

# The Impact of Ownership Structure on Intellectual Capital Disclosure

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## The Impact of Ownership Structure on Intellectual Capital Disclosure

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**Abstract:** Intellectual capital disclosure is an important topic to study because it can reduce the information asymmetry between company and stakeholders. This study aims to examine the determinants of intellectual capital disclosure of public companies in Indonesia. The examined factors were family ownership, state ownership and institutional ownership. A total of 12400 annual reports of all public company in Indonesia Stock Exchange from 2004-2008 were examined. Hypothesis testing was performed using multiple linear regression analysis. The results showed that family ownership did not affect intellectual capital disclosure. Meanwhile, institutional ownership in the form of banks and financial institutions had positive effect on the company's intellectual capital disclosure. Higher public demands on companies with broad ownership of SOEs led to more intellectual capital disclosure. This study provides information on the determinants of intellectual capital disclosure based on the ownership structure of companies in Indonesia, so, it is expected that management can implement disclosure policies required by investors in order to reduce information asymmetry.

**Key words:** Intellectual capital, disclosure, ownership structure, family ownership determinants, asymmetric

### INTRODUCTION

Disclosure of intellectual capital is a challenge for companies operating in knowledge-based industries or depending on the environment. On the one hand, the existence of information asymmetry among investors due to the inability of the financial statements to reflect the ownership of intangible assets has resulted in an increased of investment risk, so that, it will eliminate investor confidence (Aboody and Lev, 2000; Lev, 2001). If companies do not disclose their intellectual capital, they will face negative consequences such as stock price volatility is high because of the errors of judgment of investors as a result of information asymmetry. Another possible consequences the increase of asymmetry of information that is likely to increase the cost of capital (Botosan, 1997; Sengupta, 1998).

On the other hand, there are issues that can reduce the company's desire to make a voluntary disclosure of intellectual capital in order to maintain the confidentiality of data and protect themselves from competitors (Vergauwen and Alem, 2005). Because financial information can not reflect all of the changes in the business operating activities (Lev and Zarowin, 1999), it will encourage companies to increase awareness of the importance to manage non-financial information to external parties. Among other financial

information in addition to supplementary information and other reporting tools such as information of corporate social responsibility information, merger, new product launches, bonus programs and so on. Intellectual capital is one of important information to be disclosed as it could significantly increase the value of the company as evidenced in the study by Chen et al. (2005) and Tan et al. (2007).

Information revealed through the disclosure of intellectual capital will provide more comprehensive information, so, as to reduce assessment bias against the company. Bukh (2003) states that the disclosure of intellectual capital will be useful to investors in order to anticipate the uncertain outlook for the future and assist in the assessment of the company better.

One way to measure the level of intellectual capital disclosure is by using content analysis on knowledge company reports. Guthrie et al. (2004) and Vergauwen et al. (2007) state that content analysis is the most popular method for measuring the level of intellectual capital disclosure. This technique is a way to make the data collection code systematic, objective and reliable, based on quantitative and qualitative information into pre-defined categories to get the pattern in the reporting of information (Guthrie et al., 2004). This technique usually produces an index of the level of intellectual capital reporting. This method has been widely used in research

on intellectual capital disclosure among others Bruggen et al. (2009), Guthrie et al. (2004) and Vergauwen et al. (2007). The current study will use a content analysis of the annual report to create an index of disclosure of financial capital in Indonesia. This study adopts content analysis on intellectual capital disclosure practices as used in Li et al. (2008).

There are few studies that examine what factors are likely to influence the practice of intellectual capital disclosure. However, the results of previous studies are still inconsistent. This is in line with the statement of Bruggen et al. (2009) that despite the development of research in the field of intellectual capital, no results were definite and clear about the factors that become determinant of intellectual capital disclosure. Therefore, it is necessary to study the factors that determined of intellectual capital disclosure.

