Disclosure of Intellectual Capital

Evidence from Indian Annual Reports

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Summary

The shifting of the economy from manufacturing-based to knowledge-based has raised the importance of Intellectual Capital (IC) in the business value creation process. Although IC has been recognized in integrated reports, limited information about it is still reported in traditional financial disclosures. The present study examines the extent of intellectual capital disclosure (ICD) in Indian firms and assesses the gap between stakeholder expectations and industry disclosure procedures. For this purpose, content analysis has been performed on a sample of 30 non-financial firms listed on the Bombay Stock Exchange (BSE) for the year 2019–2020 by constructing a disclosure index of 42 items based on previous studies, under the three categories of IC, namely, structural capital, relational capital, and human capital. The results reveal that the overall disclosure of intellectual capital by Indian firms is low. The companies disclose only 42% of the Intellectual Capital items. Further, it is found that maximum number of companies are disclosing structural capital, while human capital disclosure obtains the minimum score. The results imply the need to develop a proper framework for reporting intangibles in the annual statements of organizations in India.

Keywords: Content Analysis, Intellectual Capital, Disclosure Index, Relational Capital

JEL codes: G31, G39, M41

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The introduction of the 'new economy' – a knowledge-based economy, is ascribed to the rising prominence of Intellectual Capital (IC) as a business and research concern. IC has played a significant role in contemporary economic, managerial, technological, and sociological advances. It has also become an essential element of financial statement disclosure because traditional financial reporting has been criticized for not providing adequate information about the company's wealth-producing capability to the stakeholders (Solikhah et al., 2020). Further, financial accounting and reporting standards have largely failed to keep up with the rapidly changing environment (Schaper et al., 2017). Consequently, information asymmetry has been increasing. Some prior studies emphasized proper representation of intangibles for competitive advantage (Husin et al., 2012; Parshakov & Shakina, 2020). Therefore, there has been rising discussion regarding the adequacy of current disclosure standards for meeting stakeholders' information requirements.

In recent years, IC reporting has reduced information asymmetry between information providers and users. Information disclosure reduces the cost of capital (Nielsen 2015). Disclosure also enhances company's future profit and market value, thus attracting more investments. Moreover, through information disclosure the enterprise can develop trust amongst the stakeholders, which in turn is beneficial for long-term growth. However, there are no mandatory norms for disclosure of IC; the corporations should disclose it to the maximum to reduce information asymmetry.

The present paper examines the quantity and quality of disclosure by Indian enterprises. It also attempts to investigate whether disclosure practices adopted by Indian companies meet stakeholders' expectations. This gap analysis will help in understanding the difference between anticipated and actual reporting. Also, a framework of 42 items has been formulated to study the level of disclosure in detail.

The paper is structured as follows: Section 2 discusses the review of the related literature, followed by Section 3 which discusses the research methodology used in the study. Section 4 discusses the results, and finally, the conclusion is offered along with limitations and scope for future research in the last section.

REVIEW OF LITERATURE

This section discusses the background of IC and its components, theory for disclosure, and past studies conducted in the domain of IC disclosure. *Guthrie et al.* (1999) investigated the application of content analysis as a research tool for determining the extent to which IC is disclosed and showed that content analysis is a frequently utilized tool for determining the frequency and kind of IC reporting.

Meaning of IC and its Components

Intellectual Capital

Nassau William Senior, first coined the concept of IC in 1836. However, there is no widely accepted definition of what IC constitutes of. The literature suggests that IC is primarily defined as knowledge resources, kept in diverse forms by a corporation for its competitive advantage (Brown et al. 2016). *Choong* (2008) defined IC as a non-quantifiable asset capable of reaping future benefits. According to literature, IC is categorized into human capital, Social/Internal Capital, and Relational/External Capital.

Human capital refers to the competence, creative and problem-solving capabilities, leadership, and entrepreneurial and managerial skills exhibited by the employees of an organization. It refers to the knowledge of the working force (Balog, 2021).

