

THE DETERMINANTS OF INTELLECTUAL CAPITAL DISCLOSURE

HERRI SUGANDI
IRWANTO HANDOJO

Trisakti School of Management
herri.sugandi@gmail.com

Abstract: The objective of this research is to obtain empirical evidence about the influence of company size, corporate governance, leverage, profitability, industry, listing age, type of auditor, and intellectual capital level as independent variables on intellectual capital disclosure as dependent variable in non-financial companies listed in Indonesian Stock Exchange. The population in this research is all listed non-financial companies in Indonesia Stock Exchange during 2013 to 2015. Sample is obtained through purposive sampling method, in which 185 listed non-financial companies in Indonesia Stock Exchange meet the sampling criteria resulting 555 data available are taken as sample. Multiple linear regression is used as the data analysis method in this research. The result of this research shows that three variables – company size, type of auditor, and industry statistically have influence on intellectual capital disclosure, while corporate governance, leverage, profitability, listing age, and level of intellectual capital statistically do not have influence on intellectual capital disclosure of listed non-financial companies in Indonesia.

Keywords: Intellectual capital disclosure, company size, corporate governance, leverage, profitability, age, type of auditor, level of intellectual capital

Abstrak: Tujuan penelitian adalah untuk memperoleh bukti empiris tentang pengaruh ukuran perusahaan, tata kelola perusahaan, leverage, profitabilitas, industri, usia listing, jenis auditor, dan tingkat modal intelektual sebagai variabel independen pada pengungkapan modal intelektual sebagai variabel dependen dalam perusahaan keuangan yang terdaftar di Bursa Efek Indonesia. Populasi dalam penelitian ini adalah semua perusahaan non keuangan yang terdaftar di Bursa Efek Indonesia selama tahun 2013 hingga 2015. Sampel diperoleh melalui metode purposive sampling, di mana 185 perusahaan non-keuangan yang terdaftar di Bursa Efek Indonesia memenuhi kriteria pengambilan sampel sehingga 555 data yang tersedia adalah diambil sebagai sampel. Regresi linier berganda digunakan sebagai metode analisis data dalam penelitian ini. Hasil penelitian ini menunjukkan bahwa tiga variabel - ukuran perusahaan, jenis auditor, dan industri secara statistik memiliki pengaruh terhadap pengungkapan modal intelektual, sedangkan tata kelola perusahaan, leverage, profitabilitas, daftar umur, dan tingkat modal intelektual secara statistik tidak memiliki pengaruh terhadap intelektual. pengungkapan modal perusahaan non-keuangan yang terdaftar di Indonesia.

Kata kunci: Pengungkapan modal intelektual, ukuran perusahaan, tata kelola perusahaan, leverage, profitabilitas, industri, usia, jenis auditor, tingkat modal intelektual

INTRODUCTION

Globalization, multilateral agreement, and free trade are just beginning of the fast-changing era where transfer of tons of data and information, and building interactions can be done rapidly even though geographical boundaries do exist. This phenomenon cause the absence of artificial barriers between individuals and companies who are separated geographically to interact with each other. To remain competitive, company should utilize spreading resources across geographical boundaries using technology. This matter resulting in companies' management pattern to shift from labor-based management to knowledge-based management (Soebyakto et al., 2015). This shift calls for recognition of another resources other than tangible resources which is intellectual capital (IC) resources, such as knowledge workers, corporate culture and business strategies, which are equally crucial in supporting companies to stay competitive and sustain their growth, but have not previously been stated in corporate financial report (Rashid et al., 2012). García-Meca and Martínez (2005) in Ferreira et al. (2012) states that since adequate accounting processes for measuring and reporting IC resources are lacking, managers of the companies are voluntarily disclose information pertaining to them and their contribution to the firms' value creation.

Managers' actions in voluntarily disclosing IC are more about how to ensure that the issues of intangible nature of the resources of companies are presented and communicated fairly and adequately in appropriate reports, especially the annual reports (Asare et al., 2014). Therefore, lots of research on intellectual capital disclosure (ICD) has been conducted with the annual reports as the reference (see, for example, Goh and Lim, 2004; Oliveira et al., 2006; and Guthrie et al., 1999). Based on those previous researches, ICD practice is known to be affected by many factors (Soebyakto et al.,

2015). But the results of some studies that using same factors differ from each other.

This research uses resource based theory, stakeholders theory, legitimacy theory, information asymmetry and signaling theory as the basis for hypothesis development. Resource-based approach is a theory that was developed to analyze corporates' core and distinctive competencies that are derived from corporates' resources. Resources, as explained by Wheelen et al. (2015, 162), are an organizations' assets that include (1) tangible assets, such as plant, equipment, and location, (2) human assets, such as number of employees, their skills, and motivation, and (3) intangible assets, such as patents, culture, and reputation. IC which is classified as an intangible asset has great impact to corporates performance and value. Therefore, the choice of disclosing IC will affect corporate value in the perspectives of stakeholders.

