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Corporate Social Responsibility Initiatives in Different Indian Business Sectors: A Comparative Testing Approach Using Firm Size Metric

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Abstract: The current study aims to detect any significant relationship between corporate social responsibility (CSR) score and type of industrial sector to which sampled companies belong, and to assess how this relationship tends to change with the size of the firm. Application of One-way ANOVA for the six-year time period, i.e. from 2014-15 and 2019-20, has reported that CSR disclosure of all industrial sectors does vary and such differences in CSR scores are highly apparent in small firms with one sector reported significantly higher disclosure than the other. In fact, such sectoral CSR dissimilarities have been gauged size-wise as well in the contextual spheres of environmental, community development, and employee relations categories, for example, CSR disclosure of power and electricity generation is significantly greater than that of minerals, metals & mining in case of environment and sustainability dimension. Overall, small companies need to put greater focus on carrying out and reporting of CSR activities keeping in mind the expectations of all stakeholders.

1. Introduction

CSR ensures to upgrade the well-being and social upliftment of the community as a whole by emphasizing upon the triple bottom line covering 3Ps as Profit, People and Planet. The pyramid of CSR essentially embraces ethical considerations in building product responsibility, legal accountability towards environment and labour relations, philanthropic outlook in the direction of human rights and society along with reflection on economic aspects. To construe corporate social responsibility in a philanthropic sense is not recommended at all as it constitutes the essential business technique of the companies which aims to bring alignment between financial, ecological and social objectives under the umbrella of its strategic policy framework (Kakade, 2019). To be more specific, corporate social responsibility (CSR) refers to strategies that companies put into action as part of corporate governance

that are designed to ensure the company's operations are ethical and beneficial for society. A mandated CSR policy has recently been framed in Indian context too by way of incorporated in Companies Act 2013 which was effective from the year 2014-15 with the intendment that such policy should strengthen the national agenda of developing nations (Mitra, 2021).

As per the notice released by Ministry of Corporate Affairs (MCA), Section 135 under Schedule VII of Companies Act (2013) furnishes that each organization in India with a total asset holding exceeding or equals to five hundred crore rupees or an annual sales of exceeding or equals to Rs 1000 crores rupees or a net profit of more than or equals to Rs 5 crore rupees for any one financial year is required to establish a Corporate Social Responsibility Committee. This committee maintains that the said company shall, for each financial year, spends minimum two percent of its average net profits belonging to the three immediately preceding financial years, in the furtherance of its Corporate Social Responsibility Policy. CSR activities presently spread across a wide scope of zones including environmental protection and biological protection. A noteworthy test before business houses in the corporate region is to advance CSR systems that help in accomplishing the ideal yield in terms of expanded social credibility (Fakay and Buragohain, 2015).

CSR is mainly driven by several triggers including streamlining economic esteem, developing brand image, conformance with governing laws and regulations, hostile labor markets, charity and welfare, need of designing vigorous social strategies, growing moral consumerism, market integration and globalization, increasing social cognizance, association between the partners etc (Kakade, 2019). To describe in a broader sense, CSR reporting exhibits companies' endeavors towards their operations in host and other countries in order to be viewed as responsible corporate citizens therein and thereby promote their expelling reputation (Marfo *et al.*, 2015).

2. Review of Literature

CSR disclosure deals with supplying information by the firms on environmental and social performance criterions (Gamerschlag *et al.*, 2011).Numerous investigations have been initiated to compare CSR practices, for example, a study by Kakade (2019) reported that ITC and HUL are perceived to be the most responsible companies among the group. HUL s Project Shakti and ITC s e-choupal programs had the highest top of the mind recollection, with a sizeable percentage of respondents being able to recall the name of the program. Further, Ranjan and Tiwary (2017) had suggested in their work and revealed that there has been shift in the focus from profit making to societal service in the Indian corporate world. Social responsibility initiatives are important for a company as commitment to social responsibility enhances the goodwill of the company, the investors' confidence and a favorable corporate image. In fact, the company's brand is not only contingent on the product's quality rather upon the overall effect posed by the company's activities towards society, environment, and the economy (Dhawan and Samantara, 2020).

Adding to the above, it denotes the essence of corporate social responsibility. Findings revealed that CSR spending on human resources promotes employee satisfaction, reduces labour turnover and enhances quality production but the current CSR activities are restricted to education, health and rural development only with little focus on sports, talent search and other socially desirable phenomenon.

