Impact of Corporate Governance Attributes on Intellectual Capital Disclosure: Evidence from Listed Banking Companies in Bangladesh

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Abstract

Intellectual capital (IC) can be a source of competitive advantage for business and stimulate innovation that leads to wealth generation. This study investigates the association between the extent of IC disclosure (ICD) and the corporate governance attributes of listed banking companies in Bangladesh. Contrary to the notion of a knowledge based sector like banking, this study adds to previous findings that demonstrate that Bangladeshi companies provide little in the way of ICD. The study confirms that board size and size of audit committee are important attributes to explain ICD issues in Bangladesh. However, the study finds no significant association between ICD and other variables like number of independent directors on the board, frequency of board meetings and ownership concentration.

Keywords: *Bangladesh, banks, corporate governance, disclosure, intellectual capital*

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1. Introduction

An adequate disclosure regime is a common goal of all corporate governance systems. A sizeable body of literature argues that the wave of accounting scandals can be attributed to the poor quality of corporate governance in overseeing the practice of financial reporting (Agrawal & Chadha, 2005). The empirical research shows that good corporate governance reduces the information asymmetry between managers and owners (Kanagaretnam, Lobo & Whalen, 2007) and improves the levels of corporate disclosure (Lang & Lundholm, 1993). Focusing on the importance of disclosures in corporate governance, the Cadbury Committee stipulates that an open approach to the disclosure of information contributes to the efficient working of the market economy, prompts boards to take effective action and allows shareholders and others to scrutinize companies more thoroughly (Cadbury, 1992, Principle 3.2).

However, traditional financial reporting, based mostly on regulatory requirements, often proved inadequate for disclosing information about critical success factors, related performance indicators (Mouritsen, Larsen & Bukh, 2001) and those value creation drivers not represented in financial statements (Lev & Zarowin, 1999). More specifically, traditional accounting reports do not have enough potential to show the true value established by intangibles in firms that do not cover the gap between market and book value in many of today's companies (Canibano, Garcia-Auyso & Sanchez, 2000; Maditinos *et al.*, 2011). Undoubtedly, the emergence of knowledge based society and economy has shifted organizational value driver from tangible assets to intangibles, which is termed as intellectual capital (IC). A discourse then emerges that expresses an urgency to measure and manage these intangible and knowledge assets (Mouritsen & Roslender, 2009). As a consequence, companies are urged to improve their disclosure on intangible assets (Sriram, 2008; Vandemaele, Vergauwen & Smits, 2005) and also explain the roles these assets play in their value-creation strategies (Bismuth & Tojo, 2008).

Generally, the term "IC" is used to refer to the intangible assets or intangible business factors of the company, which have a significant impact on its performance and overall business success, although they are not explicitly listed in the balance sheet (if so, then it is under the term goodwill) (Mondol & Ghosh, 2012:516). IC has been used interchangeably with intangibles, knowledge or knowledge resources. Various researchers have identified three components of IC, namely, human capital (HC), structural capital, and relational capital (Bontis, 1999, 2001; Sveiby 1997). It is apparent from the voluminous number of edited publications (Bontis, 2002) that there is an influential body of opinion which advocates increased IC disclosure (Bontis,

2003) and, lately, IC elements and related disclosures have been in the ascendant and this is commensurate with the rise of the modern knowledge-based economy (Guthrie *et al.*, 2004; Oliveras *et al.*, 2008).

This research aims to answer the important questions of whether corporate governance affects firms' decisions voluntarily to disclose IC information in the narratives of their annual reports. The study tests the association between corporate governance attributes and ICD. Specifically, the study examines the impact of board size, board independence, audit committee, directors' ownership and number of board meetings on IC disclosure.

2. Statement of the Problem

The study stems from an interest in observing the impact of corporate governance attributes on ICD in the banking industry of Bangladesh. In recent years, financial institutions, especially those in the banking industry, have experienced a dynamic and competitive environment. With escalating global competition and its attendant rapid changes, banks have been increasingly providing superior product differentiation and value added services in order to remain competitive. Being aware of the inevitability of establishing sustainable competitive growth, the Bangladeshi banking sector has embraced a range of initiatives in a move towards obtaining knowledge-based resources. Raihan (2007) identified banks' upgrading of business processes into automated systems, the constant striving for efficient manpower creation, enhanced employee knowledge and competence, improved networks and offering value added services as examples of the necessary changes within the Bangladeshi banking industry. The banking industry not only appeared as one of the most knowledge-intensive industries in Bangladesh but also as a

prime mover of economic growth on which functions of other business organizations are dependent. In that aspect, the value of ICD in the banking industry in Bangladesh bears high significance.

