

## **An Empirical Study of the Driver Factors of the Intellectual Capital Disclosure**

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— *Review of* —  
**Integrative  
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### **ABSTRACT**

Disclosure of intellectual capital is a communication media to stakeholders about the company's Intellectual Property. The purpose of this study is to examine the factors that affect the disclosure of intellectual capital. These factors were grouped into financial factors and non-financial factors. The sample was bank listed on the Indonesia Stock Exchange in 2009-2013. Content analysis method was used to collect data of intellectual capital disclosure (ICD). Then, ICD was indexed using a guideline developed by White, et al (2007). Structural Equation Modeling (SEM) with the Partial Least Square approach was used to analyze the data. The results show that the financial performance (ROA), firm size (SIZE) and the firm age (AGE) affect the extent of disclosure of intellectual capital. And, the independent commissioner and the ownership concentration have no effect on ICD. A suggestion for further research is to develop ICD measurement model in order to expand the research results regarding the disclosure of intellectual capital.

**Keywords: Intellectual Capital Disclosure; Financial Performance; Size; Age; Independent Commissioner; ownership concentration**

### **I. INTRODUCTION**

Efandiana (2011) states that company must change their labor-based business towards knowledge-based business using main characteristics of science. The change of the knowledge-based economy, the prosperity of a company will depend on a transformation of creation and capitalization of knowledge itself (Suwarjono and Kadir, 2003). Advantages based on knowledge and science-based characteristics are known as intellectual capital. Resource-based view states that IC is a resource company which plays an important role, as well as physical capital and financial capital (Asni, 2007). Smedlund and Poyhonen (2005) in Rupidara (2005) define Intellectual Capital as the

capability of an organization to create, transfer and implement knowledge.

Intellectual Capital is part of the knowledge that is useful for the company. Being useful means that the knowledge is able to provide or contribute that can add value and differentiate with other companies. Being different means that knowledge is one factor that distinguishes an identification of firms with other firms. Intellectual capital can be identified or measured by the company through the knowledge and skills possessed by employees, structures and corporate strategy, information technology, customer loyalty and suppliers (Khoriah, 2012).

Research on the intellectual capital initially focused on the definition and classification (Bontis, 2000). However, the development of current research is focused on patterns of disclosure of intellectual capital and the factors that influence it. Various parties have realized that intellectual capital can significantly add value to the company and even in some cases represent almost the entire base value (value base) companies (Purnomosidhi, 2003). It seems to have prompted academics to create new measures and ways of measurement that can be used to record and report the inherent value of intellectual capital that is owned by an organization.

Disclosure of intellectual capital is interesting to study in the context of Indonesia, considering the fact that in Indonesia, there has been no standard guideline on the measurement and reporting of the intellectual capital. Another interesting thing that leads this research is because there is no standard that defines what items are included in intangible assets that can be managed, measured and reported in both the mandatory disclosure and voluntary disclosure. Purnomosidhi (2006) argues that many of the mandatory disclosure as required by the accounting profession associated with physical capital.

Research on the disclosure of intellectual capital has been done in some countries, but the study has limitations that are using small sample and a limited time (Williams, 2001, in Bezhani, 2010). The research on the disclosure of intellectual capital in various countries include: Australia Ireland (Brennan, 2001), Sri Lanka (Abeysekera and Guthrie, 2005), Italy (Bozzolan et al., 2003), UK (Williams, 2001), United States (Abdolmohammadi, 2005), Spain (Oliveras and Kasperskaya, 2004), and Canada (Bontis, 2002). While the comparative studies conducted between countries e.g. the Netherlands, Sweden and the United Kingdom (Vandemaele et al., 2005) or Australia and Hong Kong (Guthrie et al., 2006). Based on the results of research conducted by Suhardjanto and Ward (2010), the level of disclosure of intellectual capital in Indonesia is still low (on average just as much as 34.5% of total 25 items of intellectual capital). Global survey results show that intellectual capital is one of the most widely types of

information to be considered by investors. Therefore, there is still "information gap" (Bozzolan et al., 2003).

Although research on the disclosure of intellectual capital has been carried out in several countries, but research in Indonesia that links financial and non-financial factors with the disclosure of intellectual capital is still limited. So, this study refines the research studies that have been done before. Some improvements are made in this study including a comprehensive research model, involving financial and non-financial factors. The scope of this study is also wider and longer to obtain information regarding the disclosure practices intellectual capital in Indonesia.

