

Intellectual Capital Disclosure and Women Directors on Boards

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Abstract

The research investigates the impact of women representation on boards on the Intellectual Capital Disclosures (ICD) of firms in India. The extent of Intellectual capital and its subcomponents disclosure is measured and reported. The regression model is analyzed to measure the extent of impact of board characteristics especially in terms of presence of independent women directors (IWD) and firm characteristics on the ICD of these firms for the two time periods. The results show that there has been a substantial increase in the extent of disclosure for all the three sub-components of IC. The impact of IWD and gender diversity is varied for the overall disclosure and sub-components. However, the results support the induction of more women directors on the board of the firms, to enhance the extent of IC disclosure.

Key Words

Gender Diversity, Intellectual Capital Disclosures, Independent Women Directors, Corporate Governance, India.

INTRODUCTION

Diversity on boards in general and gender diversity specifically has attracted researchers' attention across various country contexts. Diversity can be in terms of ethnicity, age, gender, educational qualifications, skills and many other parameters. The recent trend of making mandatory representation of women on board has further led to several studies, which have associated gender diversity on board to several performance related and other issues of the firm. Gender diversity has been a topic of interest for not only researchers, but also

for shareholders, regulators as well as for policy makers.

Though the proportion of women in the population of several countries is seeing an upward trend, the same is not seen while looking at their representation on board of top companies of even developed countries. The culture is what is required to be changed, mere tokenism would not be helpful and most vacancies are filled with family members, insider recommendations and personal networks. Women with the right skills and expertise are also required, rather than just the number. Inclusive perspective and culture is the key.

Diversity induces more effectiveness as the boards have access to better talent pools than homogenous boards. (Adams and Ferreira, 2004) Changing the gender composition of the board may entail costs. Diverse boards may require additional incentives to work cooperatively and may require additional time to digest different viewpoints and resolve disagreements (Adams and Ferreira, 2004). The impact of gender diversity on financial performance positive, but market performance is not established by research studies.

Norway was the first country which mandated compulsory inclusion of women on board. Other countries such as Spain, France and Iceland all have laws requiring that women comprise at least 40% of boards at publicly listed companies (Creary *et al.*, 2019 HBR). Many other countries followed the mandatory clause. Finland, UK, Israel, Kenya, Italy, Belgium, Portugal, Singapore, Germany, New Zealand, Netherland and Austria where either the firms are expected to disclose their gender targets, or have been given a mandate to include 30-40 percent women of total directors. In spite of these regulatory interventions, it is seen that the representation of women on board has increased, but still remains low in the developed world.

The Global Diversity Index report of 2019 (USA) states that women now hold 20.4% of the board seats in the R3000 companies, an increase from 17.7% in 2018. According to Corporate India Report of 2020, the percentage of women in the 100 largest companies is 27.7% and in the 1,000 smallest companies is 15.7% in India. In India, Companies Act 2013, made it mandatory to have at least one women director on board for all public listed companies from 1 April 2014. Recommendations of Kotak panel, SEBI mandated that the top 500 (by market capitalization) companies were required to appoint at least one woman as an independent director from 1 April 2019. The same requirement was made applicable to the top 1000 companies from 1 April 2020.

Indian Companies Act, 2019 clause 149(1) states that "Every company shall have a Board of Directors consisting of individuals as directors and shall have: (a) a minimum number of three directors in the case of a public company,

two directors in the case of a private company and one director in the case of a One Person Company; and (b) a maximum of fifteen directors: Provided that a company may appoint more than fifteen directors after passing a special resolution: Provided further that such class or classes of companies as may be prescribed, shall have at least one woman director. Companies (Appointment and Qualification of Directors) Rules 2014 : Every listed company and every other public company having paid-up share capital of at least Rs.100 crore or turnover of at least Rs.300 crore shall appoint at least one woman director. Terjesen, *et al.* 2015 noticed that unlike the effects of the original Norwegian quota, where a small group of prominent women became directors on multiple boards in the so-called “golden-skirt phenomenon” (in many cases on a non-executive basis), India's 2013 Companies Act was successful in significantly enlarging the pool of distinct women serving as directors.

This study is relevant in the context of the recent regulations mandated by SEBI to not only include a minimum number of women on board , but also requiring boards to have independent women directors. However, it needs to be noted that regulatory changes alone cannot change corporate culture; therefore, it is necessary that the companies be slowly briefed about the possible benefits and long term implications of inclusiveness on board. The cultural and structural change has to come from within and cannot be imposed from outside. Research studies provide a starting point in convincing the board about the significance of having gender diversity on their boards.

After the introduction and placing a theoretical background of the study, a detailed review of earlier research is done followed by identifying the gaps and stating the research objectives. The research methodology is spelled out in the next section. The result and its discussion are presented in the following section. The last section gives a brief on the policy implications, limitations and conclusion of the present research paper.