This study differs from previous studies. previous studies, examined managerial ownership (Bukh et al., 2003) and the concentration of ownership (Li et al., 2008) while this research examines the family as a controlling ownership, ownership of SOEs as a controller and institutional ownership. This study is expected firstly to contribute to the management of the company In detenninmg what information needs to be submitted related to intellectual capital, so, provide more transparency to investors. Secondly, the findings of this study are important to management as a reference in managmg intellectual capital with better and more focused on the necessary components that can contribute to improving the company's performance and its ability to raise funds from the capital market

#### Theory and hypothesis development

**Definition of intellectual capital:** The term intellectual capital is often used interchangeably with intangible assets as a synonym (Lev, 2001; Meritum et al., 2002; Lev and Zambon, 2003). Up to now there is no definite agreement on the definition of intellectual capital (Guthrie, 2001 ; Choong, 2008; Man and Adams, 2004). Most of the literature have not clearly described fully the notion of intellectual capital but only gives examples of what items are included as intellectual capital (Itami, 1987; Hall, 1992; Roos et al., 1998). On the other hand, the definition given by other researchers look very diverse. Because diversity is still not agreed upon definition and according to the researchers there is no definition that describes intellectual capital as a whole, so in this study, the researchers propose a specific definition of intellectual capital. The proposed definition is based on various definitions of previous researchers and adapted to the purpose of this research. Intellectual capital is defined as intangible resources such as

knowledge, experience, ability to manage relationships, technology and information, skills and professionalism that are managed and utilized by management to create value in order to achieve a sustainable competitive advantage for the company.

From the discussion of the various definitions used in explainmg the concept of intellectual capital is often an emphasis on several different attributes. Of the various attributes that appear, there are three attributes that have been widely accepted as a component or category of intellectual capital, i.e., human capital, structural capital and relational capital (Stewart, 1997; Sveiby, 1997; Sullivan, 2000, Lev and Zambon, 2003; Man- and Adams, 2004; Choong, 2008). Though many researchers who adopt any of three categories of intellectual capital, there are some other terms that are more synonymous than the three elements of intellectual capital used frequently. Some researchers use the term intenal capital or organizational capital to refer to the structural capital. Relational capital including relationships with customers and other groups outside the company which also shows the external structures. Therefore, relational capital is also a 'customer capital' or 'external capital'. Eclvinsson (1997a, b), Bontis (1998) and Sullivan (1998) used the term human capital, organizational capital and customer capital. While Stewart (1998) use the term human capital, structural capital and customer capital of this study will also adopt the three categories that have been widely accepted by researchers, namely human capital, structural capital and relational capital.

**Influence of family ownership for control of intellectual capital disclosure:** Agency theory states that voluntay disclosure is a form of control mechanism used by the owners to ensure that their actions do not harm the agent (Jensen and Meckling, 1976). Meanwhile, Fama and Jensen (1983) state that a company controlled by the family should be more efficient than companies with public ownership, clue to lower monitoring costs than public companies. The majority of companies in Indonesia is controlled by the family and therefore should be more efficient and more clisclosure of intellectual capital clue to the alignment between shareholders and efficiency in terms of supervision. Claessens et al. (2000) found that more than 50 % of companies in Indonesia are controlled by families. Kim stated that the ownership structure of public companies in Indonesia is still dominated by the family which is the controlling shareholder (ultimate shareholder) because although, there are Foreign ownership but Foreign ownership is also part of the family ownership structure.

In companies with concentrated ownership, agency problems no longer arise between shareholders and management but changed to agency problems between majority shareholder (controlling) the minority shareholders (Claessens et al., 2000). Dominance of family ownership in Indonesia raises new agency problem is the possibility of entrenchment made majority shareholders through the management of the minority shareholders. Entrenchment is a desire to master that will ultimately lead to the expropriation of the majority shareholders to minority shareholders. If the ownership on the one hand, the higher will encourage the use of ownership and control that through the management for its interests to the detriment of other shareholders. Claessens et al. (2000) found that the level of expropriation of the minority shareholders will be higher when the controlling shareholder is a family. The results of the study Claessens et al. (2000) showed that as many as 84.6% of managers in large companies in Indonesia appointed by the controlling shareholders. Controlling shareholder with control dominance can influence company policy, including policy disclosures in corporate annual reports. Predicted to public companies in Indonesia with the family controlling shareholder will reduce the level of disclosure of intellectual capital in order to cover the actual ability of the company as a form of entrenchment to minority shareholders. Tendency to make the company as a controller to gain more land by way of expropriation of minority shareholders is expected to result in them will only reveal things that feel could benefit themselves. With control held by the owners of this family is expected to provide incentives to entrenchment in the form of reduced disclosure policy for the things that are bad news, so, in total will lower the disclosure in order to maintain the existence of information asymmetry. Intellectual capital information that are of course bad news will be covered by the controller in order to maintain the asymmetry of information as a form of entrenchment to minority shareholders. Therefore, it is alleged that the company with the controlling family ownership, the level of intellectual capital disclosure would be less than the company without a controlling family ownership.