During the last decade, the focus on disclosure and corporate governance has increased gradually in the South Asian countries and, most importantly, some local and regional professional bodies have taken initiatives to set benchmarks on disclosure practices and to motivate companies to disclose company information fairly and accurately. For example, the South Asian Federation of Accountants (SAFA) awards SAFA Best Presented Accounts Awards and Corporate Governance Disclosure Awards to the companies within the South Asian region for presentation of accounts and corporate disclosures. Most importantly, in 2009, Prime Bank Limited, a Bangladeshi Commercial Bank, achieved the winner's award in the banking sector. In Bangladesh, the prime regulator of the stock market, that is, Bangladesh Securities and Exchange Commission (SEC), also felt it urgent to ensure the integrity of financial control systems existing in listed companies through BSEC Notification 2012. The Bangladesh Bank's prudential regulations for banks in its 'Corporate Governance in Bank Management' states that, "The board shall have its analytical review incorporated in the Annual Report as regards the success/failure in achieving the business and other targets as set out in its annual work-plan and shall apprise the shareholders of its opinions/recommendations on future plans and strategies. It shall set the Key Performance Indicators (KPIs) for the CEO and other senior executives and have it evaluated at times."

However, non-compliance and non-disclosure are common findings of many studies in lesser developed countries (LDCs) including Bangladesh (Perera, 1975; Ahmed & Nicholls,

1994; Larson & Kenny, 1995; Mir & Rahaman, 2005; Belal & Owen, 2007). Previous research studies have also shown that the ownership structure of the large stock exchange listed companies is dominated by a small number of families (BEI, 2004), not unlike other LDCs (Dyball & Valcarcel, 1999). Family and kinship ties are deeply rooted in Bangladesh's political and economic history. A family business is more like a household, where disclosure is seen as revealing the family's secrets. Uddin and Chowdhury (2008) argue that it is not surprising that family-controlled companies inhibit accountability and transparency, because this is about revealing family secrets. That is why, while the financial disclosure requirements and auditing standards set out by the BSEC for listed companies are quite comprehensive, actual compliance is highly questionable. Undoubtedly, ICD, which is voluntary in nature, in the listed companies in Bangladesh largely, depends on corporate governance attributes or the characteristics of the family controlled board of directors.

3. Literature Review

ICD is a voluntary disclosure. There is no universally accepted regulation or guideline on ICD (Rahim, Atan & Kamaluddin, 2001). Voluntary disclosure in the annual report has always been seen to reflect good corporate governance because it represents a company's effort to promote transparency by provision of relevant information as much as possible to users (Campbell & Abdul Rahman, 2010).The corporate governance literature provides some evidence that low disclosure of intellectual capital information is an indication of weak governance practices in the governing reporting process (Haniffa & Cooke, 2005).

Apart from the corporate governance literature, a number of empirical studies were also conducted to investigate ICD

practices worldwide (e.g. Guthrie & Petty, 2000 in Australia; Brennan, 2001 in Ireland; April, Bosma & Deglon, 2003 in South Africa; Bozzolan, O'Regan & Ricceri, 2003 in Italy; Goh & Lim, 2004 in Malaysia; Abeysekera and Guthrie, 2005 in Sri Lanka; Guthrie, Petty & Recceri, 2006 in Hong Kong and Australia; Kamath, 2008 in India; Yi & Davey, 2010 in China; Nurunnabi, Hossain & Hossain, 2011 in Bangladesh). Features of prior research studies on ICD are that these studies have mainly focused on the developed countries, with a minority of studies of developing economies and the majority of ICD studies have employed a content analysis methodology (*ibid.*).