THEORETICAL BACKGROUND

The theoretical background of this study primarily relies on the resource based view, Agency and stakeholders theory of firm value. The resource based view stresses that the firm normally has tangible/intangible, permanent/temporary resources which are used to add to the overall value of the firm. Resources are mostly an asset to the firms; however, some resources can become weaknesses too over a period of time (Wernerfelt, 1984). The firms that develop their strategies on intangible assets in the knowledge economy are seen to have a better performance than the firms that focus only on the tangible assets. The

general observation is that resources and capabilities are distributed across different firms and if these continue over a period of time, it can help explain why some firms consistently outperform other firms (Barney 2001). The theory of competitive advantage faced by firms also can be explained to a large extent using the resource based view.

The resource based view was applied to human capital, capabilities, competencies to develop further frameworks and strategies related to these for enhancing the competitive advantage of the firms. In the context of corporate governance, diverse and unique human capital of a corporate board is viewed as a key resource for the firm (Reddy and Jadhav, 2019).

Board of directors also is considered one such resource of the firms. The composition of the board, in terms of diverse views, skills and professional experience all play a significant role in creation of value for the concerned firm. Diversity in members' profiles (including gender) gives the board a range of competencies, a pool of resources and expertise, a set of different leadership experiences and a capacity to generate new ideas (Quintana García, 2016). An extension of resource dependence theory suggests that diverse directors provide diverse beneficial resources to the firm (Reddy and Jadhav, 2019).

Another theory that forms the basis for encouraging diversity in boards is the Agency theory. This theory suggests that the information provided by the board of directors is taken with higher reliability by the shareholders than the information provided by the managers. Therefore, it becomes necessary to have diverse representation, to incorporate all the views.

Stakeholder theory suggests that a diversified and independent board and the existence of a board-level environmental committee may balance a firm's financial and non-financial goals with limited resources. It moderates the possible conflicting expectations of stakeholders who have diverse interests (Liao *et al.*, 2015). Disclosure of information to stakeholders helps in their empowerment.

Moriarty (2016) opine that stakeholder theorists should not endorse stakeholder boards of directors, but that they should endorse other ways for stakeholders to participate in decision-making processes within firms. This means that stakeholder theory has even more demanding implications for corporate governance.

Thus, based on these theories, we can say that diversity on board may have a long term influence on the value of these firm, it is essential that firms renounce the pre-established rules and give adequate attention to incorporating diversity for the overall benefit and growth of the firms.

REVIEW OF LITERATURE

A brief outline of all the important research papers across various country and industry contexts is presented in this section.

The majority of the studies on gender diversity focused on finding out reasons for low representation, the factors that influence gender diversity, the impact of board diversity on firm performance in all respect viz. financial, accounting, market (Low *et al.*, 2015). Some studies looked at the impact on firms' specific and strategic decisions, such as mergers & acquisitions, transparency, disclosure and extent of Corporate Social Responsibility (CSR) activities. There are studies which look at the impact of voluntary inclusion of women on BoD vs. the mandatory legislation on various issues including performance.

Swartz and Firer (2005) analyzed the listed firms in South Africa in the context of gender as well as ethnic diversity. It was observed that ethnic diversity had a strong influence on IC performance.

Nalikka, 2009 focused only on the top management gender on the extent of IC disclosures in Helsinki and finds that CFO is positively related with ICD, whereas CEO and proportion of female directors don't show impact in the year of study.

Rasmini *et al.* (2014) analyze the firms listed on the Italian stock exchange and they find a significant association between both gender and national diversity on the extent of ICD. However, the independence of board members and the diversity in education of the board members is seen not to have any statistical significance on the IC of these firms.

Rouf (2016) examine the impact of board diversity on corporate voluntary disclosure (not just IC), they find that the percentage of female directors on board do have a positive impact on the extent of CVD

Baba and Abdul (2017) find that IC has a moderating role in the relation between the extent of disclosure and board diversity. Anifowose *et al.* (2017) confirms that the board diversity has a moderating effect on the extent of IC disclosures and market value of the Nigerian listed firms. They also suggest that since disclosures play a significant role in signaling the investors about the value of the firms, there should be a conscious effort by the board to include ICD in the statements of the firms. Tejedo-Romero *et al.* (2017) observe that women on board help in strong monitoring of the firm and this would lead to improvement in transparency as well as disclosures. Their study, reported a positive link between gender diversity and ICD in Spanish companies. Their

research recommends policies which would increase the representation of women on corporate boards.

Lopez and Bellostas (2019) interestingly reveal that the CG by itself may not help in improving the performance of the Spanish firms in study, these firms are expected to put in a conscious effort to convey the practices to its stakeholders and in this process the extent of online disclosure helps firms to create a positive impact.

Nadeem (2019) studied the IPO prospectus of firms in China and find a significant impact of the board gender diversity on the ICD and in contrast a negative relation between female independent directors and ICD.

Al-Sartawi *et al.* (2019) recommends that regulatory bodies should develop a guideline of disclosing information through the internet to enhance the transparency and performance among firms and in turn this leads to reasonable economic decision-making. Al-Homaidi *et al.* (2019) analyzes the varied impact of CG mechanisms on financial performance of firms (Indian hotel industry) and the results are vastly varying among different criterions. Saha and Kabra (2019) analyze the impact of CG characteristics on voluntary disclosure. Besides certain traditional factors like independence of the board, they find that the latest CG attributes also have started to influence the disclosure of Indian firms (100 non-financial and non-utility companies)..

