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Role of Corporate Governance in the Voluntary Disclosure of Intellectual Capital

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ABSTRACT

The research on intangible assets and its contribution to the value creation of the firms has received significant attention in recent times. This paper attempts to estimate and analyse the nature and extent of overall Intellectual Capital Disclosure (ICD) and its sub-components in the annual reports of Information Technology (IT) industry in India for the FY 2017-18. It also attempts to examine whether Corporate Governance Characteristics of these firms influence their ICD. Multiple linear regression analysis is used to evaluate the data on information technology Industry. IT firms in India disclose a very high extent of Human capital; whereas the nature of disclosure is high in case of Structural Capital. The empirical evidence suggests that board size, its independence and ownership pattern of the firm play a significant role in the extent of overall intellectual capital disclosures in Indian IT firms. The result on impact of corporate governance characteristics varies with respect to the IC sub-components.

SARI PATI

Penelitian tentang aset tidak berwujud dan kontribusinya terhadap nilai penciptaan perusahaan telah menjadi perhatian signifikan saat ini.Makalah ini mencoba mengestimasi dan menganalisis sifat dan luasnya Pengungkapan Modal Intelektual secara keseluruhan (ICD) dan sub-komponennya dalam laporan tahunan industri Teknologi Informasi (TI) di India periode TA 2017-18. Penelitian ini juga mencoba memeriksa apakah Karakterisktik Tata Kelola Perusahaan pada perusahaan-perusahaan ini mempengaruhi ICD mereka. Analisis regresi berganda linier digunakan untuk mengevaluasi data pada informasi industri teknologi. Perusahaan TI di India mengungkapkan dengan tingkat yang sangat tinggi Modal Manusia; sedangkan sifat pengungkapannya tinggi dalam kasus Modal Struktural. Bukti empiris menunjukkan bahwa ukuran dewan, independensinya dan pola kepemilikan perusahaan memainkan peran penting dalam tingkat pengungkapan modal intelektual secara keseluruhan di perusahaan-perusahaan TI India. Hasil pada dampak karakteristik tata kelola perusahaan bervariasi sehubungan dengan sub-komponen Modal Intelektual (IC).

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INTRODUCTION

The extent of intellectual capital (IC) disclosures in corporate annual reports has received increasing attention in recent years. (Li *et al* 2007; Bontis, 2003; Cuozzo *et al* 2017) Intellectual Capital Disclosures (ICD) may start as an initiative by firms for internal management purposes. But ultimate goal of such disclosures should be to provide transparent information to external stakeholders (Bontis, 2003)

Another point to note is that IC is not disclosed uniformly across nations. There are acute differences between developed and developing countries ICD practices, extent and nature. These differences are attributed to economic, social and political factors existing in these countries. (Abeysekera, 2007)

Among the internal factors, research studies have shown that the characteristics of board and audit committee play a significant role in the nature and extent of ICD. However, a positive association between board independence and voluntary disclosure only occurs in those countries with high investor protection rights. (Garcia and Ballesta, 2010)

There are many research studies that have successfully established the positive association between voluntary financial disclosures and CG characteristics of the firm. However, this is an attempt is made to explore the association between CG and ICD in Indian context. The results of this study would be extremely useful for management of firms to realise the goal of attaining competitive advantage. From the regulators point of view, If proved that there is association between Corporate Governance (CG) and ICD, there would be an urgent need to review and reform the legal and institutional setting so that more and more voluntary disclosures come up. From the point of view of the regulators, there would be an urgent need to review and reform the legal and institutional settings to ensure higher levels of voluntary disclosures, if the positive association between CG and ICD is established. (Garcia and Ballesta, 2010) Audit committee characteristics also need to be governed and monitored to ensure effectiveness of ICD by firms. (Li *et al*, 2012) It is suggested that a more transparency in IC categorization could come a long way in resolving this issue (Beattie and Thomson, 2007)

This study is systematically organized in the following sections. After reviewing the earlier works in this area, the gaps are identified and objectives of the present study are spelt. The hypothesis development is followed by the detailed methodology. Then a section on findings and analysis of the results is presented. The last section provides the major conclusions of the present study.

