THE EFFECT OF BOARD DIVERSITY ON THE EXTENT OF INTELLECTUAL CAPITAL DISCLOSURE (EMPIRICAL STUDY IN INDONESIAN STOCKS EXCHANGE)

Ni Ketut Rasmini, Made Gede Wirakusuma, Ni Wayan Yuniasih*

Universitas Udayana
Denpasar

Email: yuniasihwayan@gmail.com

Abstract

Board structure as one of corporate governance mechanism has two primary roles, which are service or advisory role and control role. One of the main issues associated with board structure and board role is board diversity. Board diversity is divided into demographic diversity and cognitive diversity. This research examined the effect of board diversity on the disclosure of intellectual capital.

Samples in this research were financial companies listed on the Indonesia Stock Exchange during the period 2004-2009. The sample obtained by purposive sampling, and 33 companies fit with the sample criteria. The hypothesis tested by using multiple regression analysis. The result of hypothesis testing shows that gender diversity and diversity of nationality influence the intellectual capital disclosure. The result also shows that variation of formal education background (education diversity) and proportion of outside director (board’s independence) has no effect on intellectual capital disclosure. Firm size as a control variable is also has positive effect on intellectual capital disclosure.

Keywords: diversity, directors, board of directors, intellectual capital disclosure.
1. INTRODUCTION

The falls of some of the world’s great companies, like Enron and WorldCom in the United States, have raised questions on the practices of good corporate governance. Transparency of information disclosed in the mandatory disclosure does not adequately describe the condition of the company as a whole. Therefore, the company made a voluntary disclosure to the market and the one of information included in the voluntary disclosure is intellectual capital. Intellectual capital is a topic that in recent years began to frequently discuss. In Indonesia, the phenomenon of intellectual capital (IC) began to flourish, especially after the emergence of standards on intangible assets. According to SFAS 19, intangible assets are non-monetary assets that can be identified and has no physical form and held for use in the produce or deliver goods or services, leased to others, or for administrative purposes (IAI 2007). Precise measurement and disclosure of the IC companies cannot set despite some recognition of the benefits of IC in promoting the value and competitive advantage.

The shape and the extension of disclosure are largely determined by corporate governance. One mechanism of corporate governance is the structure or composition of the board of directors and directors as an organ of a company that guarantees the application of the principles of corporate governance and enhances the protection of creditors (Surya and Yustiavandana 2006: 131). Board structure of an Indonesia’s company is adopting a two tier, which is consists of directors as managers and board of directors as a party to supervise (Ward, 2008).

Based on resource dependency theory (Pfeffer and Salancik 1978), there are two views that explain the role of the board of directors and directors in the company. The first view is called with the relationship environmental perspective (environmental linkage perspective). This perspective explains that the board of directors and directors are part of the company and its environment, and they will provide information and resources for the company to protect it from environmental uncertainty. Based on this view, individual members of the board of directors and directors with backgrounds that vary will provide an important resource for the company (Siciliano 1996). This view is related to the role or functions of the board of directors and directors as an advisor or information provider (advisory/service role) to the management of the company. The second view explains that the board of directors and directors are also performing a function of the internal control (control role), and through the efforts of the administration can affect the efficiency of the company. The existence of the board of directors and directors is seen as the internal mechanisms that control the selfish actions (self-serving behavior) so that management can maximize shareholder value.

The one of important issues that related to its structure and functions of board is the diversity of the board and directors. Diversity of the board and directors describe the distribution of differences between members of the board relating to the characteristics of the differences in attitudes and opinions (Ararat et al. 2010). Van der Walt and Ingley (2003) in Luckerath-Rovers (2010) defines diversity in the context of corporate governance as the composition of the board of directors and directors and the combination of qualities, characteristics, and different skills of individual members of the council in relation to
decision-making and other processes in the company's board. According to Milliken and Martin (1996) diversity of the board of directors and directors differentiated between demographic diversity (observable) such as: gender, age, race, and nationality, as well as cognitive diversity (not observable) such as: expertise (skills) and experience.