This study follows the methods used Siregar and Utama (2008) in classifying the company into a company with the controlling family and the company with which no controlling family. This study predicts that firms with family ownership as the controller will tend to have high levels of disclosure of intellectual capital that is lower than the company without a family ownership as controller:

- HI: intellectual capital disclosure index will be lower for firms with family ownership as controller compared to companies without family ownership as controller
- H1a: human capital disclosure index will be lower for firms with family ownership as controller compared to companies without family ownership as controller
- H1e: structural capital disclosure index will be lower for firms with family ownership as controller compared to companies without family ownership as controller
- H1c: relational capital disclosure index will be lower for firms with family ownership as controller compared to companies without family ownership as controller

Effect of institutional ownership of intellectual capital disclosure: Agency theory states that the owner of the company can use the voluntary disclosure as a way to monitor the management of the company (Jensen and Meckling, 1976; Fama and Jensen, 1983). Institutional owners usually tend to demand better information than individual owners because it is usually able to pay more for the information obtained. The owner is usually in the form of Institutional investors who are smart and able to process information better than other investors (Siregar and Utama, 2008). Possible causes of the positive influence, presumably because institutional investors provide rules that require companies to make more disclosures concerning the application of CG companies.

Based on previous research, allegedly institutional ownership will also be pressing for the management of intellectual capital disclosure higher because as stated institutional investors are able to pay the cost of information is more expensive than other investors (Siregar and Utama, 2008). In line with agency theory, the existence of institutional ownership is relatively small in the ownership structure of the company will be able to decrease the amount of intellectual capital disclosures in the annual report. This is because manager has no incentive to reveal more to convince stakeholders about the company's performance. This study predicts that the higher the institutional ownership will further enhance the company's intellectual capital disclosure:

- H2: institutional ownership has a positive effect on intellectual capital disclosure index
- H2a: institutional ownership has a positive influence on human capital disclosure index
- H2b: institutional ownership has a positive influence on structural capital disclosure index
- Wc: institutional ownership has a positive effect on relational capital disclosure index



Effect of State Ownership (SOE) against intellectual capital disclosure: There are several companies owned by State Owned Enterprises (SOEs) in Indonesia which have different characteristics with other public companies. The company is owned by the state has a responsibility to the owner that is the people in which the activity of the company is much more public scrutiny. SC)Es have CSR obligations (Community Development Partnership Program) in accordance with Decree no. 236/MBU/2003. The role of state enterprises and concern for the environment that is required by the decree may impact on the public spotlight on the financial statements and annual reports that they spend. SOEs tend to require better disclosure than other companies because the companies of this type is required to be more transparent in its reporting. Some studies examine the ownership of SOEs in relation to accounting with different settings. In Indonesia. Examines more specifically the ownership of SOEs to social responsibility disclosure in the public company and shows that the state-owned enterprises are still not ignoring issues of social responsibility disclosure.