Another development in the ICD literature is the incorporation of theoretical reasoning and investigation of firm-specific factors to explain why companies do voluntarily disclose IC (Bozzolan, Favotto & Ricceri, 2006; Li, Pike & Haniffa, 2008). Some studies (e.g., Bozzolan *et al.*, 2006; Bruggen, Vergauwen & Dao, 2009) find that firm size and industry are significant explanatory variables of ICD. Tayib and Salman (2011) demonstrated that as a company discloses its intellectual resources, it becomes more competitive and earns the trust of investors and creditors. Al-Musalli and Ismail (2012) conducted a study to analyze the relationship between IC performance and corporate governance attributes on 147 banks in Gulf Cooperation Council (GCC) for the period 2008 to 2010. They found that except for independent directors (negative relationship with IC disclosure), other variables are not associated with IC performance. Falikhatun, Aryani and Prabow (2010) investigated the effects of corporate governance on the ICD of a sample of 36 banks in Indonesia from the period of 2004 to 2008. They found that some corporate governance attributes (e.g. board size, independent directors and ownership structure) do not affect ICD, while management ownership negatively affects ICD. Nurunnabi *et*

al. (2011) confirm that size and industry are important attributes in explaining ICD issues in Bangladesh.

The above literature review reveals that ICD is affected by various corporate attributes. Explanatory factors that are tested for influence on ICD include industry, firm size, leverage, profitability or financial performance, auditor type, listing age or firm age and corporate governance variables such as board composition or independence, ownership structure or concentration, audit committee size, frequency of audit committee meetings and chief executive officer's (CEO) role duality, among others. Given the emphases of the extant literature, the research questions for the present study are:

RQ1: To what extent are listed banking companies in Bangladesh pursuing ICD in their annual reports during the period 2012-2014?

RQ2: What are the corporate governance attributes that significantly influence ICD in Bangladesh?

4. Theoretical Background

Organizations undertake voluntary disclosures for the following key reasons. Technology-based or knowledge-intensive industry like bank will engage in more ICD than industries that rely mainly on physical assets to be profitable. This relationship can be explained by the following theories:

4.1. Agency Theory

This theory explains that managers are the agents of shareholders and adequate disclosure will provide a means of achieving the optimal contract (Aljifri, 2008). The theory assumes that the agency cost will vary with corporate attributes and by disclosing more; the managers will reduce the agency cost of ensuring trustworthiness to the shareholders. Some support for the agency theory exists based on prior studies linking corporate governance features to voluntary disclosure (Gul & Leung, 2004).

4.2. Stakeholder Theory

Stakeholder theory claims that stakeholders have a right to be provided with information about how the company's activities affect them (Guthrie *et al.*, 2004). In knowledge-intensive industries, IC assets appear to be the organization's value driver. Since IC assets are invisible in mandated disclosure, in order to satisfy the stakeholders' need for information and to balance the conflicting demands of stakeholders, firms in technology-based or knowledge-intensive industries will engage in voluntary disclosures about their IC (Yau, Chun & Balaraman, 2009).

4.3. Legitimacy Theory

Under legitimacy theory, "a company would voluntarily report on activities if management perceived that the particular activities were expected by the communities in which it operates (Guthrie *et al.*, 2004)." Legitimating is concerned with building, maintaining and repairing the social contract between an organization and society (Campbell, Craven & Shrives, 2003). Legitimacy theory overlaps with stakeholder theory (Deegan, 2009). Both view organizations as embedded in a wider societal system, interacting with, affecting and being affected by others within that system.

4.4. Signaling Theory

Signaling theory, by contrast, suggests that to minimize the information gap between a company and its stakeholders, it will need to supply the most credible or widely accepted information of its operations that it possibly can (Spence, 1973). The theory assumes that the disclosure of information is a reaction to informational asymmetry in markets and the signal of the company would be critical in terms of attracting potential and prospective investors and creditors (Morris, 1987).

4.5 Media Agenda-Setting Theory

According to this theory, management can respond to media-focused community concerns by way of voluntary disclosure in the corporate annual accounts. Alternatively, Sujan and Abeysekera (2007) argue that corporate annual reports are an important form of media and through them firms can bring attention to what they believe stakeholders should view as important.

5. Development of Research Hypotheses

5.1. Board Size and ICD

According to resource dependency theory, larger boards are more likely to include increased pools of expertise that will enhance boards' information processing capabilities. Furthermore, larger boards are more likely to increase a firm's ability to obtain and secure critical resources from their environment such as IC resources (Abeysekera, 2010). However, studies which investigate the relationship between board size and IC performance produce inconclusive results (Abidin, Kamal & Jusoff, 2009; Ho & Williams, 2003). So,

based on the resource dependency theory, we can develop the following hypothesis:

H1: There is a significant relationship between board size and ICD.