Rahman *et al.* (2019) in their study of the pharmaceutical and chemical industry of Bangladesh find no significant association between ICD and gender representation on board. Though there is no correlation between the disclosure and gender representation for the period of their study, the authors recommend that the country comes out with mandatory ICD norms and every company must disclose their IC in a separate additional section of their annual reports to enhance its visibility and value.

Amin *et al.* (2020) independence of directors, board tenure and gender diversity are important factors that are associated with the extent of financial disclosure aspects on social media. Vitolla *et al.* (2020) study the specific case of ICD in the context of integrated reporting and find that besides other characteristics of the board, diversity also plays a significant role. Raimo *et al.* (2020) find that since board gender diversity has a strong significant impact on the HC disclosure of firms, it is enough motivation and incentive to include more female representation on board. This result is also useful for the investors who can take informed decisions by using the HC disclosure index.

Herli *et al.* (2021) find that gender diversity has an impact on the level of IC disclosure only in small cap companies. Besides this, the other firm

characteristics such as profitability, leverage and ownership also have a significant role in the extent of IC disclosures (Indonesia does not have mandatory gender representation policy).

Nicolo *et al.* (2021) assess the impact of gender diversity on online disclosure of IC in Italian listed firms, w.r.t. female chairpersons and female CEO's. They find a strong association between Female CEOs and the extent of IC disclosure (Italian policy mandates gender representation on boards).

Yang and Zhou (2016) report that earnings disclosures have a strong association with the gender diversity and size of the board. Better CG mechanisms find an important role in effective dissemination of information to the investors.

Tejedo-Romero and Araujo (2021) find that it is not just board composition but also its functioning that help in higher HC disclosure, therefore recommending the setting up of mechanisms of CG in place. Mooneepen *et al.* (2022) find that the CG characteristics of Mauritius are quite different from that of other African countries. The representation of women on board is highly prevalent in most firms. ICD is negatively associated with board independence and positively associated with gender diversity of the board. No association is found between ICD and the size of the board.

In some of the recent studies on intellectual capital disclosure and gender diversity, Nicolo *et al.* 2022, reveal that presence of women at top positions of the healthcare industry at Italy does have a positive impact on their ICD. It is also observed that firms have started using online mode for their ICD, as the regulations don't require mandatory disclosures. This is an evidence to support the significance of ICD in enhancing firm value.

Ismail *et al.*, 2022 also reinforce the positive impact of gender diversity on ICD in Indonesian firms. Women on board provide stronger monitoring of activities and they also complement the corporate governance mechanisms. Similar results were demonstrated for the banking industry in Indonesia by Mutmainah and Novianty, 2022. They report that proportion of women on board, improves the ICD.

Rajabalizadeh and Oradi, 2022, do not find gender diversity on board influencing the ICD of Iranian firms. Njoroge, 2021, in their empirical study find that the board gender diversity is positively and significantly influencing the intellectual capital disclosure quality in commercial banks of Kenya.

Dey and Faruq, 2019, find that gender diversity has a significant negative impact on ICD of firms in Bangladesh.

Disclosure of IC has proven to be an effective way of increasing the value of the firm and have a long term impact on the perception of the stakeholders. If the company wants to sustain itself, its essential that the information asymmetry is minimized by voluntary disclosure of its knowledge and intangible assets which reflects a significant part of the overall performance and valuation of the firms. A systematic gender bias was observed by several researchers. Several external as well as internal factors are seen to be responsible for poor levels of gender diversity. Size of firm, industry type, ownership patterns and cultural aspects also have its impact.

Overall, it is observed that the bulk of literature on ICD focuses on CG characteristics with gender as a variable. The results are mixed, however, the researchers broadly agree to the aspect of making gender inclusion mandatory. There are no studies that assess the impact of gender diversity on ICD and its subcomponents in India.

OBJECTIVES OF THE STUDY

To fill in the gap in earlier literature, especially in Indian context, the following objectives are placed for the present study :-

- To analyze the impact of gender diversity on the nature and extent of Intellectual capital disclosure in select sample firms.
- To test whether there has been a statistically increase in the gender diversity as well as ICD in the two time period of study for the select sample firms.

HYPOTHESIS

The basic assumption on which the paper is developed is that there is an inherent and positive association between the representation of women on board and the extent of ICD of the firms. The general perception and evidence suggests that the knowledge assets and IC is more prevalent in Service industries, this has increased in recent years.

H1 : The ICD of the specified firms are strongly and positively associated with gender diversity on the board of directors :-

H1a : there is a positive association between human capital disclosure (HCD) and gender diversity.

H1b : there is a positive association between customer/relational capital disclosure (CCD) and gender diversity.

H1c : there is a positive association between Structural capital disclosure (SCD) and gender diversity.

H2 : The ICD and gender diversity have significantly increased between the two periods of study.