Freeman and Reed (1983) defines stakeholders into two senses: wide sense of stakeholder and narrow sense of stakeholder. The wide sense of stakeholder includes any identifiable group or individual who can affects or is affected by corporates' actions and decisions. The narrow sense of stakeholder includes any identifiable group or individual who plays vital role in determining corporates' sustainability. Stakeholder theory states that stakeholders do have their rights to know about companies' activities and how those activities will affect them, despite the fact that stakeholders might choose not to use the information, or stakeholders cannot directly contribute to companies' survivability (Soebyakto et al., 2015).

Stakeholders exists as the society that has interest to corporates actions and ensuring those actions to be within the bounds and norms allowed by the society. Dowling and Pfeffer (1975, 122) in Kamath (2014) defines legitimacy theory as the situation when the value system of the entity is in conformity with the value system of a larger social system in which the entity is

belonged to. Organization seek legitimacy under two particularly important dimensions which are (1) between pursuing continuity and credibility and (2) between seeking passive support and active support (Suchman, 1995). In order to obtain and maintain such legitimacy, companies need to be appeared as the entity that always follow societal value which can be achieved through companies' prepared reports (Guthrie et al., 2004). If companies have a need to disclose IC, they are more likely to do so, since tangible assets, which are considered as traditional symbol of corporate success, cannot be used to legitimize their status in the society.

When companies are the one who decide what to disclose in corporate reports, information asymmetries are inevitable. Signaling theory suggests that the party possessing more information can reduce those information asymmetries by sending signals to interested parties. It also suggests that high quality companies should signal their advantages, such as IC, to the market because it would make investors and other stakeholders to reassess the value of the company, and therefore reduce the cost of capital (An Yi et al., 2011).

Intellectual Capital Disclosure

Intellectual capital disclosure (ICD) is part of the voluntary disclosure in the annual report which has become the source of information for making investment decisions. Guthrie and Petty (2000) in their study found that there is no established framework for reporting IC. In addition to that, there are only few companies that have actively measure and externally report this IC information. These findings support the view that IC is difficult to be expressed in a reliable and consistent message for stakeholders through annual report. Thus, IC information is spread among 3 elements of IC namely internal capital, external capital and human capital (Soebyakto et al., 2015; Guthrie and Petty, 2000).

Company Size and Intellectual Capital Disclosure

The size of the companies indirectly shows their level of resources. The larger the companies are, the more resources they have. Company size is determined by the value of total asset shown on the statement of financial position (balance sheet) reported at the end of the year. Ferreira et al. (2012) and Soebyakto et al. (2015) use the logarithm of the total asset to determine the size of the company.

An Yi et al (2011) study has empirically shows that large companies have various forms of intellectual capital resources, and therefore they are able to disclose more information about IC. In addition, Owusu-Ansah (1998) argues that large companies tend to have access to better technology that will support them in producing less costly information. Thus, those large companies have a higher capability in disclosing more information.

H_1 : Company size has influence on intellectual capital disclosure.

Corporate Governance and Intellectual Capital Disclosure

Soebyakto et al. (2015) argues that corporate governance is seen as a better way in describing the rights and obligations of each stakeholder group within a company. The concentration of ownership is used as a proxy of corporate governance following the research conducted by Soebyakto et al. (2015). It is measured by the percentage of shares owned by three major shareholders (Soebyakto et al., 2015; Oliveira et al., 2006).

Study conducted by Oliveira et al. (2006) showed that firms with lower shareholder concentration are appeared to be disclosing more information about intangible assets voluntarily. According to Ferreira et al. (2012), the potential of agency conflicts is higher in the firms that have lower ownership concentration. This is caused by conflict of interest between the principal (shareholders) and the agent (management). Shareholders who are not

involved directly in managing the company may arrived at information gap between the owners and managers as could be explained by information asymmetry. These companies are likely to experience more pressure from the shareholders to disclose more information so as to reduce agency cost as well as information asymmetry (Ferreira et al., 2012).

H₂: Corporate governance has influence on intellectual capital disclosure.

Leverage and Intellectual Capital Disclosure

Leverage measures the intensity of company's dependency of debt in financing its investment (Soebyakto et al., 2015). Leverage can be calculated by the ratio of company's total debt and total equity reported on balance sheet at the end of certain year. When companies' assets are financed more by creditors rather than investors, it will incur higher agency cost due to potential wealth transfers from debt-holders to shareholders and managers (Ferreira et al., 2012). To reduce the cost of the agency, the management may reveal more information to the creditors to match the increased level of leverage (soebyakto et al., 2015). Rashid et al. (2012) argues ICD is significantly and positively affected by leverage because companies with high levels of debt have an incentive to signal their favorable financial standing.