Review of literature :

The review of previous works is classified as those studies which dealt with Intellectual capital disclosure, its determinants in terms of firm characteristics. The second group is the review of literature on ICD and Corporate Governance characteristics.

Abhayawansa & Guthrie (2014) in their study of 64 analyst's reports of firms in Australia find that the relational capital followed by human capital is the highly disclosed. Overall IC disclosure was only around 12 percent. The disclosures varied across the sectors and also within the sub-categories. The terms employees and work experience were highly reported both in terms of frequency and number of firms. Seng *et al* (2018) find that relational capital is highly reported by Indian firms. It was also found that the terms "leadership", "customers", "employees" and brands were highly reported in Indian private sector firms. The disclosures by IC intensive firms were found to be higher, and size was seen to be a highly significant determinant of extent and variety of ICD. Duff (2018) explores the extent and quality of ICD in professional accounting firm of UK. The researcher using content analysis for a sample size of 20 firms, finds that human capital is

highly reported and internal capital is least reported.

Haji and Ghazali (2012) studied the Malaysian firms from 2008-10 to analyse the impact of CG characteristics on the IC disclosure. Board size, independent directors and a few other factors was found to influence the extent as well as quality of IC disclosure.

The impact of size of board and ownership structure on ICD was studied for Mexican companies (Hidalgo *et al*, 2011). The institutional ownership has a clear negative impact on disclosure levels. The size of the board has a positive influence; however, it was observed that the optimum number of members on board is 15. The authors find that the supervisory process in decision-making of voluntary disclosure of intellectual capital decreases as the size of board increases indicating a negative relation.

Cerbioni and Parbonetti (2007) confirm the existence of a strong relationship between the quantity of ICD and CG characteristics in the sample bio-technology firms in Europe. The authors also observe that the proportion of independent directors is positively related to the disclosure of internal structure. The CEO duality is negatively linked to the disclosure. Baldini and Liberatore (2016) analyse the impact of CG characteristics on ICD of select Italian firms. It was found that a disclosure of relational capital is highly influenced by the board characteristics. The proportion of independent directors, the size of the board and ownership structure all has a strong and significant influence on ICD. Duality was the only factor which did not show any strong association.

Li *et al* (2008) explore the impact of board composition, ownership structure, audit committee size and duality on ICD in 100 UK firms. The evidence suggests significant association with all corporate governance characteristics except for CEO duality. Li *et al* (2007) explore the 100 UK listed knowledge-rich firms to evaluate the impact of firm specific factors including their CG characteristics on ICD. They find firm size, share price volatility, director shareholding, audit committee size, and ownership concentration to be associated with ICD in a manner consistent with theoretical expectations.

Dumay and Guthrie (2017) in their paper finds that voluntary disclosure brings with it not only opportunities but also several risks and threats as it impacts the reputation and value of the firm. Therefore, it is essential that the firms that embark on the road of voluntary disclosure must be aware of the mode of communication and effectively manage it. Giacosa *et al* (2017) look into developing a conceptual model of voluntary ICD and its positive impact on the stakeholders. They find that the effectives of such disclosures would be very high only if these disclosures are customised according to each firm needs and integrating it with its stakeholders needs.

Lim *et al* (2007) study 181 Australian firms and find that board composition does have a strong influence on the nature and extent of voluntary disclosures by firms. They also find that board independence is of paramount importance in getting strategic and forward looking disclosures. In another study, Li *et al* (2012) find that audit committee characteristics and ICD are positively associated. There was mixed results w.r.t. IC sub-components. Samaha *et al* (2015) in their study find that the board size and composition have a positive association with the firm's voluntary disclosure. Abeysekera, (2010) also presented the same result in her study. Muttakin *et al* (2015) on the other hand duality have a strong negative impact on the extent of intellectual capital disclosure. Board independence also is an important factor that determines the ICD of firms (Al-Ebel, 2013) Malhotra *et al* (2017) analysed the extent of ICD in Nifty firms and the firm characteristics that influence such disclosures. They found that the larger and less leveraged firms have higher level of disclosures. The firms in service sector also showed higher disclosures.