While reporting the outcomes from KPMG survey 2018, it is the energy and power whose CSR spending is maximum (in crores) followed by BFSI, IT consulting sector and mining and metal (Kakade, 2019). In addition, Kulkarni and Rao (2014) conducted comparison of the CSR practices across India and Africa by classifying the practices through coding in content analysis for locating the key practices in the context of Automobile industry by referring the disclosures contained in Global Reporting Initiative (GRI) reports. It observed that CSR activities were nearly similar on the economic and philanthropic grounds, which are lying on the lower area of Carroll's CSR pyramid. However, the legal and ethical frameworks (on the upper area of Carroll's pyramid) had appeared to be somewhat varied in these selected countries. While examining the CSR perspectives in pre and post Companies Act period, Saha (2017) has ferret out that in the pre-Companies Act, an industry-specific outcome can be noticed for IT sector only pertaining to CSR disclosure in all dimensions except the area of product responsibility. However, when it comes to the analysis of post-Companies Act era, several industry-oriented outputs had been generated with regard to CSR disclosure by companies. It is interesting to note that an industry-specific result in IT has been yielded across CSR parameters of labour practice, human rights and product responsibility whilst an industry-specific output obtained in pharmaceutical is related to the aspects of environmental disclosure. Furthermore, pharmaceutical, IT and energy industry-oriented results have also been found for human rights disclosure. Contrary to it, Marfo *et al.* (2015) observed no difference in the extent of CSR reporting between the various industry groupings using 5 percent significance level which includes distribution and transport, banking and finance, main investments market segment, mining and manufacturing, agro processing and food and beverages and alternative investment market segment.

Supplementing the above discussion, Bala and Singh (2014) has laid emphasis on identifying and studying CSR practices being followed in private sector Indian corporates, public sector companies and multinational corporates. It viewed that private sector companies highly prefer to focus on employee satisfaction practices along with implementing measures for ensuring product safety and maintaining quality standards. However, MNCs tend to pay greater attention on operate its functioning under the ambit of legal compliance regulations and standards like labour laws. Further, the focus of public sector companies is much observed towards employee welfare programs. In fact, as regards conservation of natural resources and implementing pollution control measures, all the companies were found to be involved in it. Moreover, it was inferred that there is no significant mean differences of public sector companies, private sector companies and multinational corporations for practicing CSR practices.

However, the core variation exists in assigning priorities to various CSR initiatives. In this light, Ranjan and Tiwary (2017) stated that with the advent of globalization there is change in social obligation philosophy of a business with private ownerships, multinational companies and public domain companies operating simultaneously in the economy. In addition, in an attempt to match corporate social responsibility (CSR) initiatives by the Indian corporate sector with the Sustainable Development Goals (SDGs), Podder *et al.* (2019) realized that more CSR investments are warranted in the direction of biodiversity, climatic variations, ensuring sustainable consumption and production, protection of flora and fauna and sustaining marine life. Further, it suggests the requirement of more CSR expenditure in seven north-eastern states, Jammu and Kashmir and Union Territories. Among the corporate groups

analyzed in India, it can be highlighted that Tata group has occupied first rank in dynamically undertaking CSR practices in India (Kakade, 2019).

In addition, Sharma and Kundu (2014) highlighted the current trends in social spending by specific business houses on the selected parameters like development of infrastructure, ecological conservation, promotion of education, health education etc. The study found that almost all the companies have initiated the corporate social obligations and sustainable development efforts but it has been discovered that the spending of private sector companies has been erratic i.e. more in few areas of their choice and less in the majority area that should otherwise be prioritized. It concluded that CSR spending should be in line with the national economic needs like the development of backward areas. Moreover, it is important to realize that not all the industries generate similar quantum of pollution, following equal severity of environmental regulations and carry same risks relating to environmental liability (Banerjee *et al.*, 2003). In fact, some of the industrial sectors possessing higher environmental influence making them distinct from the others (Wang *et al.*, 2016).In fact, these companies lay more importance on undertaking CSR initiatives (Podder *et al.*, 2019).

Further, Dabic *et al.* (2016) is of the view that there is lesser amount of research focus on industry-specific CSR practices and highlights the future scope of CSR studies in this direction, especially in the spheres of electricity provisioning and automotive industries. In light of COVID-19 pandemic, companies are moving forward to facilitate assistance in excess of their targeted CSR budgets, and adoption of new measures like modifying their logos, tagline or broadcasting advertisements to create awareness about the precautionary measures to combat this virus (Upadhyay and Rathee, 2021). Drawing upon the loopholes extracted from the above literature, the current research investigates the position of Indian companies in relation to corporate social responsibility with the aim to analyze whether CSR is an integral element of fundamental business structure of selected industry-specific sectors operating in India.

3. Objectives and Hypothesis of the Study

3.1. Objectives of the Study

In particular, the core intendment of the study is to achieve the following research objectives:

- To conduct the comparative analysis of corporate social responsibility scores of sampled corporates across selected sectors in India.

  The above objective can be achieved by analyzing the following sub-objectives of the study:

- To identify major components of CSR initiatives reported by sampled companies and
- To judge the significant dissimilarities or uniqueness in undertaking CSR practices between selected sectors (with special attention to their size).

3.2. Hypothesis of the Study

The core hypothesis of the present study states whether the corporate social responsibility scores of sampled corporates vary across selected sectors in India.

4. Research Methodology

4.1. Sample Selection Criterion

The current sampling structure adopts two-fold criterion. Firstly, the sample of the study must correspond to six selected sectors namely, Information Technology (IT), Minerals, Metals and Mining (MM&M), Chemicals and Fertilizers (C&F), Oil and Petroleum (O&P), Power and Electricity Generation (P&EG) and Automobile (AM) sector. Secondly, the companies selected must be top Bombay Stock Exchange listed companies derived on the basis of market capitalization as on 31st March, 2020 after ranking them by sorting into descending order.