Malhotra (2003) defined structural capital as the framework that supports human capital. This framework includes organizational processes, procedures, technology, information resources, and intellectual property rights. Furthermore, *Mertins et al.* (2009) defined structural capital as a collection of intangible and tangible assets derived from organizational procedures.

The relational capital is the value of its relationships with its stakeholders (Bontis, 1998) or the knowledge embedded in those interactions (Cabrita & Cabrita, 2013). It is a collection of resources produced through external relationships with consumers, suppliers, shareholders, partners, and investors. It refers to the entity's relationships with third parties and their perceptions of the entity.

The Theory of ICD

There are two theories regarding ICD. First, the stakeholder theory (Donaldson & Preston, 1995), and second, the legitimacy theory (Deegan, 2002), which deals with the importance of disclosure and its capacity to eliminate knowledge asymmetries. Stakeholder theory states that an organization's management is expected to take on activities as per the expectation of their stakeholders and report those activities to the stakeholders (Guthrie et al., 2004). Stakeholders include stockholders, employees, customers, government, rivals, suppliers, public media, and conservationists. Legitimacy theory is similar to stakeholder theory and states that an organization would voluntarily report on activities, if the management perceived that those activities were expected by the communities in which it operates (Meireles et al., 2017).

Prior Studies on IC Disclosure

Lim et al. (2017) conducted a study in Australia on biotechnology firms in the years 2003, 2006, and 2010 on 18 items and concluded that ICD is decreasing over time. Similarly, *Brennan* (2006) examined 11 Irish companies and found a difference between the market value and book value due to hidden costs. However, the level of IC disclosure was found to be very low amongst the knowledge-based companies. *Parshakov and Shakina* (2020) conducted a study in the United States and found that firms' IC disclosure was low in most of the countries analyzed, specifically in qualitative form. *Yi and Davey* (2010) found that the average quality score of the three components of IC, namely, human, structural, and relational capital was lower than 0.5. This low score indicates that most of the components of ICD was expressed in narrative forms rather than numerical forms. A similar finding was reported by the study of *Guthrie et al.* (2006) in Hong Kong and Australia, who showed that IC reporting was majorly in narrative form rather than monetary form. *Joshi et al.* (2011) conducted a study examining the difference in IC disclosures between Indian and Australian software and technology companies. The findings reveal that though Indian enterprises released more IC information than Australian firms, voluntary ICD was minimal in both the countries and the disclosure was mainly narrative in nature.

On the other hand, *Campbell and Rahman* (2010) conducted a longitudinal study on Marks & Spencer's annual reports from 1978 to 2008. The study found that the reporting of relational capital has increased over time, however, narrative reporting is more than the monetary one. Similarly, *Mulyadi et al.* (2017) studied the pharmaceutical and finance sector of the Indonesian economy and found that the disclosure level differs between the two sectors.

However, the disclosure level was found to be quite good in the Indonesian corporations. Further, *Duff* (2018) examined the extent and quality of disclosure of 20 accounting firms in the United Kingdom. The results showed that the level of disclosure of human capital is the most and internal capital is the least. Also, the study proved that narrative disclosure is more than monetary disclosure.

From the above-mentioned literature, it could be inferred that the studies on ICD have been conducted in different countries, majorly focusing on a sector. The present study is a modest attempt to identify the discrepancy between actual disclosures and stakeholder expectations in the Indian context. For the purpose, the study examines 30 firms listed on the Bombay Stock Exchange (BSE) rather than firms of any specific sector for the year 2019-2020. The paper contributes to the existing literature by studying a comprehensive list of 42 items framed based on prior studies. Also, it contributes by identifying the gap in Indian firms as only a handful of studies have been conducted in this context in the Indian economy.

RESEARCH METHODOLOGY

The study has been carried out in two phases. In the first phase, the ICD items formulated with the help of expert opinion using questionnaire as a tool, were coded, while in the second phase, content analysis was conducted on financial statements of BSE 30 firms for 2019-2020.