It is observed that through the review of literature that there are several studies in developed

economies and the results are also not uniform. It can also be seen that there are not many studies that are industry specific and in Indian context. In view of the above, the major ***Objectives*** of the present study are as follows:

1. To estimate and analyse the nature and extent of overall IC disclosure and its sub-components in the annual reports of Information Technology industry in India for the FY 2017-18.
2. To examine whether Corporate Governance characteristics of these firms influence their ICD.

The ***Hypothesis*** is constructed and tested to fulfil the above objectives and developed through the extensive review of literature

H1: There are significant differences in the nature and extent of overall ICD and its sub-components

H2: The ICD of Information industry is influenced by the specific CG characteristics for the study period.

METHODS

Methodology: Content analysis is the popular method for measuring the nature and extent of ICD. There are plethora of research papers which have used content analysis to evaluate ICD of firms across different industry and country contexts. (Bozzolon *et al*, 2006; Abeysekera, 2007, 2010; Kamath, 2008; Muttakin *et al*, 2015) Inspite of its popularity one of the limitations of this method is that since different researchers use different set of search terms, the uniformity is missing, making comparisons across research studies almost impossible. Content analysis can further done either manually or through software. Since the sample size is large, manual analysis of each annual report would be time consuming; therefore it was decided to use QDA miner software. The frequency results thus obtained from the software was randomly cross-verified with some sample annual reports for all search terms. This process ensured the reliability of the extraction process. The use of technology helps in bringing out a more reliable and objective result and more importantly also eliminates human error (Oliveras and Kasperskaya, 2008).

To decide on which search terms have to be shortlisted, extensively review of earlier literature was conducted (Bontis, 2003; Bozzolon *et al*, 2006; Abeysekera, 2007; Kamath, 2017). 70 unique search terms categorised as human capital, organizational/ structural capital and relational/customer capital according to standard IC literature (Edvinsson, 1997) is used in the paper.

Since Corporate Governance is all about how well you keep the stakeholders informed on the true performance of the firm, only voluntary disclosures were analysed. The annual reports of each of these 30 firms were carefully examined for its section on Chairman's Speech, Directors report and Management Discussion & Analysis. These three sections were considered representation of the voluntary disclosure by the firms. It was checked if the annual reports of the firms contained any additional information or reports on Intangible assets of the firms. Lastly, paper deals with only quantity of ICD and not quality of disclosures so as to keep the results comparable with earlier literature.

Data is analysed using Disclosure Index, descriptive statistics and multiple regression model

Disclosure Index:

To estimate the ***Disclosure Index (DI)***, the standard formula that is used here is:

$$DI = \frac{\Sigma D_i}{N}$$

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.