5.2. Independent Directors and ICD

Several studies suggest that independent directors provide positive support for managerial long-term oriented decisions that enhance long term performance (Ibrahim, Howard & Angelidis, 2003). So, it is reasonable to expect that by giving advice and counsel independent directors are more likely to support IC related activities such as investing in human resources, R&D activities and information technology (Al-Musalli & Ismail, 2012). From the above references, we can develop the following hypothesis:

H2: There is a significant relationship between number of independent directors and IC disclosure.

5.3. Audit Committee Size and ICD

A number of studies have examined the link between audit committee size and intellectual disclosure (Li *et al.*, 2008; Li, Mangena & Pike 2012). Li *et al.* (2012) found that the size of an audit committee has significant and positive relationship with ICD among UK listed companies. Hence, the authors have suggested the third hypothesis as follows:

H3: There is a significant relationship between audit committee size and ICD.

5.4. Ownership Structure and ICD

More closely held firms display less information asymmetry as the dominant shareholders typically have access to the information they require through private meetings. Li *et al.* (2008) argue that this is particularly applicable to ICD "… because fund managers have access to such information via private communication channels." Consequently, it follows that ICD would increase in association with the level of outside owners of the firm (Chau & Gray, 2002). From the above references, we can develop the following hypothesis:

H4: There is a significant association between levels of ownership concentration and extent of voluntary ICD.

5.5. Frequency of Board Meetings and ICD

Vafeas (1999) and Brick and Chidambaram (2007) showed that the higher the frequency of board meetings held, the more it would increase the company's performance. It is expected that board meeting frequency assists directors in monitoring IC performance and consolidating synergies for strategic directions. Based on the above references, the following hypothesis can be developed:

H5: There is a significant relationship between the frequency of board meetings and ICD.

6. Research Design

6.1. Research Model

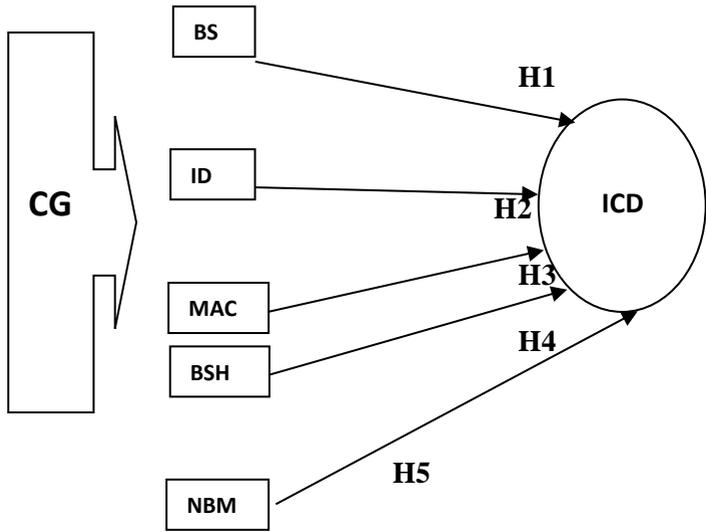The research model used in this study is represented by the following:

Figure 1: The Conceptual Model; **source:** *Authors*

Note: CG = Corporate Governance; BS = Board Size; ID = Independent Directors; MAC = Audit Committee Size; BSH = Ownership Structure; NBM = Frequency of Board Meeting.

6.2. The Sample Size

The study is carried out on the ICD practices of listed banks in Bangladesh. The sample frame of the study consists of all listed banks (30 banks) in Bangladesh. Specifically, the sample covers the annual reports of companies listed on the stock exchange for the years 2012-4.