Formulation of IC Disclosure Index

The first phase, i.e., formulation of the disclosure index involved three steps. First, a list of ICD items based on earlier studies was compiled into three categories: organizational capital, human capital, and relational capital (Guthrie & Petty, 2000; Schneider & Samkin, 2008;; Ahmed Haji & Mubaraq, 2013; Duff, 2018).

It was necessary to validate the disclosure items in Indian scenario as they have been used in the other parts of the world. Therefore, an expert panel of 40 members representing five stakeholder groups was consulted for expert opinion using Google Form. Each group of stakeholders, namely, top management officials, practicing chartered accountants, accounting and finance academicians, officials working in regulatory agencies for corporate reporting, and participatory bodies involved in preparing or discussing annual reports, comprising of eight members each. *Martino* (1972) mentioned that careful selection of 10-30 subject matter experts is justifiable for forming a panel to seek opinion. Another advantage of consulting 40 experts from different stakeholder groups is that it will avoid the biasedness which may arise by consulting only one group of stakeholders. After the consultation with the 40 panelists, a list of 42 items was established under three categories (13 items under human capital, 16 items under structural capital, and 13 items under relational capital).

After the finalization of the ICD items, in the second step, the panelists were requested to give a rating to the 42 finalized items. A five-point rating scale (1-5) was developed on the questionnaire, where 1 means not relevant to disclose in annual report and 5 means highly relevant to disclose in the annual report. Then an average of each was calculated by summing up the scores of an item and dividing it by the total number of panelists, i.e., 40.

The last step was to develop the basis to measure the quality of IC items in financial statements. *Bozzolan et al.* (2003) in their study used a three-point scale (0-2) as the criteria for disclosing IC items, where 2 indicates quantitative information, 1 indicates qualitative data, and 0 implies no information is provided. After establishing the quality criteria, using the similar scale, the disclosure index was framed to carry out the content analysis of the financial statements.

There were some IC items in the preparation of the disclosure index that cannot be assigned a monetary value. For example, entrepreneurial spirit, management philosophy, corporate culture, etc. Therefore, it would be difficult to quantify them and meaningless to do so. Hence, a maximum score of 1 has been allocated to such items (Schneider & Samkin, 2008).

Content Analysis of Financial Statements

In the second phase, the content analysis of annual reports was conducted to evaluate the extent and quality of ICD items in annual reports of Indian companies.

Sample and Data Source

In this study, BSE 30 non-financial firms have been selected based on their market capitalization as of March 31, 2021. The data is collected for a year (2019-2020). Considering these firms as the largest organizations in India, a high level of disclosure was contemplated because of the high value of intangible resources. Also, as these firms are from different sectors excluding financial, it will give us an overview of disclosure practices being followed in various industries of India. Annual reports were downloaded from the company's website. Annual reports have been chosen for the study for two reasons. Firstly, it serves as a communication source to share accounting information with the stakeholders (Mehrotra et al., 2018). Secondly, the level of disclosure is directly related to the amount of information shared in the market and to the stakeholders (Bozzolan et al., 2003).

Content Analysis

Content analysis collects data and codes the information into defined categories based on specific parameters (Mehrotra et al., 2018). Using this approach the pattern of information in the documents is determined (Guthrie et al., 2004). As a result, published documents are analyzed systematically, logically, and reliably (Kamath, 2008). Many previous studies have applied content analysis to disclose IC reporting of the firms (Kamath, 2008; Mehrotra et al., 2018; Salvi et al., 2020).