Table 1. List of Search Terms

Organizational/Structural capital	Relational Capital	Human Capital
Business knowledge	Awards	Education
Competence	Brands	Employee efficiency
Copyrights	Business collaborations/	Employee Expertise
Corporate culture	collaboration	Employee know-how
Corporate Learning	Certification	Employee knowledge
Corporate University	Company's reputation/image/	Employee productivity
Cultural Diversity	Corporate image/ image/reputation	Employee satisfaction
Economic value added	Competitive Intelligence	Employee skill
Expert Networks	Competitors	Employee value
Information systems	Customer base	Employees
Infrastructure assets	Customer Knowledge	Empowerment
Innovation	Customer loyalty	Expert Teams
Intellectual assets	Customer satisfaction	Expert/expertise
Intellectual capital	Customer service	Human Assets
Intellectual Material	Customer/relational capital	Human Capital
Intellectual property	Customers/consumers	Human resource
Intellectual resources	Distribution channels	Human value
Know-how	Distribution network	Incentives
Knowledge	Investors	Initiative, motivation and dedication
Knowledge assets	Joint venture	Merit
Knowledge Management	Licensing agreements/favourable	Occupational health and safety
Knowledge resources	contracts	Personnel
Knowledge Sharing	Market leader	Remuneration
Knowledge Stock	Market share	Talent
Leadership	Partnership	Team/teamwork
Management focus	Relational Capital	Training
Management philosophy	Supplier Knowledge	Work environment
Management processes	Suppliers	Work–related knowledge
Management Quality	Supply chain	
Network		
Networking systems		
Operating system		
Organizational capital		
Organizational Culture		
Organizational Learning		
Patents		
Philosophy		
Quality standards/quality		
R&D		
Research collaboration		
Structural Capital		
Technological processes		
Trade secrets		
Trademarks		
Value added		

Multiple Regression Analysis:

The following model is estimated for analysing the impact of CG characteristics on ICD of firms

$DI_i=\beta_0+\beta_1 BSIZE_i+\beta_2 BIND_i+\beta_3 BEXE_i+\beta_4 BREM_i+\beta_5 BATTD_i+\beta_6 AGE_i+\beta_7 GOWN_i+\beta_8 FOWN_i+\beta_9 POWN_i+\beta_{10} MCAP_i+\beta_{11} LEV_i+\beta_{12} ROA_i+\mu$

Where,

DI_i = Disclosure Index for ith firm; $BSIZE_i$ = Size of Board for ith firm; $BIND_i$ = Proportion of Independent members on Board; $BEXE_i$ = Proportion of Executive members on Board; $BREM_i$ = Remuneration of Board Members; $BATTD_i$ = Frequency of board meetings attended; AGE_i = Age of the Firm; $GOWN_i$= Ownership of firm(Public Sector); $FOWN_i$ = Ownership of firm(Foreign); $PVOWN_i$ = Ownership of firm(Indian Private); $MCAP_i$ =Market Capitalization; LEV_i =Leverage; ROA_i = return on total assets μ= residual term

Variables studied: The dependent variable DI is measured as mentioned in the previous section. The board characteristics and some descriptive factors are taken as explanatory variables. The explanatory variables were chosen based on two important criterions; one, the standard variables representing board characteristics which were used in similar prior works was chosen for this model.

This includes size of the board and its independence (Li *et al,* 2008; Muttakin *et al*, 2015; Baldini and Liberatore, 2016). Secondly, availability of data for the selected firms was considered, e.g. information on duality of ownership was not available for all firms therefore not considered in the model. Similarly some additional variables which were suitable only in Indian context such as attendance in board meetings and the proportion of executive members on board were taken as variables for the model. Finally, among the board characteristics, its size, independence of board members, proportion of executive members on board, remuneration of board members and their attendance in board meetings is taken.

The total number of directors on board of the firm is taken as Size of Board. The Proportion of independent directors to total number of directors on the board is the second independent variable. The proportion of executive directors to total number of directors on board represents composition of board. The total remuneration of all the members on the board of the firm is taken. The total number of board meetings attended by all the directors of board for the year is also taken as a variable to understand the impact of their presence on the quantity of disclosures by firms.

The age of firm is represented through the number of years since the year of incorporation. The variable representing the ownership of the firm is further classified as those owned by public sector, those owned by Indian private and those owned by foreign. The equity holding of the promoter is taken as cut-off to decide on the ownership. The regression model is controlled for the size of the firm, its profitability and indebtedness with the variables specified above in the equation.

Sample: This research is based on data of 30 firms from Information Technology in India . Thirty firms from this industry were selected based on their sales revenue (Income) for the FY 2017-18. In case the firms were not listed on NSE/BSE then the next firm in the list was taken up such that a total of thirty samples were available in each group.