Carter et al. (2002) states that an important issue in corporate governance will be faced by managers, directors, and shareholders in modern enterprise is the presence of the gender composition, race, and culture of the board of directors and directors. The selection board should consider the diversity of gender, race, age, and nationality as recommended by the National Association of Corporate Directors Blue Ribbon Commission. The issue of diversity of the board of directors and corporate codes of conduct are also considered when assessing the effectiveness of corporate decision-making. Both are seen as indicators of independence and accountability of decision making (Maier 2005).

Williams and O'Reilly (1998) mentioned that the higher of diversity on the board of directors and directors, the higher variability of cognitive style, thereby further enriching the knowledge, wisdom, ideas and approaches available to the company's board, and will ultimately improve the quality of decision making. The greater diversity in board members and directors will provide opinions and alternative problem solving is increasingly diverse, because of the heterogeneous perspectives of individual board members. In addition, the diversity of the board and directors also provide unique characteristics for companies that can create additional value for shareholders and enhance corporate value (Carter et al. 2007).

Luckerath-Rovers (2010) explain two reasons why the composition of the board directors and directors relating to the diversity of board members could affect the value of the company. The first reason is because the boards and directors have the most influence in the company's strategic decision-making. The second reason is that the board and directors also have a role as a supervisor (supervisory role), which represents the interests of shareholders, must respond appropriately challenge or the possibility of takeover, and monitor the company's total value.

Diversity of the board of directors and directors in this study were measured using criteria related to the demographic characteristics of gender, and nationality, as well as criteria related to the cognitive characteristics in the form of formal education background and proportion of independent board of directors.

Studies linking diversity to the board of directors and directors of the company IC disclosure is need to be done, especially in Indonesia. Research on IC disclosure in Indonesia is very interesting for several reasons. First, a global survey conducted by Taylor and Associates in 1998 in Williams (2001) were the issues of disclosure of intellectual capital is one of ten kinds of user information needs. Companies should respond to these needs by making the disclosure of IC. IC to the present disclosure is voluntary so not all companies make disclosures to the same extent. Second, the number of mandatory disclosure as required by the accounting profession is only related to physical capital. In addition, this study wanted to examine the influence of human characteristics that run in the area of corporate governance mechanisms of IC disclosure.

Based on the description of research background, the formulation of the problem in this study is whether the presence of women in the board of directors and directors, the presence of the board and directors with foreign nationality, variation of formal education
background of board and directors, and the proportion of independent board of directors broad effect on IC disclosure of financial sector companies that were listed on the Indonesia Stock Exchange during 2004-2009 period.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Agency theory can be used to explain the relationship of corporate governance and disclosure. According to agency theory, conflicts arise due to the asymmetry of information. The existence of good governance is expected to reduce conflict by reducing information asymmetry. One way to reduce information asymmetry is performing a more extensive disclosure. To date, mostly of the IC disclosure is voluntary because the only physical capital that has been set up by the accounting profession. If the company does not disclose information about intangible assets, there will be present some negative consequences. For example, stock price volatility occurs because investors have less information about the company's intangible asset so that decisions made are not accurate. Based on a global survey conducted Taylor and Associates in 1998 in Williams (2001) were the issues of disclosure of intellectual capital is one of ten kinds of user information needs.

Research on intellectual capital disclosure practices have been conducted in various countries. The results of research may be presented in Table 1 (see Appendix).

The composition and pattern of expression must not be separated from the characteristics of decision makers. This study will investigate the influence of diversity of board on IC disclosure by looking at the characteristics of board members. The presence of women in structure of the board and directors of the company is one measure of diversity of the board. The presence of women in the structure indicates that the company provide equal opportunity for everyone (no discrimination), and it has a broad understanding of enterprise and consumer markets, which in turn will increase reputation (legitimacy) and the value of the company (Brammer et al. 2007 in Luckerath-Rovers 2010). Robbins and Judge (2008: 206) suggest that women generally have more detailed thoughts related to the analysis of decision-making. They tend to analyze the issues before making a decision and the decision process that has been made, resulting in a consideration of problems and alternative solutions more closely. Williams (2000) and Swartz and Firer (2005) found the presence of women in the board has a positive effect on IC performance. Carter (2003) and Siciliano (1996) found that gender diversity has a positive effect on firm performance. A good performance will lead the company to conduct a more extensive disclosure. Nalikka (2009) found that gender diversity has a positive effect on voluntary disclosure. Therefore the hypothesis (H1) is diversity of gender effect on broad of IC disclosure.