RESEARCH METHODOLOGY

Sample

A small but significant sample is being selected for the study. The NSE (National Stock Exchange) listed NIFTY 50 firms are taken for the study for two discreet years. The year just after the introduction of the quota for women on board was taken (FY 2013-14) to understand the initial position of gender representation on board in Indian companies. The latest year for which data is collected is FY 2018-19. The year 20-21 is not selected to avoid the impact of the disruptions in the economy due to pandemic.

The NIFTY 50 companies have representation from various service and manufacturing sectors ranging from banks, IT to petrochemicals and FMCG. The firms have representation from the public as well as private sector. Thus, it is a group of well diversified firms to understand the impact of gender diversity across different sectors and characteristics.

Data Source

The requirement of data for the study is related to IC disclosures and the composition of board for the aforesaid companies. The first set of data is estimated from the annual reports of these firms, which is available on the website. The second set of data related to firm characteristics and board composition is extracted from the PROWESS database provided by CMIE. The data gaps are filled up using the annual report of the respective companies.

There are two main types of methods used for data analysis, content analysis and regression analysis. The first task is to identify the IC terms to be searched from the annual reports. The list of terms identified and classified as IC sub-components is presented in the appendix Table.

To estimate the extent of disclosure, content analysis using QDA miner software is done. The human error component which is extensive in manual search is eliminated and the results are more reliable (Oliveras *et al.* 2008). The study does not distinguish between voluntary and mandatory disclosure and searched for the terms in the entire annual report.

Model for Multiple Regression Estimation :-

For estimating the impact of gender diversity on the intellectual capital disclosure of the sample firms, the following model is used :-

$$DI_i \text{ (ICD, HCD, OCD, CCD)} = \beta_0 + \beta_1 BSIZE_i + \beta_2 WIND_i + \beta_3 BLAU_i + \beta_4 AGE_i + \beta_5 FSIZE_i + \beta_6 LEV_i + \beta_7 ROA_i + \beta_8 TYPE_i + \mu$$

Where,

DI_i = Disclosure Index for i th firm; $B SIZE_i$ = Size of Board for i th firm; $WIND_i$ = Proportion of Independent women members on Board; $BLAU_i$ = BLAU index for gender diversity; AGE_i = Age of the Firm; $SIZE_i$ = Market Capitalization dummy for size of the firm; LEV_i = Leverage; ROA_i = return on total assets; $TYPE_i$ = Type of firm (Service or Manufacturing); μ = residual term

ICD is the overall disclosure of IC. HCD, OCD and CCD are the subcomponents of IC, Human Capital Disclosure, Organizational Capital Disclosure and Customer Capital Disclosure respectively. The panel regression is run for these four models separately for two different time periods.

Variables

A detailed explanation about the measurement of all the variables used in the model specified above is as follows :-

Dependent Variables

Disclosure Index (DI) of the firms is estimated using

$$DI = (\sum Di)/N$$

Where, Di = number of terms disclosed by the firm i .

N = maximum number of disclosures possible.

DI will vary between 0 and 1; with value 1 when all search terms are disclosed by the firm and 0 when none is disclosed; N would 51 in this study, which is the maximum number of disclosures possible. The DI is estimated for all the terms disclosed and for IC sub-components.

Independent Variables

The following table presents the measurement of independent variables of the study. These variables are related to the CG, financial and identity characteristics of the firms.

Table 1
Independent Variables Used in the Regression Estimation

S. No.	Variable	Measured as
1.	Board Size (<i>BSIZE</i>)	Number of members on the board of the firm for each of the time period of study.
2.	Independent Women Directors (<i>WIND</i>)	Ratio of number of independent Women directors on board to the total number of directors on board.
3.	BLAU Index (<i>BLAU</i>)	$BI = 1 - \sum_{i=1}^2 P_i^2$, where $i=(1, 2)$, P_i = proportion of board members of each category.
4.	Age of Firm (<i>AGE</i>)	The age is based on their year of incorporation i.e. a firm incorporated in the year 2000 would be aged as 20 years old.
5.	Size of Firm (<i>SIZE</i>)	Log of Market Capitalization of the firms.
6.	Leverage (<i>LEV</i>)	Ratio of total liabilities to total equity.
7.	Return of Assets (<i>ROA</i>)	Return on Total assets.
8.	Type of Firm (<i>TYPE</i>)	Firms classified as manufacturing (0) and services (1) based on their primary business.

RESULTS, ANALYSIS AND DISCUSSION

This section presents the results of the content analysis and the regression analysis and provides an insight into the results whether the hypothesis has been accepted and the extent to which the results reinforce the findings by other researchers.

Analysis of Nature and Extent of Intellectual Capital Disclosure

In the Tables 2, 3 and 4 the ICD details of IC subcomponents are provided for the year 2013-14. It is observed that 14 search terms of structural capital, 14 of human capital and 15 of customer capital have been disclosed by these firms. The top three terms in structural capital have been “leadership”, “patents” and “R&D Expenditure”. “Employee”, “remuneration” and “training” were highly disclosed by most of the firms in HCD. In CCD, the terms “Customer”, “Investors” and “Awards” stand out.