As stated at the outset that the SOE is a public company owned by the community, so, it would be a public spotlight. Supposedly this condition will trigger the management of SOEs to provide better information to the public. One form of information that can be done by SOE is intellectual capital disclosure to the public. intellectual capital disclosure than companies that are not controlled by the state (SOEs):

- H<sub>1</sub>: intellectual capital disclosure index will be higher for firms with state ownership as controller compared to companies without state ownership as a controller
- H3a: human capital disclosure index will be higher for firms with state ownership as controller compared to companies without state ownership as a controller
- H<sub>1u</sub>: structural capital disclosure index will be higher for firms with state ownership as controller compared to companies without state ownership as a controller
- H3c: relational capital disclosure index will be higher for firms with state ownership as controller compared to companies without state ownership as a controller

## MATERIALS AND METHODS

Population and sample: The population of this research are public companies listed on the Indonesia Stock

Exchange (IDX). The selected samples must have data on intellectual capital disclosures in the annual reports 2009-2013. Collecting data for 5 years based on the need for the calculation of several variables that require years of data before and after. Companies in the bank and financial institution sector are excluded.

Data and data sources: This study uses secondary data from company financial reports published from 2008-2014 and annual reports from 2009-2013 obtained from the data source: data center OSIRIS is available in data center economics and Business Faculty of Economics, University of Indonesia and the Library of the Faculty of Economics, Universitas of Indonesia; Jsx.co.id and capital market reference center on the stock exchange; Indonesian Capital Market Directory (ICLMD).

To obtain the data of the company, such as the amount of debt and total equity of the OSIRIS database available in the u. To retrieve data disclosure of intellectual capital will use data from the annual reports of companies listed on the stock exchange 2009-2013 period audited.

Methods of data analysis: To analyze the initial data, we examine first the descriptive statistics of each variable and its correlation with other variables to see if consistent with the predictions and the data are not outliers. The following linear moderated regression is used to test hypothesis:

$$ICDI_{i,t} = \alpha_0 + \alpha_1 FAM_{i,t} + \alpha_2 INST_{i,t} + \alpha_3 SOEs_{i,t} + \varepsilon$$

Where:

Icm, t \_ Index of intellectual capital disclosure. Measured using the method of content analysis on each item related intellectual capital contained in the company's annual report by modifying the methods used by Vergauwen et al. (2007) and Li et al. (2008)

FAM, t \_ Family ownership is measured using dummy variable with a given value of 1 if the firm has a high family ownership and 0 otherwise

INST, t \_ Institutional ownership measured by a dummy variable with a value of 1 for companies that have institutional ownership and 0 otherwise

SOB, t \_ SOE ownership measured by a dummy variable with a value of 1 for companies that are SC)Es and 0 otherwise

To examine the effect of each independent variable to each category of intellectual capital disclosure, then Eq 1, the dependent variable is replaced by the following:

$$\text{HCDI} = \alpha_0 + \alpha_1 \text{FAM} + \alpha_2 \text{INST} - \alpha_3 \text{SOEs} \quad (2)$$

$$\text{RCDI}_{i,t} = \alpha_0 + \alpha_1 \text{FAM}_{i,t} + \alpha_2 \text{INST}_{i,t} - \alpha_3 \text{SOEs}_{i,t} \quad (3)$$

$$\text{SCDI}_{i,t} = \alpha_0 + \alpha_1 \text{FAM}_{i,t} + \alpha_2 \text{INST}_{i,t} + \alpha_3 \text{SOEs}_{i,t} + 8 \quad (4)$$

HCDI<sub>i,t</sub> human capital disclosure index, measured using the method of content analysis on each item related intellectual capital contained in the company's annual report by modifying the methods used in Vergauwen et al. (2007) and Li et al. (2008).

SCDI<sub>i,t</sub> structural capital disclosure index, measured using the method of content analysis on each item related intellectual capital contained in the company's annual report by modifying the methods used in the study (Vergauwen et al., 2007; Li et al., 2008).

RCDI<sub>i,t</sub> relational capital disclosure index, measured using the method of content analysis on each item related intellectual capital contained in the company's annual report by modifying the methods used in the study (Vergauwen et al., 2007; Li et al., 2008).

#### Operationalization of variables

**Dependent variable; intellectual capital disclosure:** To measure the disclosure of intellectual capital will use Intellectual Capital Disclosure Index (II-DI). This index will be created with the content analysis of the items of intellectual capital disclosure in annual reports. The components used to measure the level of intellectual capital disclosure is a component drawn from the research of Li et al. (2008). Size disclosure is divided into 3 categories: Human Capital Disclosure (HCDI) which consists of 22 items, the Disclosure of Structural Capital (STCDI) consists of 18 items and disclosure of Relational Capital (RCDI) consisting of 21 items. So that, there will be 61 items to be analyzed.