The existence of board and directors with foreign nationality is also a measure of diversity of board that is often used in research. Oixelheim and Randoy (2001), Carter et al. (2002, 2007), Marimuthu (2008), Ararat et al. (2010) found a positive effect of the presence of foreign or ethnic minorities in the board to the company value. Their presence brings valued opinions, perspectives, languages, beliefs, family background and diverse professional experience, so enriching the knowledge of business and complex problem-solving alternatives. In addition, the presence of foreign board members were able to convince foreign investors that the company is professionally managed (Randoy et al. 2006). Oixelheim
and Randoy (2001) suggested that the presence of the directors and directors with foreign nationality shows that the company has made the process of globalization and information exchange in the network internationally. Williams (2000) and Swartz and Firer (2005) found ethnic diversity within the board has a positive effect on IC performance. The excellent performance of the company made the disclosure is likely to provoke a wider audience. The presence of foreign directors on the board also may trigger the disclosure of information in the hope of the company's credibility will increase. Therefore, the hypothesis (H2) is the presences of foreign directors have a positive effect on the area of IC disclosure.

Formal education backgrounds of board of directors and directors is reflect of cognitive characteristics that may affect the ability of the board in making business decisions and manage the business (Kusumastuti et al. 2006). Siciliano (1996) found that diversity of educational backgrounds associated with the background of the work the company's board of directors has a positive effect on organizational performance, especially on social performance. Instead, Goodstein et al. (1994) found a negative effect of formal education background diversity on the ability of the board of directors of the company to make changes to corporate strategy. Wallace and Cooke (1990) found that the directors who have a background in accounting and business education may make a broader level of disclosure to enhance the corporate image and credibility of management. Accordingly, hypothesis (H3) is the education background of the board has a positive effect on the area of IC disclosure.

Diversity of board can also be measured from the level of independence of board members. Composition of the board of independent directors with a strong enough will have managerial oversight of behavior that is more stringent to protect the interests of shareholders (Fama, 1980) and to increase shareholder value (Kusumastuti et al. 2006). Fama and Jensen (1983) suggest that corporate boards dominated by outside corporate governance would result in a stronger company because they are more independent oversight of management behavior. Brickley and James (1987) in Agrawal and Knoeber (2000) stated that in addition to a role in surveillance activities, the presence of outside directors will help to develop management skills and business strategy with technology and market knowledge possessed by them. One form of protection that can be done independent board is to do a more extensive disclosure. Cerbioni and Parbonetti (2007) found that the proportion of independent board has a positive effect on the disclosure of IC. Cheng and Courteney's (2006) using the 104 companies in Singapore found that the proportion of independent commissioner has a positive effect on voluntary disclosure. Li et al. (2007) found that board composition has no effect on IC disclosure. Different results found by Haniffa and Cooke (2000), namely the existence of non-executive commissioner broad negative effect on voluntary disclosure. The Hypothesis (H4) is the proportion of independent board of directors influence the broad of IC disclosure.

3. RESEARCH METHOD

The object of research that used in this study was financial sector companies listed on the Indonesia Stock Exchange during the years 2004-2009. The financial sector consists of companies of banking, insurance, securities companies, financial institutions, and others. The banking sector was chosen because; according to Firer and Williams (2003) the banking
industry is one of the most intensive sectors of intellectual capital. In addition, from an intellectual aspect, the overall banking sector employees in more homogeneous compared to other economic sectors (Kubo and Saka 2002 as quoted by Ulum et al. 2008). Bank and insurance can be categorized as an industry based on the intellect to innovate in products and services, as well as the knowledge and flexibility is a critical aspect that determines the success of the business (Sianipar 2009).