Relying on the above two criterions, the sample has been extracted in the manner that top BSE companies must belong to 6 selected sectors in the study. While selecting the sampled companies, banks, insurance companies and companies representing other sectors have also been excluded.

4.2. Population and Sample Size

Since the entire sample set represents the population of all BSE-listed companies, a total of top 118 companies have been finally included in the sample. This sample ultimately represents 708 (118*6) observations covering time span of six financial years ranging from 2014-15 to 2019-20.

4.3. Size-based Sample Classification

Where the number of total selected firms representing one sector in the overall sample is even, then top half has been termed as large firm sample and other half represents the small firm sample. However, if this number turns out to be odd (such as in MM&M (21), O&P (23), C&F (19) and AM (15)), then the respective number is split into half and the additional decimal proportion of the number has been adjusted into the lower half (i.e. small firm sample) (For example, in MM&M $N/2 = 21/2 = 10.5$ firms, wherein 10 has been covered under large firm category and remaining 11 will be constituted as part of small firm sample).

4.4. Period of Analysis

The current data analysis has covered the testing of CSR practices for six-year time period i.e. from 2014-15 and 2019-20. The major reason of selecting 2014-15 as the starting time point is that it denotes the financial year which marks the year immediately after the enactment of Companies Act, 2013. Further, it is important to have an in-depth comprehension of the data to make it capable for drawing future inferences. In this light, since larger data sets help in generating deeper insights, therefore six-year span has been considered sufficient which results into a set of 708 observations.

4.5. Data Sources

In order to draw empirical inferences pertaining to CSR initiatives among different industrial spheres, secondary data sources have been referred to. These sources primarily include the following:

- Annual reports of the companies (CSR data)
- Corporate social responsibility reports of companies.

- Corporate social responsibility initiatives reported in company websites.

The above reports have been gathered from Prowess Database (CMIE), company websites (company-specific information).

4.6. Construction of CSR Index

The present study has developed CSR index comprising of 33 items which have been classified into four heads (no. of items in each head), i.e. 'Environment and Sustainability' (8), 'Community Engagement and Development' (10), 'Employee Relations' (9)and 'Consumer and Products' (6).

4.7. Statistical Technique Employed

For the purpose of data testing, One-Way ANOVA has been employed. This technique is used to determine whether there are any statistically significant differences between the means of two or more independent (unrelated) groups (although you tend to only see it used when there are a minimum of three, rather than two groups). It is important to realize that the one-way ANOVA is an omnibus test statistic and is unable to explain which specific groups were statistically significantly different from each other. Since there are six (or two- firm size) industry-based groupings in the study design, it becomes imperative to analyze which of these selected groups are significantly different from each other, for which Posthoc testing has been applied (see below).The null hypothesis framed under One-way ANOVA is:

There is no difference in the population means of the different levels of factor A (i.e. industry groups). Herein,

H0: $\mu 1 = \_ \_ \_ = \mu 6$ (which states that all of the population means are equal)

For one-way ANOVA,the alternative hypothesis reflects that at least one of the k population means is different from all of the others. Herein,

HA: $\mu 1 \neq \mu 6$(which indicates that the population means are not equal, i.e. there is statistically significant difference between the industry groups.

It is important to mention that the entire data testing has been performed by employing PASW Statistics Software Package using Version 18.

4.7.1. Testing of Assumptions: Levene Statistic

The study utilized the Levene statistic measure in order to test the assumption in one-way ANOVA, the null hypothesis of which states that the variances are homogeneous in nature. However, where the null hypothesis has been rejected at 5 percent significance level, Welch ANOVA has been applied which is also labeled as 'Robust Tests of Equality of Means'.

4.7.2. Application of Posthoc Test

Since one-way ANOVA reports overall significant results, therefore Posthoc follow up testing has been performed to judge which of the groups under statistical testing are turned out to be significantly different. For this purpose, Tukey's Honest Significant Difference (HSD) test (a multiple comparison

test) has been employed to compare the group means which are significantly different from the other (in pairs) by controlling the error rate (on experimental basis) and is used in situation where variances are assumed to be homogenous. However, where this assumption has not been met, second level testing has been made with the help of Games-Howell test measure.

4.8. Specification of Variables

The dependent variable in one-way ANOVA is CSR score of item/variable contained in developed CSR index whilst six industrial sectors represent independent variable under the data analysis. Under dimension-based analysis, dependent variable represents CSR scores of four selected dimensions, i.e. Environment and Sustainability', 'Community Engagement and Development', 'Employee Relations 'and 'Consumer and Products' which are analyzed one by one and again six sectors are taken as independent variable. It has been ensured that the dependent variable is a continuous variable and the independent variable in ANOVA must be categorical in nature. Under overall CSR testing, overall CSR score is used as dependent variable and sectors is taken as an independent variable. Similarly, in size-based testing, firm size/sectors used as independent variable and overall CSR score/dimension-wise CSR score are dependent variables.