## **II. LITERATURE REVIEW AND HYPOTHESIS**

### **2.1. Stakeholder Theory**

Various studies on intellectual capital include treatment, measurement, assessment, and reporting arise because of the expectation that the company is able to provide information on existing intellectual in the company to its stakeholders. This is consistent with what is in the stakeholder theory (Belkaoui, 2003). Based on stakeholder theory, organizational management is expected to perform activities that are important to their stakeholders, and report back on these activities on stakeholders. This theory states that all stakeholders have a right to be provided information on how the organization's activities affect them (for example, through pollution, sponsorship, safety initiative, etc.), even when they choose not to use that information, and even when they cannot directly play a constructive role in the survival of the organization (Deegan, 2004).

### **2.2. Intellectual Capital Definition**

According to Stewart (1997) in Tan et al., (2007), Intellectual Capital has been understood differently by some circles of society, understood by some small groups and formally there has been no standard assessment methods. As a concept, intellectual capital refers to the capital of non-physical or intangible capital (intangible assets) or intangible related to knowledge and human experience and the technology used. Marr and schiuma (2001) in the definition of IC cited by Starovic et.al, (2003) explains that the IC is a group of assets that is an attribute of organizational knowledge and contribute significantly to improving the competitive position by adding value for stakeholders.

### **2.3. Intellectual Capital Disclosure**

Suwarjuwono (2003) states Agency for international accounting such as the International Federation of Accountants (IFAC), International Accounting Standards Committee (IASC), the Society of Management Accountants of Canada (SMAC) is also

being tested against the framework of the management and reporting of the company's intellectual capital. These results indicate the portion of the disclosure of every element of intellectual capital, of which 30% of the indicators used to express human capital, organizational capital 30% (internal structure) and a 40% customer capital (external structure).

#### **2.4. The Effect of Financial Performance on IC Disclosure**

Financial performance is an overview of the financial condition of a company (Sawir, 2005). One mechanism to distinguish companies that have a high level of profitability with companies that have low profitability level is through voluntary disclosure (Meek et al., 1995). This phenomenon is based on the signaling hypothesis which states that superior and profitable firm is likely to reveal more information to the investor (Ahmed and Courtis, 1999). Previous research by Purnomosidhi (2003) shows that the positive effect on the financial performance disclosure of intellectual capital. Thus, the research hypothesis can be formulated as follows:

**H1: The financial performance will encourage the extend of intellectual capital disclosure**

#### **2.5. The Effect of Company Size on IC Disclosure**

Purnomosidhi (2003) states that larger companies make the activity more and have many business units as well as the potential long-term value creation. Another assumption underlying the use of variable size companies in this research model is that the larger companies have the critical success factors and long-term value creation potential of different (Hackstone and Milne, 1996). In relation to the stakeholder theory, the company will receive pressure from shareholders and investment analysts to disclosure broader and tighter monitoring of regulatory authorities, the complexity of business structures, and a greater demand for providing information to various user groups (Haniffa and Cooke, 2002). Furthermore, the second hypothesis in this study is formulated as follows:

**H<sub>2</sub> : Large companies will expand the level of disclosure of intellectual capital**

#### **2.6. The Effect of Company Age on IC Disclosure**

Company age illustrates how long the company can survive. The older company will provide disclosure of financial information more widely than younger companies. The reason is the older company has more experience in the disclosure of the annual report (Wallace, et al 1994). White et al (2007) explains that the company age positive effect on the disclosure of intellectual capital. Based on the description, the proposed

hypothesis is as follows;

**H<sub>3</sub> : Company age has positive effect on the level of intellectual capital disclosure**

### **2.7. The Effect of Independent commissioners on IC Disclosure**

Independent commissioners are an external person in companies that are expected to mediate the information asymmetry that occurs between the owner and the manager. As a neutral part, independent commissioners supervise the management activities in the company and control the behavior of the managers. White et al (2007) states that there is a significant relationship between the independent commissioners with voluntary disclosure of intellectual capital. Therefore, the study proposes the following hypothesis:

**H<sub>4</sub> : Independent commissioner will positively encourage the level of intellectual capital disclosure**

### **2.8. The Effect of Ownership concentration on IC Disclosure**

Ownership Concentration is the number of shares dispersed and held by some of the majority shareholders. The high ownership concentration can be found in the condition in which property rights are not capable of being protected by the state. Because the high ownership concentration, the majority shareholder will increasingly dominate the company and have a big power on decision-making (Darmawati, 2006). Fifth hypothesis proposed as follows:

**H<sub>5</sub> : Ownership concentrations have positive effect on the level of intellectual capital disclosure**

## **III. RESEARCH METHODS**

### **3.1. Sample and Data Selection**

Our samples consist of Banking that is publicly listed on Indonesian Stock Exchange. The annual report of listed banking in 2009–2013 served as the source of the necessary data. The 5 years financial data used in this study were collected from Indonesian Capital Market Directory (ICMD) and also financial statements. The samples studied were 27 banks for five years, hence there were 135 units of analysis that were used as the sample in this study. Then financial data calculated using the formula. Annual report was downloaded from the official website IDX and displayed on the company website. Data collection techniques used in this research was content analysis. Content analysis is a method of data collection by observation and analysis of the content or message of a text, the content of a document, and then classified into various categories or groups that have been established (Nur Indriantoro and Bambang

Supomo, 1999).