The variables examined in this research are extensive IC disclosure (dependent variable) and the diversity of the board is divided into five independent variables. In addition, this study also uses firm size as a control variable. Measurements of each variable can be seen in Appendix.

The selection of the sample was based on non-probability sampling method rather purposive sampling method, which is the sampling technique with consideration-specific criteria (Sugiyono 2003). The criteria used to select the sample in this study are as follows.

1. Sample of companies listed and published annual reports during the observation period 2004-2009.
2. The company were disclosed the data of diversity of board and intellectual capital in annual reports during the observation period 2004-2009.

Based on these criteria were acquired 33 companies consisting of nine banks, five financial institutions, 5 securities companies, insurance 8, and 6 others.

Data analysis was performed using multiple linear regression analysis techniques. Prior to the regression model used to test the hypothesis, then the first assumption tested classic. Normality was tested using Kolmogorov-Smirnov. Multicollinearity was tested by looking at the value of tolerance or variance inflation factor (VIF). Method of Durbin Watson (D-W Test) is used to determine whether there is autocorrelation, while the test is used to test for heteroscedasticity Glejser. Multiple linear regressions is shown in the following equation.

\[ \text{ICDI} = \beta_0 + \beta_1 \text{Gender} + \beta_2 \text{Nas} + \beta_3 \text{Edu} + \beta_4 \text{Ind} + \beta_5 \text{Size} + \varepsilon \]

**Description:**
- ICDI = Index of disclosure of IC
- \( \beta_0 \) = Constanta
- \( \beta_1-\beta_5 \) = Coefficients of regression
- \( \varepsilon \) = error term
- Gender = diversity of gender
- Nas = diversity of nationality
- Edu = diversity of education background
- Ind = existence of independent board
- Size = firm size
4. EMPIRICAL RESULTS AND DISCUSSION

The sample used in the analysis initially consisted of 198 observations (33 firms for six years). Observations with a z-score below minus 2.90 or above 2.90 is considered as outliers and excluded from the sample. A total of 15 observations are removed from the sample so that the final sample to 183 observations. Testing for normality using the Kolmogorov-Smirnov test showed a significance level of 0.065 ≥ 0.05. The test results demonstrate the value of tolerance multicollinearity independent variable not less than 10%, or 0.1 and the variance inflation factor (VIF) are all less than 10. The test results showed autocorrelation in the first place but after the repair autocorrelation Lag Y is obtained by the Durbin-Watson value of 1.980. This value is located between the dU (1.826) and 4-dU (2.174). Glejser test results showed all the independent variables had no effect on the absolute value of residuals. Based on these tests can be concluded that the regression equation in this study have passed the test classic assumptions.

The results of hypothesis testing showed an adjusted $R^2$ value is 0.475. This means that the variance of independent variables that diversity of gender, diversity of nationality, educational background diversity, the existence of an independent board, and the size of the company is able to explain the dependent variable variant extensive IC disclosure by 47.5 percent, while the remaining balance of 52.5 percent is explained by other variables that not included in the model. Based on the results of testing has known that the diversity of gender and nationality have a positive influence on the area of IC disclosure. However, diversity education and the existence of an independent commissioner have no effect on the area of IC disclosure. Control variables firm size has a positive effect on the broad disclosure of IC with t-value of 5.691 and 0.000 significance level <0.05.

Results of research on diversity of gender in the board of directors is in line with the results of research conducted by Nalikka (2009) that gender diversity has a positive effect on voluntary disclosure. Robbins and Judge (2008:206) suggest that women generally have more detailed thoughts involved in the decision-making analysis. They tend to analyze the issues before making a decision and process decisions had been made, resulting in consideration of the problem and alternative solutions more closely. Therefore, women tend to like the detailed information that can be used to analyze each alternative decision. Williams (2000) and Swartz and Firer (2005) found the presence of women in the board of directors has a positive effect on IC performance. A good performance ICs can trigger a company to conduct a more extensive IC disclosure.