5. Data Analysis

Following results have been yielded from the statistical analysis:

5.1. Item-wise CSR Disclosure Testing

The core research outcomes have reported that with the application of One-way ANOVA significant differences at 5 percent level are revealed for four items in the category of 'Environment and sustainability' dimension namely- 'ISO-based certification', 'Utilization of renewable energy resources', 'Preservation of water and electricity resources', 'Tree plantation practice'. Items such as 'Recycling and management of wastes' and 'Decline in greenhouse effect' have come out to be significant just at ten percent level meaning thereby the variation in mean scores of these two items is weak across six sectors. Outcomes have also reported that mean CSR score is statistically different (at weak i.e. 10 percent significance level) for CSR practices namely 'Vocational Guidance' 'Road Construction and Infrastructure' in the 'Community Engagement and Development' category. One CSR practice i.e. 'Contribution towards charity and donation' under this dimension has very closely brushed the limit of statistical significance. The significance level improved from 10 to 5 percent for items such as 'Women Empowerment Initiatives', 'Providing assistance in natural disasters' and 'Education to Poor and Under-privileged' and from 5 percent to 1 percent level in case of drinking Water and Sanitation Practice'. As regards Employee Relations category, the analysis is able to achieve one percent significance level for three items as 'Health and Security to the Employees', 'Medical facilities to the family of employees', and 'Adoption of Gender Equality and no Discrimination Policies'. The significant level found to be reduced at 5 percent level for CSR practice namely 'Leadership programmes for employees' and further at 10 percent level for 'Organizing training and development programmes'.

However, for 'consumer and products' category, no significant relationship has been observed for four out of six items (Designing Green and Eco-Friendly Products, Provisioning of After Sale Services, Product Safety and Quality Enhancement, Enhancing Customer Satisfaction) meaning thereby that all the six sectors have implemented nearly similar CSR practices with almost similar CSR scores, thus failed to indicate the statistically significant relationship. Even for remaining two items (Product Innovation and Redressing Consumer Queries) in this category, only weak evidences have been observed.

Table 1: Comparative Analysis of CSR Practices between Selected Sectors- Results of One-way ANOVA

Variable		*Df*	*F*	*Sig.*
ISO based certification	BG	5	3.67	0.037
	WG	702		
	Total	707		
Recycling and management of wastes	BG	5	2.85	0.062
	WG	702		
	Total	707		
Utilization of renewable energy resources	BG	5	3.42	0.039
	WG	702		
	Total	707		
Adoption of e-conferencing modes for conducting meetings	BG	5	1.56	0.192
	WG	702		
	Total	707		
Preservation of water and electricity resources	BG	5	3.27	0.047
	WG	702		
	Total	707		
Implementation of pollution control practices	BG	5	1.69	0.182
	WG	702		
	Total	707		
Tree plantation practice	BG	5	4.01	0.021
	WG	702		
	Total	707		
Decline in greenhouse effect	BG	5	2.65	0.072
	WG	702		
	Total	707		
Women empowerment initiatives	BG	5	4.88	0.011
	WG	702		
	Total	707		

contd. table 1

Variable		*Df*	*F*	*Sig.*
Provisioning of health and medical services	BG	5	1.49	0.291
	WG	702		
	Total	707		
Vocational Guidance	BG	5	2.51	0.085
	WG	702		
	Total	707		
Drinking water and sanitation practice	BG	5	5.71	0.005
	WG	702		
	Total	707		
Road construction and Infrastructure	BG	5	2.99	0.081
	WG	702		
	Total	707		
Social awareness events	BG	5	0.88	0.341
	WG	702		
	Total	707		
Providing assistance in natural disasters	BG	5	3.11	0.049
	WG	702		
	Total	707		
Contribution towards charity and donation	BG	5	3.02	0.057
	WG	702		
	Total	707		
Financial support to non-governmental organizations	BG	5	1.28	0.310
	WG	702		
	Total	707		
Education to poor and under-privileged	BG	5	4.07	0.019
	WG	702		
	Total	707		
Application of Welch ANOVA:				
Variable(s)	Statistic value	df1	df2	Sig.
Health and security to the employees	5.62	5	113.33	0.004
Organizing training and development programmes	2.68	5	109.22	0.062
Provisioning of employees' accommodation or housing	1.86	5	90.13	0.178
Improved working environment	0.84	5	111.51	0.111
Medical facilities to the family of employees	9.63	5	114.96	0.000
Adoption of gender equality and no discrimination policies	6.14	5	111.55	0.003

contd. table 1

Variable		*Df*	*F*	*Sig.*
Staff welfare practices	0.79	5	76.77	0.231
Leadership programmes for employees	3.99	5	98.42	0.022
Facility of online learning	1.79	5	80.29	0.166
Designing green and eco-friendly products	0.84	5	116.66	0.111
Provisioning of after Sale services	1.86	5	129.55	0.178
Product innovation	2.73	5	111.73	0.083
Product safety and quality enhancement	1.95	5	127.98	0.132
Enhancing customer satisfaction	0.61	5	133.59	0.538
Redressing consumer queries	2.71	5	110.53	0.063

Source: PASW Statistics 18 (N= 108, 126, 138, 114, 132 and 90 for six sectors respectively)