At present, banks in Bangladesh are primarily of two types, namely, Scheduled Banks (get license to operate under

Banking Companies Act, 1991 (Amended in 2013)) and Non-Scheduled Banks (established for special and definite objective and operate under the acts that are enacted for regulating those objectives). The banking industry can be classified as follows:

Types of Scheduled banks	Number	Description
State Owned Commercial Banks (SOCBs)	6	Fully or majorly owned by the Government of Bangladesh.
Specialized Banks (SDBs)	2	Established for specific objectives like agricultural or industrial development. These banks are also fully or majorly owned by the Government of Bangladesh.
Conventional Private Commercial Banks (PCBs)	31	Majorly owned by the private entities and perform the banking functions in conventional fashion i.e. interest based operations.
Islamic Shariah based PCBs	8	Majorly owned by the private entities and execute banking activities according to Islamic Shariah based principles i.e. Profit-Loss Sharing (PLS) mode.
Foreign Commercial Banks (FCBs)	9	Operating in Bangladesh as the branches of the banks which are incorporated in abroad

Table 1: *Types of Banks in Bangladesh;* **source:** *Compiled from Bangladesh Bank website: https://www.bb.org.bd/fnansys/bankfi.php, retrieved on 23rd August, 2015.*

Apart from these banks, there are four non-scheduled banks in Bangladesh, namely Ansar VDP Unnayan Bank, Karmashangosthan Bank, Probashi Kollyan Bank and Jubilee Bank.

6.3. Regression Model

$$ICD = \alpha + \beta_1\,BS + \beta_2\,ID + \beta_3 MAC + \beta_4 BSH + \beta_5 NBM + €$$

Where,

Independent Variables: Corporate Governance Attributes	
BS = Board Size	Total number of directors on the board
ID = Independent Directors (Board Independence)	Number of Independent Directors in the Board. This satisfies the definition of an independent director as provided in the BSEC Notification 2012.
MAC = Members of Audit Committee	Total number of audit committee members.
NBM = Number of Board Meeting during the year	The number of regular meetings held by the board of directors during each year. The meetings refer to those held in person, excluding the telephonic meetings.
BSH = Board Shareholdings	Percentage of share capital held by the directors
Dependent Variables: Financial	

Performance Ratios	
Intellectual Capital Disclosure (ICD)	Checklist containing 63 items developed by Nurunnabi, Hossain and Hossain (2011)

6.4. IC Framework

A content analysis method is used to measure the extent of ICD in annual reports. While each company's entire annual report was analyzed, the Chairman's Report and Managing Directors' Report were the predominant areas where IC was disclosed. To measure ICD, the study uses a disclosure index comprising items of IC developed by Nurunnabi *et al.* (2011) (see Appendix 1). The main reason for choosing the disclosure index is that it covers 63 IC items proposed by previous researchers. Moreover, the index has previously been used to measure ICD in the context of Bangladesh. The disclosure index contains 11 internal (structural) capital (IC) items, 19 external (relational) capital (EC) items and 33 human (employee) capital (HC) items. To assess the extent of voluntary disclosure, a scoring sheet was developed where if the company disclosed the information on IC it will receive a score of 1 to 3 or 0 in the event of an absence of disclosure. The disclosure model for the weighted disclosure thus measures the total disclosure score (TDS) for a company as follows:

$$ICD = \frac{\sum di}{m} \; i = 1,2,\dots,63 \; ;$$

Where,

di = 1 or 2 or 3 if the item di is disclosed

di = 1 for disclosures in qualitative terms or

di = 2 for disclosures in quantitative terms or

di = 3 for disclosures in both qualitative and quantitative terms

0 if the item di is not disclosed.

m = Total weighted number of items a company may disclose = 189

7. Findings and Analysis

7.1. Descriptive Analysis

Table 2 presents the descriptive statistics for the dependent and independent variables. The average level of voluntary ICD in the sample companies is 16.3%, with a maximum of 28.0% and a minimum of 7.0%. This level of disclosure reveals a relatively poor disclosure regime in Bangladesh, which is similar to the findings of Nurunnabi *et al.* (2011). Regarding the independent variables, the average board size is approximately 14 directors, ranging from a minimum of 5 directors to a maximum of 24 directors. As per BSEC Notification No. SEC/CMRRCD/2006-158/134/Admin/44, dated August, 2012, listed companies in Bangladesh should have a board size of between 5-20; by contrast, the Banking Companies Act 1991 (amended in 2013) requires the board size to be a maximum of 20 directors, including three independent directors. At present, all the banks comply with the legal and regulatory requirements. Table 3 reveals that the average number of independent directors on the board is 1.73, with a maximum of four members and a minimum of zero. Further scrutiny reveals that four sample banks failed to comply with the legal requirements and regulatory requirements regarding IDs. As regards the size of the audit