The Tables 5, 6 and 7 present the ICD of the same firms for the year 2018-19. It is observed that the top two terms in SCD have remained same for both the time periods. However, the term “Intellectual property” has gained significance at third spot. A total of 13 terms have been disclosed in this sub-

Table 2
Disclosure of Organizational/Structural Capital - 2013-14

Terms	n	Mean	Percent	Rank
Organizational/Structural Capital				
Intellectual Property	65	1.3	5.213	5
Patent	117	2.34	9.383	2
Copyright	14	0.28	1.123	9
Trademark	53	1.06	4.250	8
Organizational Culture	9	0.18	0.722	12
Management Processes	59	1.18	4.731	7
Information Systems	60	1.2	4.812	6
R&D Expenditure	73	1.46	5.854	3
Knowledge Management	14	0.28	1.123	9
Leadership	697	13.94	55.894	1
EVA	66	1.32	5.293	4
Business Knowledge	13	0.26	1.043	11
Intellectual Assets	3	0.06	0.241	14
Intellectual Capital	4	0.08	0.321	13
Total (14 of 15)	1247	24.94	100	

Table 3
Disclosure of Human Capital - 2013-14

Human Capital	n	Mean	Percent	Rank
Employee	7035	140.7	54.220	1
Human Capital	56	1.12	0.432	10
Human Asset	2	0.04	0.015	14
Training	1186	23.72	9.141	3
Expert	205	4.1	1.580	9
Talent	424	8.48	3.268	6
Human Resource	300	6	2.312	8
Merit	56	1.12	0.432	10
Team	646	12.92	4.979	5
Incentives	390	7.8	3.006	7
Remuneration	1883	37.66	14.513	2
Initiative, Motivation and Dedication	740	14.8	5.703	4
Occupational Health and Safety	26	0.52	0.200	12
Work Environment	26	0.52	0.200	12
Total (14 of 18)	12975	259.5	100	3

Table 4
Disclosure of Customer Capital - 2013-14

Customer Capital	n	Mean	Percent	Rank
Market Share	181	3.62	2.064	7
Customer	3533	70.66	40.290	1
Brand	638	12.76	7.276	5
Customer Satisfaction	80	1.6	0.912	8
Customer Loyalty	7	0.14	0.080	13
Company Reputation	1	0.02	0.011	15
Distribution Channels	7	0.14	0.080	13
Licensing Agreements	11	0.22	0.125	12
Certification	305	6.1	3.478	6
Awards	1573	31.46	17.938	3
Market Leader	39	0.78	0.445	11
Competitors	42	0.84	0.479	10
Suppliers	644	12.88	7.344	4
Investors	1662	33.24	18.953	2
Customer Service	46	0.92	0.525	9
Total (15 of 18)	8769	175.38	100	

category. Though the number of terms disclosed seems to have come down, the overall extent of disclosure has increased from 1247 to 1928, with the mean of the firms increasing from around 25 to 40. This is a good sign that firms are recognizing the significance of ICD and therefore, their awareness is resulting in an increase in the extent of these disclosures. As in HCD, again the top two terms remain the same as in the previous period. The term “Initiative, Motivation and Dedication” is at the third position. The total number of terms disclosed is 15. Again we observe, that though there has been a marginal increase in this number, the overall count has increased from around twelve thousand to twenty two thousand, with the mean disclosure by each firm around 470. In CCD, the number of terms disclosed was 16 which again showed a marginal increase and the terms in the top three positions also remained the same. The total extent of disclosure was 8769 with a mean per company at 175 in 2013-14, which increased to around fourteen thousand with a mean of 295 in the year 2018-19.

Thus, we find that ICD in absolute terms has definitely increased significantly over the period of study.

Table 5

Disclosure of Organizational/Structural Capital - 2018-19

Organizational/Structural Capital	n	Mean per company	Percent	Rank
Intellectual Property	125	2.604	6.483	3
Patents	180	3.750	9.336	2
Copyrights	24	0.500	1.245	10
Trademarks	85	1.771	4.409	6
Corporate Culture/Organizational Culture	27	0.563	1.400	9
Management Processes	92	1.917	4.772	5
Information Systems	61	1.271	3.164	7
R&D Expenditure	33	0.688	1.712	8
Knowledge Management	15	0.313	0.778	11
Leadership	1170	24.37	60.685	1
Economic Value Added	2	0.042	0.104	13
Business Knowledge	5	0.104	0.259	12
Intellectual Capital	109	2.271	5.654	4
Total (13 of 15)	1928	40.167	100.00	

Table 6

Disclosure of Human Capital - 2018-19

Human Capital	n	Mean per company	Percent	Rank
Employees	10371	216.063	45.946	1
Human Capital	228	4.750	1.010	9
Human Asset	3	0.063	0.013	14
Human Value	1	0.021	0.004	15
Training	1570	32.708	6.956	4
Expert	406	8.458	1.799	7
Talent	34	0.708	0.151	13
Human Resource	362	7.542	1.604	8
Merit	136	2.833	0.603	10
Team	1295	26.979	5.737	5
Incentives	796	16.583	3.526	6
Remuneration	3742	77.958	16.578	2
Initiative, Motivation and Dedication	3517	73.271	15.581	3
Occupational Health and Safety	51	1.063	0.226	12
Work Environment	60	1.250	0.266	11
Total (15 of 18)	22572	470.250	100.00	