### 3.2. Research Variables

The dependent variable in this study was intellectual capital disclosure as measured using index developed by White et. Al (2005). Independent variables used in the study were a financial variable and non-financial variables. Disclosure as a percentage of the total index is calculated according to the following formula:

$$\text{ICDIndex} = ( \Sigma di / M ) \times 100\%$$

ICDIndex = Index of Intellectual Capital Disclosure (ICD)

di = "1" if the ICD elements disclosed in the annual report, and "0" if it is not disclosed in the annual report

M = the total number of items that are measured (56 items).

**Table 1: Research Variable**

No	Variable	Operational definitions	Measurement
1	Financial Performance	a description or capture as a whole for the financial company during the period / period of time.	ROA
2	Size	The size of the company that demonstrated the value of the total assets reported in the year-end balance sheet.	Ln Total Assets
3	Company Age	Company age is beginning the company operating until the company can maintain its existence in the world of business (suvive).	Date of operation of the company until year of research datas
4	Independent commissioners	An external person in companies that are expected to mediate the information asymmetry that occurs between the owner and the manager	The number of independent commissioners devide by the board of commissioners
5	Ownership Consentration	The number of shares dispersed and held by some of the majority shareholders.	The percentage of institutional ownership

### 3.3. Data analysis

This research used descriptive statistical tests to provide a profile of the samples and variables. Descriptive statistics test were used among others: the mean, standard deviation, maximum, minimum, tables and charts. Inferential statistical analysis in this research was Structural Equation Modeling (SEM) that using Partial Least Square (PLS). Software used is SmartPLS software version 2.0 M3.

## IV. RESULT AND DISCUSSION

Using a sample of 135 listed banking in Indonesian Stock Exchange we found that the level of Intellectual Capital in Indonesian banking still low (38.82%). Descriptive statistical test results for all variables as shown in table 2.

**Tabel 2 Descriptive Statistical Test**

	ICD	ROA	SIZE	AGE	Independent Commissioner	Ownership Structure
Mean	38.82	8.46	17.26	40.96	0.58	59.07
Minimal	14.29	-31.53	10.27	7.00	0.00	0.00
Maximal	60.71	15.62	28.91	118.00	1.00	99.99
SD	10.28	4.34	2.45	25.06	0.13	31.43
n	135	135	135	135	135	135

The level of disclosure of intellectual capital in the banking sector in Indonesia is relatively low. Intellectual Capital Disclosure in Indonesian Listed Banking was 39%. This amount means that listed banking only disclose about 22 item of 56 ICD criteria. They disclosed their intellectual property in the annual report. The best practice in IC disclosure of Indonesian banking is “Bank Negara Indonesia 1946”. The Bank disclosed the intellectual capital more than 50% for during 4 years.

### 4.1. Inner Model Test

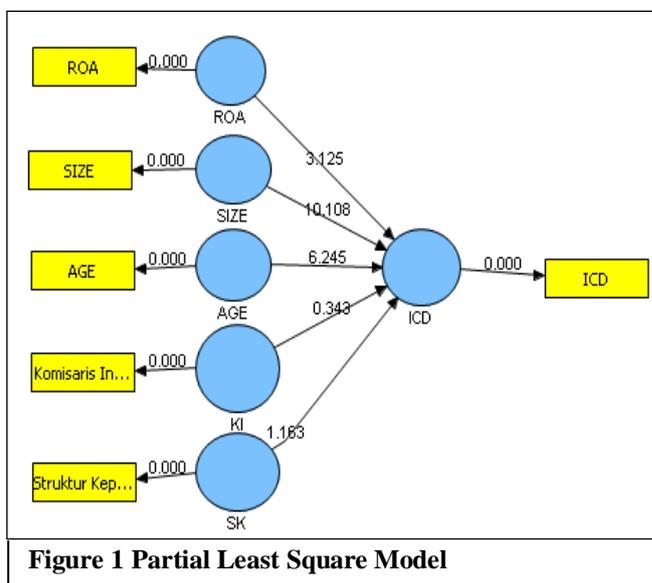
Inner Model test using boot strapping method result a total effect shown in Table 3.