H₃: Leverage has influence on intellectual capital disclosure.

Profitability and Intellectual Capital Disclosure

Profitability measures the company's ability to make profit with invested assets. Soebyakto et al. (2015) use Return on Assets in determining company's profitability. According to Ousama et al. (2012), profitable companies may obtain incentives in providing signals to stakeholders that they have performed better than the other companies. When part of their profit is due to their IC, then they are more likely to disclose more information about their IC. Khelif and Souissi (2010) also add that managers of

profitable companies may obtain personal advantage by signaling shareholders about their superior managerial abilities. They do this to maintain their positions and compensation arrangements (Oliveira et al., 2006).

H₄: Profitability has influence on intellectual capital disclosure.

Industry and Intellectual Capital Disclosure

Companies are grouped based on their operational sectors. The classification of the sectors is based on listed companies by entry point summarized by Indonesia Stock Exchange. There are 8 sectors in total which are agriculture (I₁), Mining (I₂), Basic Industry and Chemicals (I₃), Miscellaneous Industry (I₄), Consumer Goods Industry (I₅), Property, Real Estate and Building Construction (I₆), Infrastructure, Utilities, and Transportation (I₇), and Trade, Services & Investment (I₈). Ferreira et al. (2012) states that companies belonging to the similar industry may have incentives in disclosing more information, but the amount of information disclosed may be less than the other companies that belong to different industry. Brüggen et al. (2009) argues that ICD practices, which is specific to some industries, prefers to follow the general practice of an industry than addressing information asymmetry with individually different disclosure practice.

H₅: Industry has influence on intellectual capital disclosure.

Listing Age and Intellectual Capital Disclosure

Listing age measures the age of a company started from the date it was listed on stock exchange. Length of listing on IDX is measured by number of days listed scaled by 365 days a year. Soebyakto et al. (2015) and Li et al. (2008) use the logarithm of length of listing on IDX (listing age) in operationalizing this variable. Companies that are newly listed on the stock exchange tend to rely more on the external fund raising compared with the company that has already been listed earlier, as stated by

Barnes and Walker (2006) in Li et al. (2008). In addition to that, investors view investment in the older companies as less risky than in the newly listed one (Rashid et al., 2012). This will force the newly listed companies to release more information including IC information because they have a greater necessity in reducing skepticism and increase investor confidence to raise funds.

H₆: Listing age has influence on intellectual capital disclosure.

Type of Auditor and Intellectual Capital Disclosure

Rashid et al. (2012) states that auditors have an important role in supporting the credibility of disclosures and reducing the information asymmetry between investors and issuers. But how well this role is conducted by the auditors may depend on the size of the external audit firm. Type of auditor is operationalized using dummy variable of 1 if the company is audited by the Big 4 and 0 if the company is not audited by the Big 4. The information used to determine the type of auditor is from the audit report on the company's annual report.

Owusu-Ansah (1998) argues that large independent audit firms have a greater potential exposure to litigations because they have many clients and are liable for losses caused by material misstatement in the annual reports of those clients. Thus, large audit firms have greater incentives in providing advice to their clients about the compliance of auditing and accounting standards as well as the necessary disclosure of information in the annual report, including IC information, so as to show a true and fair view of the company (Ousama et al., 2012).

H₇: Type of auditor has influence on intellectual capital disclosure.

Level of Intellectual Capital and Intellectual Capital Disclosure

Company's level of intellectual capital is determined by the ratio of market capitalization to equity (Ferreira et al., 2012). Market capitalization variable is obtained by multiplying shares outstanding with the closing price of company's stock at the end of certain year. Ferreira et al. (2012) states that companies who are having high level of IC performance are likely to signal positive information to the market. Brüggen et al. (2009) argues that industries which rely more on IC will disclose more information on IC.

H₈: Level of intellectual capital has influence on intellectual capital disclosure.

RESEARCH METHODS

The population of this research is all non-financial companies that are listed on Indonesia Stock Exchange between 2013 and 2015. So as to obtain representative sample, purposive sampling method is used by filtering listed companies through specified criteria (Soebyakto et al., 2015). Researcher obtained a final sample that contain of 184 companies that represent 552 observed data which will be used in the regression model by using multiple regression method. The empirical model used to test the hypotheses is stated as follows:

$$ICD_{j,t} = \beta_0 + \beta_1(\text{LogSIZE}_{j,t}) + \beta_2(\text{CG}_{j,t}) + \beta_3(\text{LEV}_{j,t}) + \beta_4(\text{ROA}_{j,t}) + \beta_5(\text{LogLISTING}_{j,t}) + \beta_6(\text{TA}_{j,t}) + \beta_7(\text{ICLevel}_{j,t}) + \sum \beta_8 s_{(ls,j)} + \epsilon_{s,j,t}$$