To create intellectual capital disclosure index, each item will be given a score of 1 if a company disclosure the items. These scores will then be added together with the rest of the score obtained in each category and is weighted by the total items per category to obtain an index for each category. Intellectual capital disclosure index is an index of the total of the three index categories.

#### Ownership structure

**Family ownership (FAM):** This study will use the definition of family within a family of companies following the definition used by Siregar (2005), namely: all the individuals and companies whose ownership is registered (ownership >5% shall be recorded) which is not a public company, county, institution finance and the

public (individuals whose ownership is not required to be recorded).

The sample company will also be classified into two groups follow Siregar (2005) that firms with high family ownership and firms with low family ownership. The proportion of is considered to be high and <50% is considered to be low. This variable is measured by a dummy variable with a given value of 1 if the firm has a high family ownership and 0 for the other.

**Institutional ownership (INST):** Institutional ownership will be measured to see whether the sample firms owned by institutional Investors that the company non-affiliated with financial Institutions such as insurance companies, banks, pension funds and investment banking. This variable is a continuous variable using the total number of ownership by institutions.

**Ownership of SOEs (SC):** Ownership is obtained from the company's annual report sample whether there is a State Owned Enterprise or not. This variable is measured using dummy with value of 1 for state-owned companies and 0 otherwise.

## RESULTS DISCUSSION

**Description of data:** The samples used in this study is relatively large, comprising 69.0% of the population and the overall sample of companies observed for a total period of 7 years sample firms with outliers are not excluded from the sample using winsorized method. Based on the sample selection procedure used, the samples obtained were 284 companies.

This study also examines the effect of each independent variable which determines the disclosure of intellectual capital on the disclosure of any category of intellectual capital disclosure that disclosure of relational capital (RCDI), Capital Disclosure (HCDI) and Structural Capital Disclosure (SCDI). Test results on the impact of ownership structure to the disclosure of intellectual capital.

**H1-H3 of the study** was on the effect of ownership structure on the disclosure of intellectual capital. H1 states that intellectual capital disclosure index will be lower for firms with high family ownership compared to firms with low family ownership. Based on test results obtained estimated coefficients are marked with numbers instead of the initial prediction is positive at 0.0054. t-values for variables influence the ICDI FAM obtained only by 0.84 which means not statistically significant. These results indicate that the prediction of the existence of a negative effect on family ownership on the disclosure of intellectual capital is not evident in this study. Testing H2: about the influence of family

ownership on the disclosure of relational capital in the company's annual report shows the results of the estimated coefficient of 0.00043 and t-value of C). 19. These results also show that relational capital disclosure in this study was not shown to be affected by high family ownership. Test results for Hib on impact of high family ownership on the disclosure of human capital is also not evident in this study because the estimation results obtained coefficients of -0.001 1 and

t-values were not significant at -0.52. Meanwhile, for H1c about the effect of high family ownership of the structural capital disclosure in this study, the results of the estimated coefficient of 0.0041 and a t-value of 1.43. It can be concluded that high family ownership not evident effect on intellectual capital disclosure and the disclosure of each category of intellectual capital in this research.

The hypothesis of this study was on the effect of ownership structure on the disclosure of intellectual capital that institutional ownership is predicted to positive effect. The estimation results show the coefficient for INST variable is equal to a positive value is 0.025 with a t value of 3.08 which means significant at the 1% level. It can be concluded that H1 is proven research that institutional ownership has a significant positive influence on the disclosure of intellectual capital. Tests on H2a in this study on the effect of institutional ownership on the relational capital disclosure showed significant results at the level of 1% with a coefficient value of 0.0082 and a t-value of 2.87. H2b states that firms with institutional ownership would make the disclosure of human capital is higher than firms without institutional ownership. Results of tests of H2b shows the estimation results of 0.0058 and a t-value of 2.21. this means that H2b proven in this study. Tests on H3 in this study results 0.0081 coefficient with a value of 2.25 t. It can be concluded that disclosure of structural capital for the company with institutional ownership is higher than in firms without institutional ownership.