The results regarding the presence of foreign national’s board members support the hypothesis. Their presence brings valued opinions, perspectives, languages, beliefs, family background, and diverse professional experiences, thus enriching the knowledge of business and alternative problem solving is complex. In addition, the presence of foreign board members were able to convince foreign investors that the company is professionally managed (Randoy et al. 2006). Oxelheim and Randoy (2001) suggested that the presence of members of the board of commissioners and directors with foreign nationality shows that the company has made the process of globalization and information exchange in the network (network) internationally. The presence of foreign directors on the board can lead to information disclosure in the hope of the company's credibility will increase. Openness is shown by...
performing more extensive disclosures reply. This is in line with the results of this research is the existence of a foreign national board member has a positive effect on the disclosure of IC. Based on a global survey conducted Taylor and Associates in 1998 in Williams (2001) was the issue of disclosure of intellectual capital is one of the ten types of information the user needs. The broader of disclosure of IC is expected to increase the legitimacy of the company.

The results of this research on educational background do not support the hypothesis. Formal education background of board of directors and directors are the cognitive characteristics that may affect the ability of the board in making business decisions and manage the business (Kusumastuti et al. 2006). However, this study did not find the same thing because of education is not only acquired through formally channels. The ability of members of the board of directors is also heavily influenced by their experience. In addition, training courses can also affect one's decision to disclose some information, including disclosure of information about IC. Therefore, the formal educational background is not the only factor that will influence the decision to make disclosure of IC.

The existence of an independent member of board has no effect on the area of IC disclosure. This study supports the results of Li et al. (2007) found that the composition of the board of directors has no effect on IC disclosure. The results are not consistent with agency theory. The existences of independent member of board are expected to cope with agency problems and perform its role to protect shareholders. One form is to conduct a more extensive disclosure. However, it is not proven in this study. Although the IC information deemed important by Taylor and Associates study in 1998 in Williams (2001), but the proportion of independent board member is not a determinant factor in making disclosure decisions. The role of independent board of director with more emphasis on experience, personal characteristics, and ability in carrying out its functions as compared to the proportion of membership in the board of directors.

5. CONCLUSIONS AND SUGGESTIONS

Based on the research problem, the aims of research, theoretical background and hypotheses and also the results of tests performed, it can be concluded that the diversity of board, generally has a positive effect on IC disclosure, especially affected by gender and nationality diversity. However, diversity of education background and the existence of an independent board of directors are not able to explain adequately extensive IC disclosure. Firm size as a control variable has a positive effect on the area of IC disclosure.

Several limitations affect the outcome of research and development needs to be material in subsequent studies. The suggestions can be submitted are as follows.

1) Study was only conducted in the sector of financial companies that is listed on the Indonesia Stock Exchange, subsequent research can do research with different objects such as manufacturing companies to obtain consistent results.

2) The coefficient of determination (Adjusted $R^2$) is equal to 0.475 which means the variability of the dependent variable which can be explained by the independent variable is equal to 47.5 percent, while the remaining balance of 52.5 percent is explained by variables other than the research model. This means that there are other variables that need to be identified to explain the influence of diversity on boards of
directors and extensive IC disclosure. Based on this research, other diversity variables on board of directors that may influence the decision of the IC disclosure is cognitive diversity such as experience, skill and competence (Coffey and Wang 1998) and the diversity of demographics such as marital status (Slocum and Hellriegel 2007 in Marimuthu 2008).
REFERENCES


Rasmini, Wirakusuma, Yuniasih, *The Effect of Board Diversity on The Extent of...* 55