Two sets of data were required for analysis, one related to ICD and the other regarding the CG characteristics of the firm. The main source of data for ICD is annual reports of the identified firms for the FY 2017-18. Use of Annual reports enable comparative analysis and therefore are found relevant for measuring ICD by firms (Brennan, 2001; Bozzolan *et al* 2006; Campbell and Rehman, 2010). The data on variables related to Corporate Governance characteristics of these firms, the financial and market performance for all groups was extracted through Prowess database provided by CMIE. This database provides details from the

audited annual financial statements of all the firms listed on stock exchanges in India.

RESULTS, FINDINGS AND DISCUSSION

Descriptive statistics

The Descriptive statistics of all the Variables used in the study is presented in **Table 2**. It can be clearly observed that the mean of disclosure index is 0.60 indicating that on an average no single firm has disclosed more than 2/3rd of the IC terms found. Whereas in case of Structural Capital, it is 0.71 and least is in case of Human Capital with only 0.44. The IT firms have a mean of board size of 9 with a maximum of 15 members in some firms. There are 5 independent directors and 2 executive directors on an average in these firms. Some firms have neither independent directors nor executive directors on their board. Every board member attends around 4 meeting per year. Wipro established in 1945 is the oldest firm in the group. The debt equity ratio of these firms is 0.38 with a return on assets of around 13 percent.

Extent of Intellectual Capital Disclosure

The results of content analysis of Intellectual Capital Disclosure by IT firms classified as Customer Capital, Structural Capital and Human Capital is presented in tables below. As can be observed, that a total of sixty terms have been disclosed in all, highest number of disclosures has been in the sub-group Structural capital i.e. 23 terms. This is followed by Customer Capital with 19 terms and Human Capital with 18 terms. Whereas in terms of total quantity of disclosure, it's the category Human Capital that tops the list with 2254 times; this is distantly followed by Customer Capital with a total of 1026 disclosures; interestingly, though the number of terms are highest for structural capital, the quantity is just 586. The mean disclosure among the sub-groups also follows the same trend.

As can be observed in **Table 3**, the top three terms that are disclosed by firms in case of Customer Capital are "Customers", "Awards" and "Investors". The mean of the term "Customer" is as high as 12 which indicate that each firm on an average has used this term 12 times in their annual report for the specific financial year. The terms "Customer Capital" and "Market leader" are the least disclosed by IT firms in this sub-category. The terms such

Table 2. Descriptive Statistics of the Variables

Variable	Mean	Median	Minimum	Maximum	Std. Dev.
Disclosure Index-All	0.60	0.6	0.43	0.75	0.073
IC Disclosure	128.87	119	53	243	47.71
Disclosure Index-CC	0.62	0.63	0.37	0.79	0.12
IC Disclosure-CC	34.20	33	10	82	17.80
Disclosure Index-SC	0.71	0.70	0.52	0.91	0.089
IC Disclosure-SC	19.53	16	4	59	12.72
Disclosure Index-HC	0.44	0.44	0.33	0.67	0.079
IC Disclosure-HC	75.13	68.5	35	141	28.51
Board Size	9.30	10	2	15	3.053
Board Independence	4.83	5	0	9	2.069
Board Composition	2.07	2	0	5	1.048
Board Remuneration	17.97	18.18	15.76	21.30	1.404
Board Meetings	39.87	41	2	84	18.93
Board Attendance Avg.	4.37	4.45	1	12	2.11
Age of firm	27.43	26	7	73	14.47
MCAP(Log)	10.97	10.75	8.43	15.38	1.83
LEV (ratio)	0.38	0.21	0.037	1.68	0.40
ROA (ratio)	13.16	12.84	-9.03	28.18	8.77

as Partnerships, Collaboration, Brands, and certification are moderately disclosed.