committee, the study finds that, on average, there are 4.26 members in the Audit Committee to the board with a maximum of six members and a minimum of three members. However, the focal point is that some companies do not comply with the minimum ID requirement. The average frequency of board meeting is 17.76 times per fiscal year, with a minimum of seven times and a maximum of 31 times, while the average attendance of board of directors is 72.9% of board meetings. It appears that the banking and financial sector entails much more regular board meetings due to the nature of the business. The percentage of inside ownership has a mean value of 36.9% with SD of 19.33. There is a high difference between the minimum, which is 4.6% and the maximum of 90.2%. This implies that board directors in some companies may own more than 50% of shares in the firm, making them the majority shareholders.

	N	Range	Minimum	Maximum	Mean	Std. Deviation
BS	90	19	5	24	13.99	4.20
ID	90	4	0	4	1.73	0.88
MAC	90	3	3	6	4.26	0.92
NBM	90	24	7	31	17.76	6.42
BSH	90	85.6	4.6	90.2	36.94	19.33
ICD	90	0.21	0.07	0.28	0.1632	.04403

Table 2: *Descriptive Statistics;* **source:** *Original Research*

7.2. Correlation Analysis

Table 3 summarizes the correlations between the dependent variable (ICD) and the independent variables (board size, independent directors, members of audit committee, frequency of board meetings, board shareholdings and board sub-committees). The table indicates that the dependent variable ICD is significantly correlated with independent variables – board size (BS) and number of audit committee members (MAC).

	BS	ID	MAC	NBM	BSH
BS	1	0.123	0.275**	0.107	0.156
ID		1	0.043	0.119	0.118
MAC			1	0.194	-0.418**
NBM				1	-0.026
BSH					1

Table 3: *Correlation Analysis;* **source:** *Original Research (* significant at 5% level of significance, ** significant at 1% level of significance)*

Furthermore, the table also represents the correlation between the independent variables. It shows that board size is positively correlated with audit committee size, which means that the size of the board of directors plays a significant role in determining the members of audit committee. A significantly negative correlation exists between audit committee size and the board shareholdings. The BSEC Notification No. SEC/CMRRCD/2006-158/134/Admin/44 dated August, 2012 emphasized that board independence should focus on having adequate number of independent directors to the board. The Notification requires that at least one fifth of the total number of directors in the company's board shall be independent directors (ID). The Notification also requires that the audit committee to the board shall be composed of at least three members including at least one ID. Moreover, the chair of the audit committee shall be an ID, who shall remain present at

the Annual General Meeting (AGM). However, it is interesting that no relationship has been found between IDs and other corporate governance attributes.

7.3. Multiple Linear Regression Analysis

The models are regressed using linear regression analysis by SPSS and the results are presented in Table 4. In total, 36.3 per cent of the variation in ICD (adjusted R^2) was explained by the five independent variables. Examination of the five independent variables showed that board size (BS) and audit committee size (MAC) had statistically significant positive associations with overall ICD (p = 0.000 and 0.033 respectively). However, for the other test variables, the number of IDs on the board and number of board meeting (NBM) are not positively significant at the 5% level. This implies that having a higher proportion of outside IDs on the board does not influence ICD, thus H2 is not supported. These results also confirmed the correlation analysis results. The boards of directors in most of the listed companies in Bangladesh comprise very close family members. The boards play a significant part in serving the interests of families rather than those of general shareholders (Uddin & Chowdhury 2008). It is not surprising that family-controlled companies inhibit accountability and transparency, because this is about revealing family secrets. That is why the research hypothesized that board shareholding (BSH) is significantly associated with ICD. However, the regression analysis did not show any significant impact of BSH on ICD, thus H4 is not supported.

7.4. Tests for Multi Collinearity and Autocorrelation

Multi collinearity is a phenomenon in which two or more variables are highly correlated. A high degree of multi collinearity indicates a biased relation between two variables and it may affect the accuracy of multi-regression test results. The problem exists if independent variables are highly correlated at each other with a correlation coefficient exceeding 0.90, according to Tabachnick and Fidel (2007). Multi collinearity can also be examined by tolerance and VIF test. Myers (1990) suggested that a VIF value of 10 and tolerance level greater than 1 are causes for concern. The multi collinearity statistics of the independent variables of this study are presented in Table 4.