APPENDIX

Table 1: Researchs on IC disclosure

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Country</th>
<th>External Capital</th>
<th>Internal Capital</th>
<th>Employee competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guthrie and Petty (2000)</td>
<td>Australia</td>
<td>40%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Bozzolan et al. (2003)</td>
<td>Italia</td>
<td>49%</td>
<td>30%</td>
<td>21%</td>
</tr>
<tr>
<td>Guthrie et al. (2004)</td>
<td>Hong Kong, Australia</td>
<td>37%</td>
<td>28%</td>
<td>35%</td>
</tr>
<tr>
<td>Miller and Rosalind (2005)</td>
<td>New Zealand</td>
<td>47%</td>
<td>21%</td>
<td>32%</td>
</tr>
<tr>
<td>Abeysekera and Guthrie (2005)</td>
<td>Sri Lanka</td>
<td>44%</td>
<td>20%</td>
<td>36%</td>
</tr>
<tr>
<td>Purnomosidhi (2006)</td>
<td>Indonesia</td>
<td>40%</td>
<td>35%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Sources: Data processed

Table 2: Sample Selection Process

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount of observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies in financial sector were listed on Indonesian Stock Exchange during 2004-2009</td>
<td>393</td>
</tr>
<tr>
<td>Companies in financial sector were not listed sequently during 2004-2009</td>
<td>(65)</td>
</tr>
<tr>
<td>Companies in financial sector without annual report</td>
<td>(13)</td>
</tr>
<tr>
<td>Companies in financial sector without data of diversity of board and director</td>
<td>(117)</td>
</tr>
<tr>
<td><strong>The amount of sample</strong></td>
<td><strong>198</strong></td>
</tr>
</tbody>
</table>

Sources: BEI, data processed.
**Figure 1: The Measurements of Variables**

<table>
<thead>
<tr>
<th>No.</th>
<th>Variable</th>
<th>Measurement</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Intellectual capital disclosure extent (Y)</td>
<td>ICDI is measured using dichotomy approach, with code 1 for disclosed and 0</td>
<td>Cerboni and Parbonetti (2007), and Purnomosidhi (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>for undisclosed. ICDI items are presented in Figure 2.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Diversity of gender (X₁)</td>
<td>The existence of woman in board is valued in a dummy variable. If woman</td>
<td>Ararat et al. (2010); Kusumastuti et al. (2006); Wicaksana (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>present in board of director with code 1, and 0 for contrary.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Diversity of Nationality (X₂)</td>
<td>The existence of foreign nationality in board of director will defined into</td>
<td>Ararat et al. (2010); Kusumastuti et al. (2006); Wicaksana (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>code 1 and 0 for contrary.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Diversity of education background (X₃)</td>
<td>Variation of education background is measured by percentage between member</td>
<td>Ponnu (2008), Haniffa and Cooke (2000).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>of board with accounting, finance, management and economic education</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>background and all of member of board.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Independent member in board of directors</td>
<td>Proporsion of independen member of board of directors is compared to the</td>
<td>Kusumastuti et.al. (2006)</td>
</tr>
<tr>
<td>(X₅)</td>
<td></td>
<td>whoe of member in board of directors.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Firm Size (X₆)</td>
<td>Firm size is the value of the total assets of the firm.</td>
<td>Cerboni and Parbonetti (2007)</td>
</tr>
</tbody>
</table>

|      |                                              |                                                                           |                                                                           |

**Figure 2: Item of ICDI**

<table>
<thead>
<tr>
<th>Internal Capital</th>
<th>External Capital</th>
<th>Employee Competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Patents</td>
<td>2. Customers</td>
<td>2. Education</td>
</tr>
<tr>
<td>Infrastructure Assets</td>
<td>5. Distribution Channels</td>
<td>5. Work-related competence</td>
</tr>
<tr>
<td>5. Corporate Culture</td>
<td>7. Favourable Contracts</td>
<td></td>
</tr>
<tr>
<td>6. Information Systems</td>
<td>8. Licensing Agreements</td>
<td></td>
</tr>
<tr>
<td>8. Networking Systems</td>
<td>10. Franchising Agreements</td>
<td></td>
</tr>
<tr>
<td>9. Research Projects</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>