BG = Between Group and WG = Within Group

5.2. Group-wise CSR Disclosure: Dimension-based Analysis

In additional testing, group-wise CSR score has been compared between selected sectors wherein groups represent the dimensions of Environment and Sustainability (E&S), community engagement and development (C&D), employee relations (ER), Products and Consumer (P&C) etc. Results of CSR differences among six sectors have been analyzed on the basis of four dimensions which are presented in two tables whereby table 2exhibits results of one-way ANOVA for first two dimensions (i.e. where the assumption of homogenous variances have been satisfied) and Welch ANOVA depicts findings for last two dimensions (wherein this assumption could not be met). Findings of one-way and Welch ANOVA indicates that the CSR scores across six sectors appears to be significantly different for three out of four dimensions only, including Environment and Sustainability, Community Engagement and Development and Employee relations and such significant results are obtained at 5 percent conventional significance level. However, no significant difference has been observed for last dimension, i.e. 'Consumer and Products' as its p-value could not appear to be significant. In-depth analysis showed that insignificant CSR score for 'Consumer and Products' dimension can also be evidenced from item-wise analysis wherein just two out of six items were turn out to be significant and that too be able to capture only weak significance level.

The close scrutiny of data reveals that the power and electricity generation and oil and petroleum appear to have disclosed at a higher level in the environmental direction, however this is not in case of minerals, metals and mining and automobile industry. However, minerals, metals and mining reports CSR practices mainly in the area of community involvement. The CSR disclosure of chemicals and fertilizers and automobile industries is at relatively low in all the four dimensions. As regards Information technology sector, CSR initiatives and reporting is much concentrated in the areas of 'environment and sustainability' and 'employee relations'. It is the power and electricity generation whose CSR disclosure is at balanced as well as higher level among all the dimensions. Further, the CSR reporting in 'consumer and products' dimension is almost similar in all sectors, yet it is quite low in terms of its average value relative to other dimensions.

Table 2: Results of One-Way and Welch ANOVA: Dimension-based CSR Score

Application of One-way ANOVA:

Variable(s)	*Group(s)*		*Df*	*F value*	*Sig.*
Environment and Sustainability	IT MM&M O&P C&F P&EG AM	Between Groups Within Groups Total	5 702 707	4.27	0.019
Community Engagement and Development	IT MM&M O&P C&F P&EG AM	Between Groups Within Groups Total	5 702 707	4.58	0.011

Application of Welch ANOVA:

Variable(s)	*Group(s)*	*Statistic value*	*df1*	*df2*	*Sig.*
Employee Relations	IT MM&M O&P C&F P&EG AM	5.03	5	106.55	0.014
Consumer and Products	IT MM&M O&P C&F P&EG AM	0.86	5	17.12	0.214

Source: PASW Statistics 18 (N= 108, 126, 138, 114, 132 and 90 for six sectors respectively

5.3. Additional Testing: Overall CSR Score Findings

5.3.1. Results of ANOVA

As can be depicted from table 3 below, overall CSR score has been found to be significantly different between six industrial sectors at 5 percent significance level (with p-value = 0.036). This finding

demonstrates the rejection of null hypothesis that all group population means are equal or it can be stated that alternative hypothesis has been accepted at 5 percent level of significance. It implies that the corporate social responsibility scores of sampled corporates do vary across selected sectors in India. Thus, the orientation of companies towards CSR practices differs from sector to sector, hence proving the base of the present research work.

Table 3: Results of One-Way ANOVA: Overall CSR Score

Variable	*Group(s)*	*Mean*		*Df*	*F value*	*Sig.*
Overall CSR score	IT	21.28	Between Groups	5	5.46	0.036
	MM&M	22.41				
	O&P	17.27	Within Groups	702		
	C&F	13.59				
	P&EG	26.63	Total	707		
	AM	14.69				

Source: PASW Statistics 18 (N= 108, 126, 138, 114, 132 and 90 for six sectors respectively)

5.3.2. Results of Posthoc Testing

After the application of One-way ANOVA, the adjusted p-value of Posthoc testing revealed statistical difference in CSR scores between Chemicals & Fertilizers and Information Technology, Chemical & Fertilizers and Oil & Petroleum, Power & Electricity Generation and Oil & Petroleum, Minerals, Metals & Mining and Power & electricity generation, Chemicals & fertilizers and Minerals, Metals & Mining and lastly between Automobile and Information Technology. The close inspection of data analysis reports that the mean overall CSR value is significantly higher in information technology sector relative to the chemical and fertilizers. Similarly, the analysis also provides explanation of significantly higher mean overall CSR score in power and electricity generation sector than that of mineral, metals & mining sector and oil &petroleum too. This finding affirms the results of Kakade (2019) which too reports the higher CSR spending in energy and power sector/Information technology sector relative to mineral, metals & mining/chemicals and fertilizers. Moreover, the mean values of chemicals & fertilizers (automobiles) are found to be significantly low than the values belonging to minerals, metals & mining (information technology).These significant differences support the rejection of null hypothesis in one-way ANOVA. In other words, the alternative hypothesis has been accepted using conventional levels of significance and thus, leads to the testing of another research question as to whether the firm size has any influence on the CSR-based sectoral differences generated herein.

5.4. Additional Statistical Analysis

The testing has further been extended by incorporating the effect of size and size as well as industry sector on CSR disclosure.