It is seen that none of the independent variables has a tolerance value in excess of 1.0 and a VIF value in excess of 10. So, in this study, multi collinearity is not a problem in interpreting the regression results. Moreover, the Durbin-Watson test value in these models is 1.986 (see Table 4), which confirms the absence of autocorrelation.

Independent Variables	t	Sig.	Tolerance	VIF
(Constant)				
BS	5.764*	0.000	0.830	1.204
ID	0.069	0.945	0.960	1.042
MAC	2.165*	0.033	0.684	1.462
NBM	-0.902	0.370	0.947	1.056
BSH	0.920	0.360	0.734	1.362
Adjusted R^2	0.363			
F stat	11.147			
Significance of F	0.000*			
Durbin-Watson	1.986			

Table 4: *Impact of Corporate Governance Attributes on ICD;* **source:** *Original Research* (* significant at 5% level of significance)

8. Conclusion, Limitations and Future Research

IC can be a source of competitive advantage for business and stimulate innovation that leads to wealth generation. This study investigates the association between the extent of ICD and the corporate governance attributes of listed banking companies in Bangladesh. There are many driving forces, such as globalization, the increased use of information technology, the recent announcement of "Digital Bangladesh" and the consistent growth of the capital markets, which are pushing Bangladesh towards becoming a knowledge-based economy. The banking industry not only appeared as one of the most knowledge-intensive industries in Bangladesh but also as a prime mover of economic growth on which functions of other business organizations are dependent. However, contrary to the notion of a knowledge based sector, this study adds to previous findings that demonstrate that Bangladeshi companies provide little in the way of ICD. The reasons for such poor disclosure may be due to the absence of any clear set of legislative guidelines, including the Companies Act 1994. Although there are some legal provisions on intellectual property, including the Patents, Design and Trade Marks Act1883 (later the Patents and Design Act 1911) and the Trade Marks Act 1940, there are no copyright guidelines and the Stock Exchange Listing Requirements also do not require companies to make ICD. It may be argued that most of the companies in Bangladesh are family owned, in which management does not have much motivation to disclose voluntary information on their stocks of IC in their annual reports. Consequently, regulation might be an option for the policy makers in Bangladesh.

The study confirms that board size and size of audit committee are important attributes in explaining ICD issues in Bangladesh. However, the study finds no significant association between ICD and other variables like number of IDs, frequency of board meeting, and ownership structure. The study is limited to only one sector of the knowledge economy and only for the years 2012-2014. This study investigated the effect of five corporate governance attributes on ICD. Further research can be done using other firm specific features like industry type, leverage, firm size, listing age and auditor type, among others. The study is also limited to using content analysis as a research tool, tied to the varied nature of corporate cultures and the regulatory framework. There are various ways to measure IC performance, such as VAIC which gives more acceptable disclosure of intellectual resources. A comparative analysis could be performed between Bangladesh and other developing nation or with a developed nation in this respect.

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Appendix A: IC Framework

Structural Capital	Relational Capital	Human Capital
Management Philosophy	Brands	Employee
Corporate	Customers	Education

Culture		
Management Process	Customer Satisfaction & Loyalty	Training
Information Systems	Company reputation	Work-related knowledge
Networking	Distribution Channels	Innovativeness of employees/ Teams of employees
Financial relations	Business Collaboration	Vocational qualification
Copyright	Favourable Contracts	Know-how
Patents	Licensing agreements	Work-related competencies
Trademark	Research and development	Entrepreneurial spirit
Innovative Product	Franchising agreement	An attractive place to work
Product Focused	Company names	Learning from others
Total =11 Items	Financial Contracts	The work is engaging
	Market share	Long term career
	Creates values	Career & Development
	Beating the Competition	New generation
	Positive Customer Experience	Looking for retire
	Technology helping customers	Race
	Sharing knowledge externally	Gender
	I can see the customer	Religion
	Total =19 Items	Disability
		Employee safety
		Trade Union activity
		Employees thanked
		Employees features in AR
		Employee involvement with community
		Employee and Executive compensation plans
		Employee benefits
		Employee share and option ownership plans
		Value added statements

	Employee numbers
	Professional experience
	Expert seniority
	Age of Employees
	Total =33 Items

Source: *Nurunnabi* et al. (2011)