Table 7

Disclosure of Customer Capital - 2018-19

Customer Capital	n	Mean per company	Percent	Rank
Market Share	306	6.375	2.158	7
Customer	6798	141.625	47.944	1
Brand	995	20.729	7.017	5
Customer Satisfaction	102	2.125	0.719	9
Customer Loyalty	18	0.375	0.127	14
Company Reputation / Image	1	0.021	0.007	16
Distribution Channels	23	0.479	0.162	12
Business Collaborations	3	0.063	0.021	15
Licensing Agreements / Favorable Contracts	22	0.458	0.155	13
Certification	338	7.042	2.384	6
Awards	1966	40.958	13.866	3
Market Leader	42	0.875	0.296	11
Competitors	77	1.604	0.543	10
Suppliers	1176	24.500	8.294	4
Investors	2123	44.229	14.973	2
Customer Service	189	3.938	1.333	8
Total (16 of 18)	14179	295.396	100.00	

Summary Descriptives

The basic descriptive statistics of the independent and dependent variables is presented in Table 8 for both the time periods and enables us understand the changes that have taken place in these variables over time.

Table 8
Summary Statistics of the Variables for 2013-14 and 2018-19

Variable	Mean	Median	S.D.	Min	Max
Year : 2013-14					
BSIZE	12.0	12.0	2.54	8.00	18.0
BWOMENINDP	0.632	1.00	0.633	0.000	2.00
BLAUINDEX	0.147	0.153	0.105	0.000	0.337
AGE	41.342	32.50	24.998	7.0	107.0
MCAP	13.6	13.3	0.798	11.9	15.2
LEV	1.16	0.620	1.33	0.0800	7.01
ROA	10.3	6.84	12.4	-23.9	50.8
ICD	0.373	0.384	0.0841	0.000	0.507
HCD	0.613	0.647	0.124	0.000	0.824
SCD	0.272	0.278	0.102	0.000	0.556
CCD	0.576	0.563	0.137	0.000	0.813
Year : 2018-19					
BSIZE	14.3	13.0	3.67	9.00	23.0
BWOMENINDP	1.45	1.00	0.760	0.000	3.00
BLAUINDEX	0.262	0.260	0.0799	0.142	0.444
AGE	48.1	38.0	27.1	12.0	124.
MCAP	14.1	14.0	0.807	13.0	16.0
LEV	1.25	0.795	1.22	0.200	5.06
ROA	9.24	5.94	10.2	-3.25	48.9
ICD	0.589	0.591	0.102	0.364	0.750
HCD	0.704	0.733	0.0952	0.467	0.867
SCD	0.421	0.385	0.165	0.154	0.769
CCD	0.618	0.625	0.125	0.375	0.813

Over the period, the average size of the board in these has increased from 12 to 14 members. The proportion of Independent women directors has also doubled from 0.63 to 1.45. This may be the result of the mandatory clause imposed and the subsequent compliance. The representation of IWD is still low. Lack of required experience and qualifications is the most cited reason for under representation of women on boards even in developed countries.

The mean diversity index also is seen to improve from 0.14 to 0.26, indicating that the firms have become more gender diverse over this period. There seems to be moderate changes in mean leverage and ROA of these firms. In case of the disclosures, the ICD is observed to have increased from 0.373 to 0.589; this is a good indication of the increasing awareness among the firms towards ICD and its benefits towards creation of value. All the three sub-components disclosure also is seen to increase between these years, with the highest mean increase in structural capital disclosures. The representation of women on board and gender diversity has increased over the period of study; however there appears no substantial increase.

Analysis of Multiple Regression Results

The regression results of two time periods for the specified model are presented in the Table 9 and 10. For the year 2013-14, it can be observed that the overall model is significant at 10 percent, the goodness of fit R^2 is only around 0.24. The model shows that the existence of independent women directors (0.034) on board does have some positive impact on the overall ICD of these firms in the year 2013-14. The diversity index is negatively statistically significant (-0.296). It implies that more women directors are resulting in lower ICD for these firms. It needs to be noted that the number of women directors on board was significantly low in this year and therefore, this result has to be interpreted with some care. The other models which attempt to estimate the impact of gender diversity on IC sub-components disclosure shows that all the three models are statistically significant and the R^2 is quite high. In case of HC disclosure, the adjusted R^2 is 0.72 and the p-value > 0.000. The size of the board of directors of the firms is having a significant negative impact (-0.014) on the HC disclosures. The IWD does have a positive impact on these disclosures. However, Blau index indicates a significant negative impact of gender diversity (-0.339). Larger firms tend to disclose more, so do the manufacturing firms as shown in the results. The R^2 for structural capital disclosure is 0.462. The Blau index (-0.544) shows negative impact on disclosure of these variables too. The older firms' disclosures are lower as compared to the relatively newly incorporated firms. The service sector firms show a higher level of disclosure. The R^2 for customer

capital disclosure is 0.68. The IWD (0.074) has a statistically positive impact on the extent of disclosure for this sub-component. Again the impact of gender diversity index (-0.579) is seen to be strongly negative. The characteristics of these firms have a strong influence on the level of customer capital disclosure. The smaller and relatively younger firms in the service sector are seen to disclose more of their customer capital.