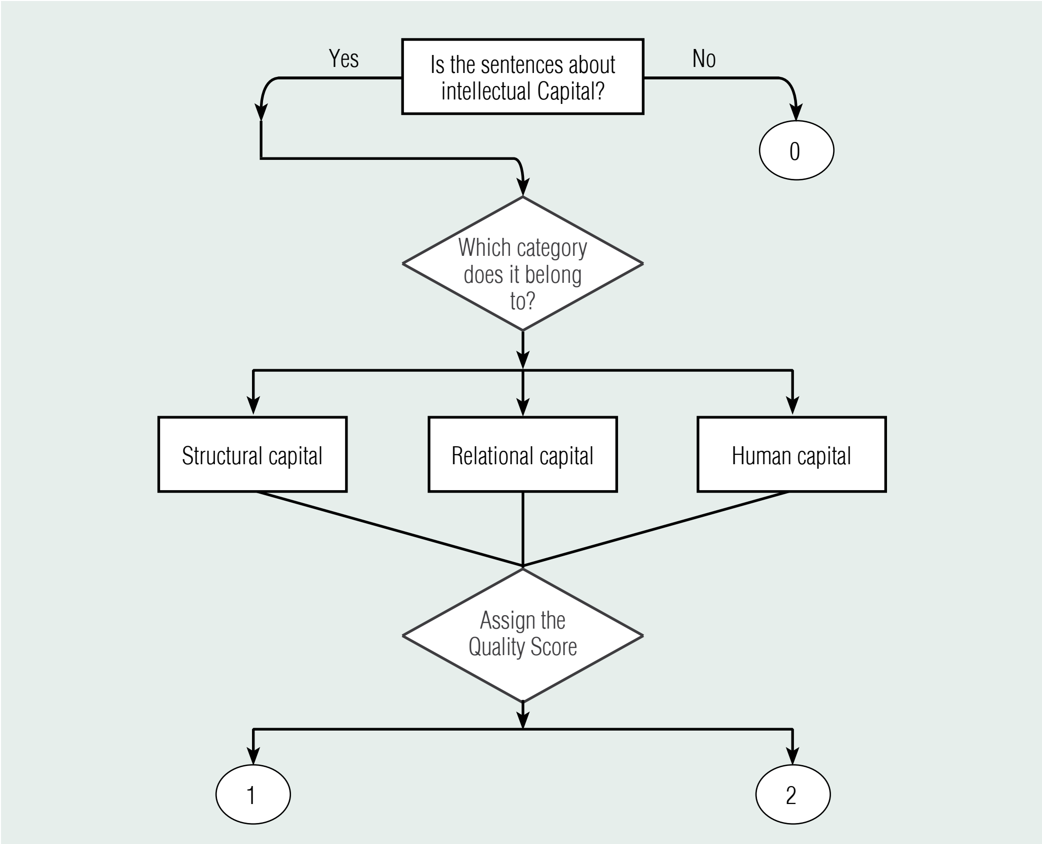
Coding of Annual Reports

After establishing the coding criteria, the content in annual reports is coded. Coding can be done based on words, sentences, paragraphs, or parts of pages. There has been no consensus regarding which coding method is the most appropriate (Dumay & Cai, 2015). *Guthrie et al.* (2004) supported paragraphs as the reliable unit, stating that meaning can be framed based on the paragraphs instead of words and sentences. On the other hand, Mehrotra et al. (2018) considered sentences as the most reliable unit to code the items.

In the present study, sentences have been used as the coding unit as words may give varied meaning in different parts of the context (Yi & Davey, 2010). Then, the IC information was coded according to the coding criteria established in the first phase. The coding process is presented in *Figure 1*. Subsequently, the frequency score or the average score of 30 firms was calculated, and the disclosure score was measured by normalizing the quality score.

Figure 1

CODING PROCESS



Source: Author's Compilation

RESULTS

It is observed from *Table 1* that in the category of structural capital, 'Knowledge-based infrastructure', 'Management Philosophy' and 'R&D' are highly disclosed items in the annual reports, and they exceed the expectations of the stakeholders. On the other hand, 'Financial Relations', 'Management Processes', 'Leadership', and 'Corporate Culture' are disclosed according to the expectations of the stakeholders. On the contrary, 'Infrastructure Assets', 'Business Model', 'Quality', and 'Subsidiaries' are under-disclosed. These items were extremely important to disclose but were not disclosed according to the supposition of stakeholders.