**Tabel 3 Total Effects (Mean, STDEV, T-Values)**

	Original Sample (O)	Sample Mean (M)	Stand. Deviation (STDEV)	Stand. Error (STERR)	T Statistics ( O/STERR )
AGE → ICD	0.237773	0.235178	0.038072	0.038072	6.245286***
IC → ICD	-0.015059	-0.014996	0.043913	0.043913	0.342922
ROA → ICD	0.112794	0.108500	0.036095	0.036095	3.124872***

SIZE → ICD	0.299943	0.300331	0.029675	0.029675	10.107597***
OS → ICD	-0.034169	-0.033962	0.029377	0.029377	1.163133

Source: Output PLS, 2014



Based on the table 3 it described that the independent variables\ are ROA, SIZE and AGE significantly affect the IC Disclosure (alpha 1%). While, two other independent variables are independent commissioner and ownership structure have no effect on IC Disclosure. As shown in Figure 1 on Partial Least Square models, it appears that the ROA, SIZE and AGE Disclosure influence on IC. While variable

Independent Commissioner and Ownership Structure Disclosure have no effect on IC.

#### 4.2. Coefficient Determination (R<sup>2</sup>)

Smart PLS 2.0 IM3 output result a weak coefficient determination that (18.8%). R<sup>2</sup> value means that all variables (ROA, SIZE, AGE, Independent Commissioner and Ownership Structure Disclosure) could explain the IC Disclosure as much as 18.8%, while 80.2% explained by other variables outside the model.

#### 4.3. The Effect of Financial Performance on IC Disclosure

This study supports the first hypothesis, which states that good financial performance will encourage the disclosure of intellectual capital. Companies that had high ROA will disclose intellectual capital broadly. One mechanism to distinguish the companies that have a high level of profitability with companies whose low profitability level is by way of voluntary disclosure (Meek et al., 1995). This phenomenon confirms the signaling hypothesis, which states that superior and profitable firm will disclose more information to investors (Ahmed and Courtis, 1999). Results of previous studies such as Purnomosidhi (2003) showed that there is a positive effect of financial performance toward disclosure of intellectual capital.

#### 4.4. The Effect of Company Size on IC Disclosure

The results showed that the company size significantly affect the disclosure of intellectual capital. The greater the amount of assets a company has, the greater the voluntary disclosure of intellectual capital. Companies that have large assets, has more resources to inform on voluntary disclosure. The results support the theory invented by Meek, Roberts and Gray (1995) in Fitriany (2001) that large companies have ability to recruit skilled employees. Large companies also have claim from shareholders and analysts, so that large companies have an incentive to provide extensive disclosure than small firms. Belkoui and Karpik (1989) found that company size is a variable that is positively related to voluntary disclosure.

#### **4.5. The Effect of Company Age on IC Disclosure**

The longer the life of a company, the company will still survive in conducting business activities. The age is measured by subtracting the company's annual report disclosure from the company. Results of this study support the results of research conducted by White et al (2007) in Australia. The longer the life of the company will provide disclosure of financial information more widely than other companies whose age is shorter because the company has more experience in the disclosure of the annual report (Wallace, et al 1994). Research White et al (2007) explains that the age of the firm has a positive influence on the disclosure of intellectual capital.

#### **4.6. The Effect of Independen Commisioner on IC Disclosure**

Independent commissioner is a neutral party that is expected to bridge the information asymmetry that occurs between the shareholders and the company manager. Based on testing with SEM PLS shows an independent commissioner has no significant effect on the disclosure of intellectual capital. This research study is conducted and contrary to White et al (2007) which states that an independent commissioner affects the disclosure of intellectual capital. This is contrary to the underlying theory, as the presence of independent director supports the principle of responsibility to disclose intellectual capital in the implementation of corporate governance, which requires that the company should provide better information as a form of accountability to stakeholders.

#### **4.7. The Effect of Ownership Concentration on IC Disclosure**

The results of H5 testing shows that the variable concentration of ownership has no effect on the disclosure of intellectual capital for t-count is smaller than t-table. It concluded that H5 in this study rejected. It is interpreted that the concentration of stock ownership is not able to increase the area of intellectual capital disclosures.

These results is in line with studies White et al. (2007) which states that the concentration of ownership has no effect on the disclosure of intellectual capital. This is because the high concentration of ownership that could cause the direction of the policy or the decision focused on the high concentration of stock ownership. Furthermore, the voting rights (voting rights) in the AGM, so that the results achieved have not been up, the company's policy is not effective and goal attainment are less good. Hence, governance in the company is less than optimal so that the automatic intellectual capital is not revealed extensively.

## V. CONCLUSIONS AND RECOMMENDATIONS

Awareness of the company in the disclosure of intellectual capital is increasing, which is marked by the increasing intellectual capital disclosures in their annual reports. The test results by using PLS SEM showed that the company's financial performance (ROA), firm size (SIZE) and the age of the firm (AGE) affect the breadth of disclosure of intellectual capital. Meanwhile, the independent commissioner variables and concentration of ownership does not affect the IC Disclosure. For future research can develop disclosure IC measurement models, for example the index Guthrie in order to enrich the research results.

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