In **Table 4**, the disclosure of Structural Capital is presented. It can be clearly seen that the term "Innovation" and Leadership" is equally and highly disclosed by IT firms in India, with an average of 4 disclosures by each firm for the FY 2017-18. This is followed by the term "Quality" and "Knowledge" with a mean of 3 and 2 respectively. The terms copyrights, corporate culture, intellectual capital, Know-How are some of the terms that have very low levels of disclosures by these firms. The terms Network, Research and Development and Intellectual property rights are the ones that are moderately disclosed.

The **Table 5** shows the disclosure of Human Capital terms for the FY 2017-18 for the IT firms in India. As expected, the terms "Employees" and "Remuneration" top the rankings in terms of quantity of disclosures. The terms occur on an average 24 and 16 times in each firm's annual report. Initiative, motivation dedication along with the term personnel also is among highly disclosed items. Surprisingly "Employee Value", "Employee Satisfaction" "Occupational Health and Safety" and "Human Capital" is the least disclosed by these firms. The terms such as team, talent human resource and training are moderately disclosed.

In view of the above results, the hypothesis H1 is accepted.

Analysis of Intellectual Capital Disclosure:

The information technology industry in India gives significant weightage to structural capital and its human capital. In case of relational capital, customers and investors are considered important

Table 3. Intellectual Capital Disclosure-Customer Capital

Serial No.	Terms	N	Mean	Percentage	Rank
1	Awards	224	7.47	21.83	2
2	Brands	59	1.97	5.75	4
3	Collaboration	39	1.30	3.80	7
4	Certification	49	1.63	4.78	5
5	Corporate Image	5	0.17	0.49	14
6	Competitors	3	0.10	0.29	16
7	Customer Base	6	0.20	0.58	12
8	Customer Satisfaction	6	0.20	0.58	12
9	Customer Service	9	0.30	0.88	11
10	Customer capital	1	0.03	0.10	18
11	Customers	380	12.67	37.04	1
12	Distribution channels	1	0.03	0.10	18
13	Investors	130	4.33	12.67	3
14	Joint Venture	23	0.77	2.24	9
15	Market leader	2	0.07	0.19	17
16	Market Share	4	0.13	0.39	15
17	partnership	45	1.50	4.39	6
18	Suppliers	30	1.00	2.92	8
19	Supply chain	10	0.33	0.97	10
	Total	1026	34.20	100.00	

Table 4. Intellectual Capital Disclosure-Structural Capital

Serial No.	Terms	N	Mean	Percentage	Rank
1	Business Knowledge	2	0.07	0.34	16
2	Competence	6	0.20	1.02	11
3	Copyrights	1	0.03	0.17	20
4	Corporate Culture	1	0.03	0.17	20
5	Corporate University	1	0.03	0.17	20
6	Information Systems	3	0.10	0.51	14
7	Innovation	132	4.40	22.53	1
8	Intellectual Capital	2	0.07	0.34	16
9	Intellectual Property	19	0.63	3.24	7
10	Know-how	2	0.07	0.34	16
11	Knowledge	53	1.77	9.04	4
12	Knowledge Management	6	0.20	1.02	11
13	Leadership	132	4.40	22.53	1
14	Management Focus	2	0.07	0.34	16
15	Management Processes	14	0.47	2.39	8
16	Network	50	1.67	8.53	5
17	Operating system	3	0.10	0.51	14
18	Organizational Culture	1	0.03	0.17	20
19	Patents	10	0.33	1.71	10
20	Philosophy	13	0.43	2.22	9
21	Quality	101	3.37	17.24	3
22	R&D	27	0.90	4.61	6
23	Value-added	5	0.17	0.85	13
	Total	586	19.53	100.00	