Out of 16 structural items, only five items have been disclosed as per the expectations of the stakeholders. The remaining 11 items are either over-disclosed or under-disclosed. This is because the annual reports are not designed to convey the information related to IC (Dumay & Cai, 2014). *Bontis* (2003) stated that after examining more than 10 000 annual reports, it was found that ICD took place in very few cases. However, this is an opportunity for the top management to disclose IC in

Table 1

DISCLOSURE OF STRUCTURAL CAPITAL

1. Structural Capital	Frequency (n=30)			Disclosure Score (0-1)	Importance
	0	1	2		
1.1 Infrastructure Assets	4	26		0.43	Extremely important to disclose
1.2 Business Model	13	12	5	0.37	Extremely important to disclose
1.3 Financial relations	3	5	22	0.82	Extremely important to disclose
1.4 Information technology	10	19	1	0.35	Slightly important to disclose
1.5 Innovation	9	21		0.35	Slightly important to disclose
1.6 Intellectual Property	15	15	n/a	0.50	Slightly important to disclose
1.7 Knowledge-based infrastructure	4	26	n/a	0.87	Slightly important to disclose
1.8 Leadership	17	13	n/a	0.43	Moderately Important to disclose
1.9 Management philosophy	6	24	n/a	0.80	Slightly important to disclose
1.10 Management processes	10	20	n/a	0.67	Slightly important to disclose
1.11 Organisational & management structure	17	13	n/a	0.43	Slightly important to disclose
1.12 Quality	5	25		0.42	Extremely important to disclose
1.13 R &D	1	7	22	0.85	Slightly important to disclose
1.14 Research projects	22	7	1	0.15	Slightly important to disclose
1.15 Subsidiaries	1	26	3	0.53	Extremely important to disclose
1.16 Corporate culture	10	20	n/a	0.67	Slightly important to disclose

Source: Author's compilation

their annual reports voluntarily, as there is no standard related to the same.

Table 2 presents the frequency of disclosure of relational capital. It is observed from the table that 'Corporate Reputation/Images' has met the expectation of stakeholders, with 80% of the companies reporting it. However, 'Market Presence' has been over-disclosed as per the expectations of stakeholders. The remaining 11 items have been under-disclosed in the annual reports. Relational capital was under-reported as annual reports are one-sided reports that report only good news and purposively avoid bad news (Dumay, 2012). Consequently, an organization does not report IC items in the annual report if it does not reap any benefit from them (Dumay, 2014), as the companies are not obliged to report the items.

Table 3 presents the frequency of disclosure of human capital. It is an essential dimension of IC. It gives details about the employees working in the organization (Ax & Marton, 2008). The highest disclosed item in the category of human capital is 'Working Environment', with 93% of organizations disclosing this item. It has been over-disclosed as per the expectations of the stakeholders. It is

Table 2

DISCLOSURE OF RELATIONAL CAPITAL

2. Relational Capital	Frequency (n=30)			Disclosure Score (0-1)	Importance
	0	1	2		
2.1 Licence/contract/agreement	8	21	1	0.38	Slightly important to disclose
2.2 Corporate reputation/ images	6	24	n/a	0.80	Slightly important to disclose
2.3 Market presence	3	27	n/a	0.90	Slightly important to disclose
2.4 Market Share	19	11		0.18	Extremely important to disclose
2.5 Stakeholder Relationship	5	19	6	0.52	Slightly important to disclose
2.6 Suppliers	13	17		0.28	Moderately Important to disclose
2.7 Brands	2	28		0.47	Extremely important to disclose
2.8 Brand recognition	19	10	1	0.20	Extremely important to disclose
2.9 Brand development	22	8		0.13	Slightly important to disclose
2.10 Customers	3	27		0.45	Slightly important to disclose
2.11 Distribution channels	19	11		0.18	Slightly important to disclose
2.12 Environmental	1	28	1	0.50	Slightly important to disclose
2.13 Business collaborations/ partnership	5	25		0.42	Slightly important to disclose

Source: Author's compilation

further observed that there is no item that any firm has not revealed. However, the disclosure has not been made in monetary terms because of which there is a discrepancy between stakeholders' expectations and the disclosure in annual reports.