Table 9
Multiple Regression Results 2013–14

Dependent Variables	Intellectual Capital Disclosure (ICD)	Human Capital Disclosure (HCD)	Structural Capital Disclosure (SCD)	Customer Capital Disclosure (CCD)				
N	38	38	38	38				
Adjusted R ²	0.243	0.721	0.462	0.681				
F-Statistic	2.485	12.956	4.980	10.916				
Prob.	0.034	0.000	0.000	0.000				
		<i>t</i> -stat.		<i>t</i> -stat.				
Intercept	0.5809	0.7641	-0.3783	-0.4725	2.4440**	2.141	4.0029***	5.210
Explanatory Variables	Beta		Beta		Beta		Beta	
BFSIZE	-0.002	-0.6390	-0.0141**	-2.076	-0.0026	-0.324	-0.0010	-0.266
BWOME	0.0347*	1.835	0.0619**	2.082	0.0466	1.336	0.0742***	4.405
NINDP								
BLAUIIN	-0.2967***	-3.064	-0.3391***	-2.788	-0.5446***	-3.192	-0.5796***	-4.196
DEX								
AGE	-0.0001	-0.3367	0.0002	0.7011	-0.0011**	-2.254	-0.0015***	-4.360
SIZE	0.0082	0.6482	0.0464***	3.394	0.0175	0.840	-0.0211*	-1.814
LEV	0.0038	0.3716	0.0085	0.5685	0.0012	0.0712	0.0100	1.157
ROA	0.0004	0.4468	0.0001	0.1628	0.0021	1.161	-0.0002	-0.225
TYPE	-0.0252	-1.160	0.0479**	2.166	-0.0801*	-1.829	-0.0859***	-3.502

For Regression Tables : * Indicates that Beta is Significant at 10%; ** Significant at 5%; *** Indicates Beta Significant at 1%.

The result for the year 2018-19 in Table 10 shows that all the models of ICD and its subcomponents is significant. It is observed that ICD is highly impacted by the variables in the model. The disclosure seems to decrease with larger board size. The independent women directors (0.043) do have a positive impact on the extent of overall IC disclosures. Gender diversity (-0.009) is having a negative influence on ICD in this period also. The larger and more profitable firms (-0.002) disclose less. The R² of the model involving HCD is only 0.24 and the model is significant at 10 percent level. It is observed that no explanatory

Table 10
Multiple Regression Results 2018-19

Dependent Variables	Intellectual Capital Disclosure (ICD)		Human Capital Disclosure (HCD)		Structural Capital Disclosure (SCD)		Customer Capital Disclosure (CCD)	
N	38		38		38		38	
Adjusted R ²	0.833		0.245		0.523		0.781	
F-Statistic	24.167		2.506		6.072		17.526	
Prob.	0.000		0.0332		0.000		0.000	
		<i>t</i> -stat.		<i>t</i> -stat.		<i>t</i> -stat.		<i>t</i> -stat.
Intercept	4.8303***	6.022	3.9523***	4.740	3.6728***	2.934	2.5172**	2.451
Explanatory Variables	Beta		Beta		Beta		Beta	
BSIZE	-0.0072**	-2.967	-0.0022	-0.549	-0.0065	-0.963	-0.0046	-1.141
BWOME	-0.0097	-0.073	0.1037	0.3932	-0.4587	-1.217	0.0043	0.018
NINDP								
BLAUIN	-0.2967***	-3.064	-0.3391***	-2.788	-0.5446***	-3.192	-0.5796***	-4.196
DEX								
AGE	-0.0021***	-5.473	-0.0015***	-3.622	-0.0016***	-2.892	-0.0011**	-2.116
SIZE	0.0077	0.688	-0.0184	-1.004	0.0172	0.864	0.0377**	2.117
LEV	-0.0209	-1.292	-0.0145	-0.700	-0.0579***	-3.171	-0.0526***	-2.884
ROA	-0.0024***	-5.381	5.6689	0.0340	-0.0021	-1.343	-0.0072***	-8.100
TYPE	0.0097	0.4538	-0.0571*	-2.023	-0.0066	-0.115	0.0272	1.008

For Regression Tables : * Indicates that Beta is Significant at 10%; ** Significant at 5%; *** Indicates Beta Significant at 1%.

variable is statistically significant. The firm characteristics of age and type are seen to have a significant negative impact on the extent of HCD. The Structural capital disclosure of these firms shows a R^2 of 0.52, with the overall model being highly significant at p -value > 0.000 . Among the set of independent variables, only IWD (0.093) is observed as the factor having a strong statistical positive impact. The relatively newer firms and those having a low debt equity ratio seem to be disclosing more. The last model related to CCD, also has very high statistical significance with R^2 at 0.78. However, none of the independent variables influence the disclosure of this IC sub-component. Instead, it's the firm characteristics like the age, size of firm (0.037), profitability (-0.007) and extent of leverage (-0.05) that impact the levels of CCD.