The hypothesis of this study states that intellectual capital disclosure index will be higher for firms with ownership of SOEs compared taking into companies without ownership of SOEs. The test results indicate that the coefficient for the variable SOEs have result of estimate coefficient of 0.044 with a t-value of 3.31 which is statistically significant at the 1% level. Thus this hypothesis can be verified by the data in this study. Tests on H4a in this study on the influence of the ownership of SOEs to relational capital disclosure showed significant results at the level of 1% with a coefficient value of 0.0068 and a t-value of 1.47. H4b stated that the company with SOEs ownership will do the disclosure of human capital higher than companies without ownership of SOEs. Test results on H4b shows the estimation results of 0.0014 and a t-value of 3.28. This means that H4b proven in this study. Tests on H4c in this study showed results estimation coefficient of 0.016 t-value of 2.80. It can be concluded that the company SOEs ownership has disclosure of structural capital higher than in companies without ownership of SOEs (Table 1).

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Table 1: Summary of testing results model 1

		Prediction Estimation		
H Path		Sign	coeff.	t-values Conclusion
FAM-ICDI	12:140.08	-	0.0054	Not significant
FAM-RCDI		-	0.00043	12:170.19 Not
significant FAM-		-	-0.0011	HCDI 0.13-0.52 Not
significant		-	0.0041	
H2a HIC FAM-SCDI		+	0.025	0.081.43
H2b Not significant		+	0.0082	
H2c INST-ICDI		+	0.0058	12
H2d 143.08		+	0.0081	Significant
H3 INST-RCDI		+	0.044	12:172.87
Significant		+	0.0068	
INST-		+	0.0014	
		+	0.016	HCDI 0.132.21Significant
INST-SCDI 0.082.25	Significant			SOE-ICDI 12:143.31 Significant
H3a SOE-RCDI				12:171.47 Not significant
SOE-HCDI 0.133.28	Significant			H3c SOE-SCDI2.80 Significant

## CONCLUSION

This study aimed to examine the effect of three types of ownership structure on the disclosure of intellectual capital as the controlling family ownership, institutional ownership and state ownership as a control. This study was conducted on companies listed on the Indonesian stock exchange during the 5 years from 2009-2013. Based on the results of empirical testing conducted several conclusions can be drawn as follows:

The level of family ownership as the controlling owner no proven effect on the disclosure of intellectual capital. In company with no controlling family ownership as distinct influence on the level of intellectual capital disclosure than companies without a controlling family ownership. Possible causes no good evidence that differences in the effect of the level of family ownership this is because in this study did not occur entrenchment through reporting mechanisms of intellectual capital from its majority shareholder who is also a high family ownership as a control to the minority shareholders. It was alleged that the owner of the family both as a controller and not the controller has the same view of the disclosure of intellectual capital, so that, they are less concerned with the intellectual capital reports can be seen from the figure that the average level of intellectual capital disclosure in firms with family ownership is still relatively small.

The results of this study prove that higher institutional ownership will increase the company's intellectual capital disclosure. These results are in line with the statement that the institution will tend to sue the owner for more information on companies because they tend to be more intelligent in processing the information obtained in comparison with other investors (Siregar and Utama, 2008).



Overall the study found that companies with state ownership as the controller will make disclosure of intellectual capital is higher than the company without state ownership as a control. this shows that the company is owned by the state usually in the public eye, so, it will trigger them to make more efforts to provide information to the owners of their intellectual capital.

### LIMITATIONS

<sup>13</sup> This study has several limitations that must be considered in interpreting the results of this study and can be used as an opportunity to conduct further research. Some of these limitations include: Intellectual capital disclosure index measurement in primary testing method of content analysis for the entire sample whereas in additional testing using the word count is only performed on most samples only. This leads to unequal sample sizes and few samples for testing by the method of word count, so, the estimation method for different sub-samples of the main testing because the data only slightly.