The disclosure of 'Employees' as an item meets the expectation of the stakeholders. However, the remaining 11 items have been under-disclosed. Out of this, stakeholders placed six items under moderately important to disclose, namely, 'Entrepreneurial Spirit', 'Know-How', 'Knowledge Sharing', 'Education', 'Employees Expertise', and 'Employee Communication', which were under-reported in the annual reports. Further, the item 'Safety and Health at Work' is considered extremely important to disclose by the panelists, but it has been reported by only 48% of the organizations. The other four items, namely, 'Management Team', 'Training and Development', 'Employee Remuneration and Incentive Schemes', and 'Employee Satisfaction' have been identified as slightly important to disclose by the stakeholders, but have been disclosed by 23%, 47%, 25%, and 40% of the organizations respectively in the annual reports.

Table 4 presents the extent of disclosure of IC in the studied organizations. It is observed from the table that the firms on an average disclose 11.2 (70%) items out of 16 components listed under structural capital. The highest number of items disclosed under structural capital by an organization is 15, and 4 out of 30 companies have revealed the

Table 3

DISCLOSURE OF HUMAN CAPITAL

3. Human Capital	Frequency (n=30)			Disclosure Score (0-1)	Importance
	0	1	2		
3.1 Employees	1	29		0.48	Moderately Important to disclose
3.2 Entrepreneurial spirit	26	4	n/a	0.13	Moderately Important to disclose
3.3 Know-how	26	4	n/a	0.13	Moderately Important to disclose
3.4 Knowledge sharing	21	9		0.15	Moderately Important to disclose
3.5 Management Team	23	7	n/a	0.23	Slightly important to disclose
3.6 Training and development	4	24	2	0.47	Slightly important to disclose
3.7 Working Environment	2	28	n/a	0.93	Slightly important to disclose
3.8 Education	24	6	n/a	0.20	Moderately Important to disclose
3.9 Employee Expertise	27	3	n/a	0.10	Moderately Important to disclose
3.10 Employee communication	29	1	n/a	0.03	Moderately Important to disclose
3.11 Employee Remuneration & incentive schemes	16	13	1	0.25	Slightly important to disclose
3.12 Employee satisfaction	18	12	n/a	0.40	Slightly important to disclose
3.13 Safety and Health at Work	1	29		0.48	Extremely important to disclose

Source: Author's compilation

Table 4

EXTENT OF INTELLECTUAL CAPITAL DISCLOSURE

	Structural Capital		Relational Capital		Human Capital	
	Extent	Percentage	Extent	Percentage	Extent	Percentage
Mean	11.2	70	8.8	68	5.7	44
Maximum	15	94	11	92	11	85
Minimum	6	38	5	38	3	23

Source: Author's compilation

highest number of items. The least number of items disclosed in this category is 6, which have been disclosed by 10% of the total companies studied.

In the category of relational capital, 8.8 (70%) items were disclosed by the companies on an average. The maximum number of items disclosed in this category is 11 out of 13 items, and they have been disclosed by approximately 8 (27%) out of 30 organizations. On the other hand, only one organization has disclosed about 5 (38%) items. Therefore, it is observed that the amount of disclosure in relational capital is approximately equal to that of the structural capital.

It is further observed that least disclosure has taken place in the category of human capital. Only 5.7 (44%) items have been disclosed out of 13 components. Furthermore, only one company has disclosed 11 (85%) items out of 13 items, while two companies have disclosed the minimum number of items, i.e., 3. Thus, overall, the extent of disclosure is very low under this category.