Table 5. Intellectual Capital Disclosure-Human Capital

Serial No.	Terms	N	Mean	Percentage	Rank
1	Education	126	4.20	5.59	5
2	Employee Satisfaction	1	0.03	0.04	17
3	Employee Value	1	0.03	0.04	18
4	Employees	745	24.83	33.05	1
5	Empowerment	8	0.27	0.35	14
6	Expert	71	2.37	3.15	9
7	Human Capital	6	0.20	0.27	15
8	Human Resource	38	1.27	1.69	10
9	Incentive	25	0.83	1.11	11
10	Initiative/Motivation/Dedication	241	8.03	10.69	3
11	Merit	13	0.43	0.58	12
12	Occupational Health and Safety	6	0.20	0.27	15
13	Personnel	202	6.73	8.96	4
14	Remuneration	495	16.50	21.96	2
15	talent	87	2.90	3.86	8
16	Team	91	3.03	4.04	6
17	Training	88	2.93	3.90	7
18	Work environment	10	0.33	0.44	13
	Total	2254	75.13	100.00	

for business by these firms, but their value is not yet harnessed in the form of customer capital. These firms can focus on creating brand value and also work on creating a competitive edge in the market by enhancing this intellectual capital. These firms consider the innovation, knowledge and quality to attain and retain market competitiveness. However, it is seen that the policy process required for converting these intangibles into reflecting the true value of the firm is missing. The firms should focus on converting their innovation into IPR's. Employees are the heart of every organization and IT firms are no different. However, it is suggested that employee health and safety, employee satisfaction also should be among the priorities of these firms.

Multiple Regression Analysis

The results of the regression are presented below in **Table 6.**

It is observed that all the four models are statistically significant and have an acceptable goodness of fit. The overall Intellectual Capital Disclosure is strongly influenced by the size of board, its composition, board remuneration and Independence of the board. It can be clearly observed that the size of board has a negative influence (−3.909) on the extent of IC disclosures in IT firms. This result is in line with the existing literature, where it is found that large boards result in more transparency, however boards larger than optimal size always have a negative influence on disclosure of firms. The independence of boards (12.919) plays a significant role in the level of disclosures by the firm. The result reinforces the fact that the regulator must ensure that firms strictly follow the stipulated percentage of independent directors on board to bring in disclosures important for stakeholder to understand the true performance of firms.

The ownership (23.108) also seems to have a positive impact on the level of disclosures. It is seen that foreign owned firms level of disclosures are much higher than the domestic private owned firms in IT industry in India. In case of structural capital disclosures, only age (−0.371) of the firm is statistically significant determinant. Customer Capital disclosure is highly influenced by the independence of the board (−0.033) along with its composition (0.071). The size of the firm (0.018) and its profitability (0.005) also is an important impact factor. It is also observed that the number of meetings attended (0.034) by the board members also is an important factor in the level of disclosures made by the firms. Whereas, for human capital disclosure is influenced by age of the firm (0.0024) and its ownership pattern (−0.019). It is observed in the results that of the five board characteristics chosen for the model, the overall disclosure is seen to be influenced by four of them. Hypothesis 2 is also accepted, as only a most of board characteristics influence the overall IC disclosure. As in case of the sub-components, there are no common independent variables, except for age of the firm and meetings attended by the board members.

THEORETICAL AND MANAGERIAL IMPLICATIONS:

It was clearly observed that the size of board, its independence and the ownership pattern of the firms do have a significant influence on the extent of voluntary intellectual capital disclosures of the firms.

Voluntary disclosures of IC increases the perceived value of the firm to outside stakeholders, it also brings with it responsibilities on part of board to remain transparent in its management and reporting in future too. The association pushes the boundary of control by the board from traditionally tangible assets to intangible assets. This introduces newer opportunities as the firm can bring in desired changes in its board composition so as to optimize its impact on the value and improve its reputation too. Theoretically, now the value of firm is not only dependent on its physical assets but also it's IC. The new framework can therefore be extended accordingly to other sectors and countries for validation of this theory. A word of caution here is that, intangible assets and property of firms are itself