5.4.1. Size-based Testing

Additional size-wise testing has highlighted some interested findings wherein size of the firm has been analyzed as an influential factor in causing its impact on the sector-oriented CSR outcomes. Table 4 clearly indicates the presence of significant difference of CSR scores between large and small firms at 5 percent level (with p-value = 0.010) wherein higher mean scores are associated with large firms and vice-versa. Utilizing this ground, the data analysis has been extended to test dimension based and overall CSR sectoral differences separately for large and small firm samples.

Table 4: Results of One-Way ANOVA: Overall CSR Score and Firm Size

Variable	*Group(s)*	*Mean*		*Df*	*F value*	*Sig.*
Overall CSR score	Large Firms	24.57	Between Groups	5	4.68	0.010
	Small Firms	18.79	Within Groups	702		
			Total	707		

Source: PASW Statistics 18 (N= 342 (large), 366 (small))

Table 5: Results of One-Way ANOVA (for large firms): Dimension-based CSR Score

Application of One-Way ANOVA:

Variable	*Group(s)*		*Df*	*F value*	*Sig.*
Environment and Sustainability	IT MM&M O&P C&F P&EG AM	Between Groups Within Groups Total	5 336 341	2.09	0.122
Community Engagement and Development	IT MM&M O&P C&F P&EG AM	Between Groups Within Groups Total	5 336 341	2.79	0.092

Application of Welch ANOVA:

Variable(s)	*Group(s)*	*Statistic value*	*df1*	*df2*	*Sig.*
Employee Relations	IT MM&M O&P C&F P&EG AM	2.77	5	36.98	0.081

Consumer and Products	IT MM&M O&P C&F P&EG AM	2.18	5	22.19	0.076

Source: PASW Statistics (N= 54, 60, 66, 54, 66 and 42 for six sectors respectively)

Table 6: Results of One-Way ANOVA (for Small firms): Dimension-based CSR Score

Variable	*Group(s)*		*Df*	*F value*	*Sig.*
Environment and Sustainability	IT MM&M O&P C&F P&EG AM	Between Groups Within Groups Total	5 360 365	8.82	0.001
Community Engagement and Development	IT MM&M O&P C&F P&EG AM	Between Groups Within Groups Total	5 360 365	4.94	0.012
Variable(s)	*Group(s)*	*Statistic value*	*df1*	*df2*	*Sig.*
Employee Relations	IT MM&M O&P C&F P&EG AM	3.97	5	16.82	0.037
Consumer and Products	IT MM&M O&P C&F P&EG AM	1.69	5	28.48	0.287

Source: PASW Statistics (N= 54, 66, 72, 60, 66 and 48 for six sectors respectively)

Tables 5 and 6 explain that 'environment and sustainability' dimension could not yield statistically significant CSR differences in large firm sample, however the opposite was observed for small-firm

sample. This might be due to the fact that mostly large firms lay emphasis on reporting CSR in the context of environmental performance. In 'community engagement and development' and 'employee relations' dimension, weakly significant results are found for large firms. Contrary to it, significantly different CSR variations have emerged in small firm sample. Apart from it, 'consumer and products' is the only dimension which could attain significance in large firms only, that too at an extremely weak level.

Table 7: One-Way ANOVA (for large firms): Overall CSR Score

Variable	*Group(s)*	*Mean*		*Df*	*F value*	*Sig.*
Overall CSR score	IT	20.42	Between Groups	5	3.08	0.078
	MM&M	25.11				
	O&P	19.45	Within Groups	336		
	C&F	15.98				
	P&EG	28.95	Total	341		
	AM	17.66				

Source: PASW Statistics (N= 54, 60, 66, 54, 66 and 42 for six sectors respectively)

Table 8: Results of One-Way ANOVA (for small firms): Overall CSR Score

Variable	*Group(s)*	*Mean*		*Df*	*F value*	*Sig.*
Overall CSR score	IT	22.14	Between Groups	5	6.83	0.047
	MM&M	19.71				
	O&P	15.09	Within Groups	360		
	C&F	11.20				
	P&EG	24.31	Total	365		
	AM	11.72				

Source: PASW Statistics (N= 54, 66, 72, 60, 66 and 48 for six sectors respectively)

Supporting the above findings, ANOVA results of tables 7 and 8 witnesses the existence of sectoral CSR score differences in case of small firms at 5 percent acceptable level of significance. Although the difference is visible too for large firms, but in a highly weaker state.

6. Discussion and Managerial Implications

The findings reported herein offer suitable inferences for the corporate sector in general and for the six industrial sectors in particular, to which the current sample companies belong to. Analyzing the comparison of item-wise and group-wise CSR disclosure across selected sectors has divulged that group-wise disclosure indicates better research outcomes relative to-item-wise disclosure. It overall demonstrates the relevance of each dimension which a firm is required to pay greater attention while framing its CSR agenda.

