highlights that Turnover, Age, Listing Status, Category D_3 (Minerals and Metals) and category D_4 (Chemical and Fertilizers) industries have a positive and significant influence on the Disclosure score. However, ROCE and Promoters' Holding exhibit a negative and significant impact on the Disclosure score. Therefore, hypotheses in respect of association of Turnover, ROCE, Age, Listing Status, Nature of Industry, and Promoters' Holding with the Disclosure score have been rejected for the private sector. Therefore, it can be concluded that in the private sector, companies with higher turnover, the ones that were older in age, and with foreign listing status have better disclosure levels and are more transparent in the eyes of domestic as well as overseas investors. However, the private sector companies with higher profits and more promoters' holding feel reluctant in disclosing more information.

Research Implications and Scope for Further Research

The study implies that some of the company characteristics have a significant influence on disclosure practices of Indian companies in both the sectors. The study makes an important contribution in the field of accounting research. This study would be of great use to investors as more disclosures help the interested parties to understand the market discipline earlier and in a more effective manner. It provides directions to the management of new and small companies to make their processes and disclosures more transparent, to increase public confidence, and also to access capital markets more efficiently. The study recommends that the regulatory agencies in India should lay more emphasis on disclosures and formulate policies to enforce compliance with the same so that uniformity can be brought in disclosure practices of different companies.

Further research can be conducted to study the impact of other company attributes like Audit Committee, Size of an Audit Firm, Financing through ADR's/ GDR's on Disclosure practices of companies. Finally, the present study can be of immense help to the Indian companies to understand the present status of their disclosure practices and hence make them more responsible and also provide comprehensive guidelines for their disclosure endeavours.

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Annexure I

List of Public Sector Companies

1. Bharat Earth Movers Ltd.
2. Bharat Petroleum Corporation Ltd.
3. Gas Authority of India Ltd.
4. Hindustan Copper Ltd.
5. Indian Oil Corporation Ltd.
6. National Aluminum Company Ltd.
7. Neyvali Lignite Corporation Ltd.
8. National Fertilizers Ltd.
9. National Hydroelectric Power Corporation Ltd.
10. National Mineral Development Corporation Ltd.
11. National Thermal Power Corporation Ltd.
12. Oil India Limited
13. Oil and Natural Gas Corporation Ltd.
14. Power Grid Corporation Ltd.
15. Rashtriya Chemical & Fertilizers Ltd.
16. Steel Authority of India Ltd.
17. Satluj Jal Vidyut Nigam Ltd.
18. Engineers India Ltd.
19. Bharat Heavy Electricals Ltd.

List of Private Sector Companies

1. Aban Offshore Ltd.
2. Alfa Laval Ltd.
3. Bayer Cropscience Ltd.
4. CESC
5. Chambal Fertilizer & Chemical Ltd.
6. Coromendal fertilizers Ltd.
7. Essar Oil Limited
8. Gujarat Industries Power Co. Ltd.
9. GVK Power & Infrastructure Ltd.
10. HINDALCO
11. Indraprastha Gas Limited
12. Jai Prakash Power
13. Jindal Steel Ltd.
14. Larsen & Toubro
15. Petronet LNG
16. Reliance Industries Ltd.
17. Sanghvi Movers Ltd.
18. SESA Goa
19. Sterlite Industries (India) Ltd.
20. Tata Chemicals Ltd.
21. Tata Power Co. Ltd.
22. Tata Steel Co. Ltd.
23. United Phosphorus Co. Ltd.