Table 6. Results of the Regression Model

Dependent Variables	Overall Disclosure index		Structural Capital Disclosure Index		Customer Capital Disclosure Index		Human Capital Disclosure Index	
N	30		30		30		30	
Adjusted R^2	0.64		0.37		0.72		0.78	
F statistic	6.283		2.73		8.7		11.38	
p-value	0.000		0.028		0.000		0.000	
		t-value		*t*-value		*t*-value		*t*-value
Intercept	-134.221*	-1.771	-49.035*	-1.767	1.458***	3.938	0.927***	4.319
Explanatory Variables	**Beta**		**Beta**		**Beta**		**Beta**	
Size of Board	-3.909*	-1.760	-0.839	-1.212	0.011	0.764	0.001	0.311
Independence of Directors	12.919***	3.919	1.885	1.501	-0.033**	-2.398	-0.0007	-0.097
Board Composition	-16.886***	-3.312	-0.245	-0.113	0.071*	1.978	0.013	1.173
Board Remuneration	17.150***	3.09	4.136*	1.863	-0.076***	-3.099	-0.031*	-1.993
Frequency of Meetings	1.217	0.479	-0.787	-1.113	0.034***	3.043	0.0125**	2.714
Age	-0.335	-0.986	-0.371***	-3.535	0.001	1.282	0.0024***	4.926
Ownership(F)	23.108**	2.204	0.280	0.095	0.031	0.496	-0.019*	-1.846
Control Variables								
MCap	-4.297	-0.979	1.081	0.693	0.018*	2.065	-0.009	-1.559
Lev	-6.355	-0.396	-3.655	-0.721	-0.071	-1.453	-0.003	-0.136
ROA	0.127	0.261	-0.279	-1.017	0.005***	3.227	0.001	0.7617

not new concepts, however, their association with board characteristics is.

These results have an important practical significance to the owners, managers who are policy makers and regulators of the firm. The owners can take advantage by disclosing the true value of firm to its stakeholders. As all the firms which are listed on stock exchange have a primary responsibility to the wider stakeholders, the firms must be encouraged by the regulators to disclose the intellectual capital along with the financial performance and indicators. Besides this, the board characteristics must be regularly monitored and regulated such that the stakeholders are able to gain from its optimal size. It will enable the protection of the interests of the investors and also the effectiveness of functioning of the board itself.

CONCLUSIONS

This paper aimed at analysing the impact of board characteristics on intellectual capital disclosure of Information technology firms in India for the period 2017-18. The research also tried to evaluate the nature and extent of ICD in IT firms for the same period. The results of the study suggest that information technology firms in India disclose a large amount of Human capital information. However, in terms of the nature of disclosures, they are more in structural capital. It is inferred from the results of voluntary disclosure that the firms focus on innovation, but they are not converting the same into intellectual property to add value to the firm. The stakeholders especially customers, investors and employees form the core of voluntary disclosures, however, it was inferred by the pattern of disclosures that the firm must focus more on generating capital from these valuable intangible assets.

One of the important limitations of this study is that the research is first of its kind in Indian context, and therefore limited to one industry on an experimental basis. Besides, this, the small sample is used for analysis for one specific year. Better insights into the associations specified and robustness of the model may be tested, if panel data is used for a cross-section of industries across sectors. These limitations open up arenas for future research.

The future research may extend the methodology over period of time and to many industries to get an overall view of the impact of CG characteristics on the IC disclosures. Other CG characteristics such as diversification/concentration of ownership or characteristics of audit committee may also be used for analysis.

Most of the previous research tried to associate the impact of CG characteristics on the financial and market performance of firms. This may be true for manufacturing sectors, but not for service sectors which are predominantly based on intangible assets. The research on CG and its association with intangibles has been explored in some of the developed countries, but there was no such study in the emerging economies. Therefore, analysis of the CG characteristics on the IC performance of firms in selected service sector in Indian context is a valuable addition to the literature extant. ■

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