CONCLUSION

ICD is considered harmful for organizations as IC is considered as the source of competitive advantage for the firms. Organizations that disclose IC in their annual reports or as a separate report do it for a reason, i.e., for attracting investors or banks (Parshakov & Shakina, 2020) . In this pretext, the present study examined the extent of ICD in Indian firms and assessed the gap between stakeholder expectations and industry disclosure procedures. For this purpose, content analysis was performed on a sample of 30 non-financial firms listed on BSE for the year 2019-2020 by constructing a disclosure index of 42 items under the three categories of structural capital, relational capital, and human capital. The extent and quality of ICD was found to be very low in Indian firms. The result of this study is in line with those of *Brennan* (2006), *Yi & Davey* (2010), *Lim et al.* (2017), and *Parshakov & Shakina* (2020). The overall disclosure score of IC was found to be 0.42, which shows that Indian firms disclose only 42% of the framed items. The lowest disclosure score of 0.3 was obtained for human capital, implying that the organizations reveal only 30% of the items. Even though corporations consider human capital as their most essential asset, the most frequently reported asset type is structural capital with an overall disclosure score of 0.54, followed by relational capital with a score of 0.42.

Only 13 (31%) components out of the 42 items, with a score of more than 0.50 were disclosed by 30 non-financial BSE indexed firms in 2020, which is no way can be considered as high. The top three disclosed components among the 42 items are 'Working Environment', 'Market Presence', and 'Knowledge-based Infrastructure', while the least three disclosed items which managers did not consider necessary to be disclosed are 'Employee Communication', 'Employee Expertise', and 'Education'. All the three least disclosed items are part of human capital. This implies that the corporations still do not disclose information related to employees due to its irrelevance.

Of the 42 items, only seven (17%) items have been disclosed as per the shareholders' expectations. This implies that the managers only reveal the items which are important for the stakeholders to know. Other important dimensions like 'Strategy', 'Subsidiaries', 'Suppliers', 'Brands', 'Distribution Channel' and so on have been underreported fearing that the competitive advantage of the organizations will be revealed. Further, 31 (74%) items out of 42 are underreported due to the apprehension faced by the managers in reporting the items. On the other hand, 4 (9%) out of 42 items, which help the corporations in obtaining investments, namely, 'Working Environment', 'Corporate Culture', 'Knowledge-based Infrastructure' and 'R&D' have been over-disclosed. The greater the investment of the organizations in components such as R&D, knowledge, etc., the more technologically advanced the organizations will become in future. Considering this perspective, the investors will also invest their funds in such organizations.

Thus, it can be concluded that although the Indian enterprises are aware of the importance of IC, but the level of ICD is minimal in India. This is because of the lack of proper mechanism in place to ensure monitoring and evaluation of IC items. Since there is no right or accurate framework to report IC attributes, it becomes difficult for the companies to reveal precise information about the intangibles. Though few companies have voluntarily started reporting the six capitals, IC being a part, there is no independent segment for IC. The information was scattered across all the sections of the annual report. Further, most disclosed items were descriptive, and no numerical or monetary value was assigned to them.

From the above discussion, it can be deduced that Indian companies participating in international market need to upgrade their disclosure standards. The authorities must design a structure for IC reporting that is widely recognized. IndAS, India's new set of reporting standards, does not highlight the issue of disclosing knowledge resources. India has aligned its reporting standards to IFRS and produced modified standards.

Limitations and Future Research

Like the other studies, the present study is also subject to certain limitations. The study takes into consideration only large corporations that are industry leaders. Small and medium-sized businesses may also be involved in the management and reporting of IC. Moreover, the study relies solely upon the annual business reports of the organizations as a source of disclosure. Besides annual reports, the companies release information through various other channels like brochures, documents, and the like, and they may be analyzed in future research. Finally, the study is conducted solely in Indian context, with no other countries compared to it. Future research may compare two or more nations to broaden their reach to include a wider variety of corporate sectors worldwide and use different disclosure methods. ■

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