<sup>28</sup> Subsequent research on intellectual capital disclosure is necessary to use intellectual capital disclosure index measurement of different methods such as word count and was conducted on all samples. this led to the number of samples that are not the same and only a few samples for testing by the method of word count, so that, the estimation method for the sub-sample different from the main test because the data only slightly.

This research has not separated list of items the disclosure of intellectual capital that is mandatory with the voluntary. The possibility that some items which are used are already required to be disclosed in the company's annual report which is likely to lead to an interpretation of the results of this study are inadequate. Future studies are expected to separate a list of items of intellectual capital disclosure in a category is mandatory and the voluntary, so, it will provide interpretation and better benefits.

This study has not considered the possible influence over time from year to year. The use of the data for 5 years in this study is only done with the purpose of expanding the number of observations with the aim that can be estimated with the method of weighted least squares and not to see any difference between the effect of time.

Future studies need to consider the possible influence over time from year to year. Necessary to test that can represent the effect of different time can provide a richer analysis results.

### IMPLICATIONS

The results of this study have implications for the development of science related to the findings of this study indicate the need to further research on the determinants of intellectual capital disclosure. The use of the index calculation methodology disclosure of intellectual capital necessary to use methods other than content analysis. Study was able to prove that the different methods is by using the method of word count turned out to be the results of different studies. Therefore, subsequent research should consider the use of other methods such as word count of this instance.

In examining the intellectual capital must be separated by categories of intellectual capital. The results of this study showed a difference in the results between the categories that led to significant differences in the relationship between the variables studied. Average index of intellectual capital disclosure in companies listed on the stock exchange was relatively small at around 20%. The issuer needs to increase the intellectual capital disclosures in the annual report as an important information for Investors. Financial authority as regulators need to further encourage listed companies to improve their disclosure of intellectual capital. From the test results on the reliability and validity of each item of intellectual capital disclosure measurements used in this study proved to be valid and reliable. Therefore, for an item that is still voluntary need for rules that require to be disclosed in the company's annual report. For example, for the category of human capital could be required qualitative descriptions relating to the advantages/strengths of the employees of the company with indicators such as the average age of employees of the company. Other examples such as employee productivity can be measured by output per employee or output per hour which shows the added value and efficiency of employees. For the category of structural capital such as the regulator may ask the issuer to disclose on intellectual property which includes patents, copyrights, trademarks, trade secrets, commercial license rights and other related fields. Research and Development (R&D) which can refer to a long-term activity-oriented business practices of the future for example, the policy of R&D, planning, progress, budget, the level of success of the policy. In the category of relational capital, regulators can ask the companies listed on the stock exchange to disclose about policies and programs to build relationships with customers such as customer satisfaction surveys and initiatives taken for improvement, customer complaints management and a variety of activities or indicators that can improve customer relationships such as timely delivery,

convenience services and so on. How the company's efforts to obtain new customers how to retain existing customers and includes information about the market share leadership position in the enterprise market.

Based on these results, it turns out there is a difference in the results per category of intellectual capital. Therefore, management companies need to pay more attention to the items or categories which must be improved in terms of disclosure.

### SUGGESTIONS

Future studies need to use the data in addition to secondary data from annual reports and financial statements of the company for example by conducting interviews or questionnaires to measure intellectual capital and competitive strategy. By using primary data is expected to provide a different analysis with the use of secondary data only.

Future studies can distinguish family ownership as a controller which is also an affiliated group or a conglomerate and that is not including the conglomerate group as done by Siregar and Utama (2008). This separation needs to be done to get a more in-depth analysis of the influence of family ownership as a control group which also includes the conglomeration of intellectual capital disclosure.

Future studies should consider the use of information extraction to calculate the index of intellectual capital disclosure by the method of word count so much easier and can catch all the words associated with disclosure instrument. This method can be carried out in line most likely will impose the use of Extensible Business Reporting Language (XBRL) in the company's annual report in which the use of tagging on each keyword that is needed will be directly related to the overall instrument in question, so that, will help the process of counting the number of words to be more simple.

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