The impact of IWD and gender diversity is observed to be highly varied for the overall disclosure and sub-components for both the time periods.

DISCUSSION OF RESULTS

Several researchers across different countries have found that firms disclose IC to gain several intrinsic and cost benefits despite it not being mandatory, as in India (Rajabalizadeh and Oradi, 2022).

As observed in the previous section, the Independent women directors have a significant positive impact on the ICD for both the time periods of study. Even from the resource based perspective, the independent directors are expected to bring in their experience, expertise and reputation on board (Haniffa and Cooke, 2005). They would take a long term view on the firms activities in the shareholders' interest. The results are in line with the findings of Li *et al.*, 2008, Hidalgo *et al.*, 2013 and several other researchers.

The results also strongly indicate that the size of board has a negative impact on the ICD for select sample firms. This reinforces the theory, that the ability to monitor and supervise gets adversely affected as the number of board members increase (Cerbioni and Parbonetti, 2007). Therefore, the hypothesis that board size positively influences ICD is not accepted.

The results of the study reinforces the view that increased representation of women on boards will improve board oversight, enhance transparency and reduce information asymmetry in respect of IC information (Tejedo-Romero *et al.*, 2017).

SUGGESTIONS AND CONCLUSIONS

Gender Diversity and its impact on different aspects of firm's performance and activities is one of the most researched topics across various

countries. The impact of changing or increasing gender diversity is still not an established fact. There was little research attention towards this area in Indian context. The ICD is not mandatory in India and therefore, the extent of disclosures is also low when compared to developed countries. The present study attempted to study the impact of gender diversity on the ICD and its sub-components of specific firms in India for two discrete time periods 2013-14 and 2018-19. Multiple linear regression models were used to analyze the association and content analysis was used to measure the extent of ICD. The results suggest varied impact of gender diversity on ICD in India. The study contributes to the literature extant, by expanding the scope of impact of gender diversity on a different aspect of firm i.e. ICD and reporting concrete evidence about its influence on the functioning of boards.

Forms of corporate governance are shaped nationally by their economic, political and legal backgrounds, by their sources of finance and by the history and culture of the countries concerned (Clarke, 2004).

The results and findings of this research can be used by the regulators and policy makers that are interested in improving the CG and disclosure practices of their firms. Board independence stood as a major factor affecting gender diversity. There is a need for a higher level of transparency in the appointments and the firms should allow the regulators to monitor and scrutinize the firms in these aspects. There is also a requirement for policy reforms in ensuring equality and gender diversity on the boards of the firms for better policy making. More than just including female representation on board, it has to be incorporated as a practice rather than just a ritual. The complete benefits and implication of gender diversity would only then be fully realized by firms. Change in mindset of the top management is crucial in bringing about genuine change.

Companies can drive board inclusion by preparing their own female executives for future board participation: placing them in roles with profit-and-loss responsibility, ensuring they have committed mentors and sponsors and equipping them with the knowledge and skills needed to confront the governance and strategy issues that boards typically face. This can create a virtuous cycle that speeds progress on board diversity and counteracts cynicism with success stories (Huber and O'Rourke, 2017).

Pointing at the limitations, the paper studies small samples in discrete time periods, the continuous data with large samples may provide improved results and insights. The study on gender diversity has deep cultural and environmental underpinnings and therefore, the results or policy interventions

cannot be exclusive of these aspects. Diversity in terms of not just gender, but other aspects of diversity also require more research to assess its comprehensive impact on firms. Nevertheless, this research can definitely prove to be a starting point both for the firms and the policy makers to seriously consider implementation and monitoring compliance of the gender quotas on boards in India.

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Appendix 1

List of IC Search Terms

Organizational / Capital	Human Capital	Customer/Relational Capital
Intellectual Property	Employees	Market Share
Patents	Employee Know-how	Customer
Copyrights	Employee Knowledge	Brand
Trademarks	Employee Efficiency	Customer Satisfaction
Corporate Culture /	Human Capital	Customer Loyalty
Organizational Culture	Human Asset	Company Eputation/Image
Management Processes	Human Value	Distribution Channels
Information Systems	Training	Business Collaborations
R&D Expenditure	Expert	Licensing Agreements/ Favorable Contracts
Structural Capital	Talent	Certification
Knowledge Management	Human Resource	Awards
Leadership	Merit	Relational Capital
Economic Value Added	Team	Customer Capital
Business Knowledge	Incentives	Market Leader
Intellectual Assets	Remuneration	Competitors
Intellectual Capital	Initiative, Motivation and Dedication	Suppliers
	Occupational Health and Safety	Investors
	Work Environment	Customer Service