6.1. Dimension-based Implications

The dimension-oriented CSR outcomes explains that firms are not disclosing CSR practices in the environmental, community based and employee relations' direction at the similar level in IT, MM&M, O&P, C&F, P&EG and AM sectors. For example, in case of environment and sustainability dimension, the close examination of the data has revealed that CSR disclosure of power and electricity generation is significantly greater than that of minerals, metals & mining. This observation has also been noted by Singal (2021) by highlighting that firms belonging to mining and extractive sector undertake CSR activities mainly in the social development direction by putting lesser attention on environmental sustainability. In fact, industries generating energy-based resources are found to have more overall CSR disclosure, thereby supports Gamerschlag *et al.* (2011). Continuing with the same, automobile industry could not appear to have disclosed much in the environmental direction which causes significant differences among the sectors concerned. However, this observation refutes with the argument made by Sweeney and Coughlan (2008) which expresses that automobile industry tend to have more CSR on environmental performance. It further supports Sweeney and Coughlan (2008) on the ground that oil and petroleum industry primarily focuses on environmental performance. Overall, the significant difference w.r.t. CSR commitment on environment and other allied natural issues signifies the importance of this dimension which needs to be more focused upon, the observation which has also been affirmed by Bala and Singh (2014). Further, the extreme focus of Mineral, metals and mining on community development areas also conforms to the argument addressed by Marfo *et al.* (2015).

6.2. Sectoral CSR Implications

The outcomes of significant CSR score differences among several sectoral pairs have indicated that sectors are not reporting CSR initiatives at similar level, hence the CSR disclosure of some sectors is made at quite higher level whilst some sectors are reporting at lower level, causing statistical mean differences between two. By way of additional posthoc evidences of differences in overall CSR scores between several sectoral pairs (i.e. IT and C&F, O&P and C&F, P&EG and O&P, MM&M and P&EG, C&F and MM&M, AM&IT), it is also realized that offering an ideal set of CSR activities for all listed companies cannot be an overall business solution. This finding is although in pure contrast to the study by Marfo *et al.* (2015) research's outcome which noted no significant differences between several industry groups, but supports main literature including Brammer and Millington (2003), Sweeney and Coughlan (2008), Wanderley *et al.* (2008) etc. This implies that it is the unique set of activities operating in each sector which trigger the demand of undertaking CSR initiatives that are governed by their respective CSR policy frameworks. Moreover, it is the extent of priorities which companies assign to CSR activities varies in each industrial sector while fulfilling their CSR agenda which in turn leads to significant differences between the sectoral CSR scores.

6.3. Size-oriented CSR Implications

With an increase in size from small to large, the evidence of significantly greater CSR scores have been observed. It is thereby noticed that more CSR initiatives have been disclosed in the annual reports of large companies as compared to the small firms. This argument has also been supported by many

empirical studies (Alotaibi and Hussainey, 2016; Orbaningsih, *et al.*, 2021) that there is significant positive relationship between CSR disclosure (in quantity terms) and firm size whereby increase in one will lead to increase in other. Hence, larger the size of the firm, greater will be CRS activities carried out and disclosed by the firm. It corroborates with the theory of the firm which suggests that firms need to manage their resources so as to fulfill the community-level interests by undertaking CSR activities. This study also supports previous research that stated that the larger the size of the company, the greater the pressure from the community for the activities carried out by the company (Darwis, 2009; Orbaningsih *et al.*, 2021).

The reason behind the statistically different CSR sores among selected sectors in small firm sample pointed to the fact that there is greater variation of CSR score amongst the smaller companies of different sectors with one group reported significantly higher disclosure than the other. This finding infers that small companies need to put greater focus on carrying out and reporting of CSR activities keeping in mind the expectations of all stakeholders. In fact, the finding of significant difference between CSR scores of large and small firms wherein greater CSR scores are associated with larger firms, also explain and endorse the above stated reason. In similar sense, the evidence of weakly significant (or insignificant at 5 percent level) CSR disclosure between various sectors is primarily owing to their larger size whereby large firms generally report greater disclosure on CSR activities initiated by them, due to which the analysis could not be able to capture any significant difference among the sectors in large firm group.

Overall, the present study has observed greater extent of refinement in the presentation of environmental and other social disclosure, yet the study found an evidence of substantial variations in the maturity level of CSR reporting from the lens of both content and styles adopted by the sampled firms analyzed (Jenkins and Yakovleva, 2006).

7. Conclusion

The present research facilitates the understanding of core CSR practices which can be undertaken and adopted in similar manner by Indian companies while making investments in these selected sectors. Apart from the main focus of the study, i.e. to detect any significant relationship between CSR score and type of industrial sector, it is also important to determine how this relationship tends to vary with the size of the firm. It is observed that CSR disclosure of all industrial sectors do vary and such differences in CSR scores among several sectors is highly apparent in small firms. Ultimately, the size has emerged as a crucial factor in predicting sectoral differences in disclosing CSR activities. Thus, these sectoral CSR dissimilarities have been noticed size-wise as well in the contextual areas of environmental, community development and employee relations. It can be concluded that overall CSR differences in sectors is much on the account and governed by variation in environmental, community development and employee related dimensions. In this light, it is suggested that small sized companies are required to increase disclosure in environmental, community development and employee relations background. Overall, the results inferred that in light of varying CSR disclosures, the sectoral differences must be considered by the management of the companies while diversifying their investment portfolio to other industrial sectors.

Any piece of research inquiry is not an end in itself, rather it paves the way towards exploring and achieving new research directions. As regards the present study, the sample groupings can be extended to large, medium and small-sized firms to gain better insights from the analytical CSR dataset. Further the outcomes generated are conditioned only on size-based variable, advanced level inferences can be yielded on the basis of other independent variables including, age, profitability, leverage (gearing), ownership structure etc. Moreover, the empirical investigation on six sectors can be expanded to a different set of industrial sectors to explore improved insights on the contextual settings. The inclusion of more CSR practices in the CSR index, more particularly in the 'consumer and products category' can be an incremental research direction which future CSR researchers can pursue in their academic works.

References

Alotaibi, K.O., & Hussainey, K. (2016). Determinants of CSR disclosure quantity and quality: Evidence from non-financial listed firms in Saudi Arabia. *International Journal of Disclosure and Governance*, *13*, 364-393.

Bala, M., & Singh, N. (2014).Empirical study of the components of CSR practices in India: A comparison of private, multinational and public sector companies. *Pacific Business Review International. 7*(1), 161-172.

Banerjee, S. B., Iyer, S., & Kashyap, R. K. (2003). Corporate environmentalism: Antecedents and influence of industry type. *Journal of Marketing, 67*(2), 106-122.

Brammer, S.,& Millington, A. (2003).The effect of stakeholder preferences, organizational structure and industry type on corporate community involvement.*Journal of Business Ethics, 45*, 213-226.

Dabic, M.,Colovic, A.,Lamotte, O., Painter-Morland, M., & Brozovic, S. (2016).Industry-specific CSR: Analysis of 20 years of research.*European Business Review*, *28*(3), 250-273.

Darwis, H. (2009). Company size, profitability, and financial leverage on high-profile corporate social responsibility disclosures on the IDX.*Neliti.Com*, *13*(1), 52–61.

Dhawan, S., & Samantara, R. (2020).Corporate social responsibility in India: Issues and challenges. *IIMS Journal of Management Science*, *11*(2), 91-103.

Fakay,Y., & Buragohain, B. (2015). Corporate social responsibility: A review of literature. *Paripex- Indian Journal of Research*, *4*(2), 197-200.

Gamerschlag, R., Moller, K., & Verbeeten, F. (2011).Determinants of voluntary CSR disclosure: Empirical evidence from Germany. *Review of Managerial Science, 5*, 233-262.

Jenkins, H., & Yakovleva, N. (2006).Corporate social responsibility in the mining industry: Exploring trends in social and environmental disclosure. *Journal of Cleaner Production, 14*(3-4), 271-284.

Kakade, K.S. (2019). A comparative study of corporate social responsibility practices in India. *Research Review of International Journal of Multidisciplinary*, *4*(6), 447-454.

Kulkarni, S., & Rao, P. (2014).Comparative analysis of corporate social responsibility practices across Africa and India – An automobile industry perspective. *Procedia - Social and Behavioral Sciences*, *157*, 244-253.

Marfo, E.O., Chen, L., & Xuhua, H. (2015).The industrial differences of corporate social responsibility (CSR) reporting: An empirical study of listed firms in Ghana. *International Journal of Academic Research in Business and Social Sciences, 5*(8), 313-331.

Mitra, N. (2021). Impact of strategic management, corporate social responsibility on firm performance in the post mandate period: Evidence from India. *International Journal of Corporate Social Responsibility*, *6*(3), 1-15.

Orbaningsih, D., Sawitri, D., & Suharsono, R.S. (2021).Determinants of corporate social responsibility disclosure: A case study of banking industry in Indonesia. *Journal of Asian Finance, Economics and Business, 8*(5), 91-97.

Podder, A.,Narula, S.A., & Zutshi, A.(2019).A study of corporate social responsibility practices of the top Bombay Stock Exchange 500 companies in India and their alignment with the Sustainable Development Goals. *Corporate Social Responsibility and environmental Management*, *26*(6), 1184-1205.

Ranjan, R., & Tiwary, P.(2017).A comparative study of CSR in selected Indian public & private sector organisations in globalisation period: A research finding. *International Journal of Emerging Research in Management and Technology*, *6*(6), 270-277.

Saha, P. (2017). An analysis of the patterns of CSR reporting practices of Indian MNCs.

Sharma, N., & Kundu, B. (2014).A comparative study of Corporate Social Responsibility practices of selected public and private sector companies in India.*Periodic Research.,2*(4), 1-5.

Singal, A.K. (2021).CSR initiatives and practices: Empirical evidence from Indian metal and mining companies. *SAGE Open,* 1-11.

Sweeney, L.,& Coughlan, J. (2008). Do different industries report corporate social responsibility differently? An investigation through the lens of stakeholder theory.*Journal of Marketing Communications, 14*(2), 113-124.

Upadhyay, N.K., & Rathee, M. (2021).An analysis of corporate social responsibility in India with special reference to covid-19 situation.*Revista do Curso de Direito da Universidade Candido Mendes*, *1*(1), 42-61.

Wanderley, L.S.O., Lucian, R., Farache, F., & Filho, J. M. (2008). CSR information disclosure on the web: A context-based approach analysing the influence of country of origin and industry sector. *Journal of Business Ethics*, *82*, 369-378.

Wang, X., Feng, M., & Chen, K. (2016).Exploring variations of corporate social responsibility across business sectors and geographic scope. *Journal of Applied Business and Economics,18*(7), 65-78.