Where, for company j in the year of t:

ICD	Intellectual Capital Disclosure
β_0	Intercept
$\beta_{1,2,3,4,5,6,7,8}$	Variable coefficients
LogSIZE	Company Size (Log of total assets)
CG	Corporate Governance (ownership concentration)
LEV	Leverage

ROA Assets)	Profitability (Return on Assets)	ls,j	Dummy for sector s; 1 if company belongs to sector s, 0 otherwise
LogLISTING	Listing Age (Log listing age on the stock exchange)	ϵ	residual of error
TA 4, 0 otherwise)	Type of Auditor (1 for Big 4, 0 otherwise)	RESULTS	
ICLevel	Intellectual Capital Level		

Table 1 Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
ICD	552	0.12	0.8	0.4093	0.1159
LogSIZE	552	10.0150	14.6690	12.4315	0.7190
CG	552	0.1812	0.9818	0.6646	0.1709
LEV	552	-4.7586	18.1924	1.1203	1.4085
ROA	552	0.000242	0.4579	0.0807	0.0736
LogLISTING	552	-1.4483	1.5314	0.9407	0.4618
ICLevel	552	-41.0779	246.4597	3.0297	11.6066

Table 2 Hypothesis Testing Result

Variable	Beta	t	Sig.
(Constant)	-0.6101	-6.7941	0.0000
LogSIZE	0.0764	11.4276	0.0000
CG	-0.0060	-0.2435	0.8077
LEV	-0.0007	-0.1785	0.8584
ROA	0.1059	1.6086	0.1083
LogLISTING	0.0118	1.3614	0.1740
TA	0.0370	3.8126	0.0002
ICLevel	0.00002	0.0512	0.9592
I1	0.0874	4.4022	0.00001
I2	0.1233	4.8887	0.000001
I3	0.0342	2.3947	0.0170
I4	0.0465	2.8076	0.0052
I5	0.0640	4.2995	0.00002
I7	0.0199	1.2358	0.2171
I8	0.0512	4.5247	0.000007

CONCLUSION

The t-test result shows that company size (LogSIZE) variable has a significance level of 0.0000 which is below 0.05. This means that Ha1 is supported. This shows that company size has influence on ICD. Coefficient of company

size variable is 0.0764 and shows positive relationship between company size and ICD. It means when the size of company increase, company tends to increase its disclosure on IC. Thus, those large companies might have a higher capability in disclosing more information because they have various forms of intellectual

capital resources and access to better technology that will support them in producing less costly information. Other possibilities might be the increased of complexity as company grow by size will cause companies to disclose more information in order to satisfy demanded disclosure level as it has been regulated under annual report presentation rules. This shows the effectiveness of Indonesian regulations on determining corporate disclosures, including ICD.

Type of auditor (TA) variable has a significance level of 0.0002 which is below 0.05. This means that Ha7 is supported. This shows that type of auditor has influence on ICD. Coefficient of type of auditor variable is 0.0370 and shows positive relationship between type of auditor and ICD. It means when company is audited by big four audit firm, company tends to increase its disclosure on IC. It means large audit firms have greater incentives in providing advice to their clients about the compliance of auditing and accounting standards as well as the necessary disclosure of information in the annual report, including IC information.

The t-test result shows that there are 6 industry variables with significance level below 0.05. This means that Ha5 is supported. This shows that industry has influence on ICD. Those industries are agriculture (I1) with significance level of 0.00001, mining (I2) with significance level of 0.000001, chemicals (I3) with significance level of 0.0170, miscellaneous industry (I4) with significance level of 0.0052, consumer goods industry (I5) with significance level of 0.00002, and trade, services & investment (I8) with significance level of 0.000007. Agriculture (I1) has a coefficient of 0.0874, mining (I2) has a coefficient of 0.1233, chemicals (I3) has a coefficient of 0.0342, miscellaneous industry (I4) has a coefficient of 0.0465, consumer goods industry (I5) has a coefficient of 0.0640, and trade, services & investment (I8) has a coefficient of 0.0512. Those coefficients show positive relationship between industry variables and ICD but with

different magnitudes. It means different industry sectors have different level of ICD. This result may explain that ICD practices prefers to follow the general practice of an industry than addressing information asymmetry with individually different disclosure practice. It might also explain that companies which have been categorized into certain sector will follow specified disclosure in annual report presentation rules up to the minimum level of disclosure for that industry sector.

Corporate governance (CG) variable has a significance level of 0.8077 which is above 0.05. This means that Ha2 is not supported. This shows that corporate governance has no influence on ICD. This could mean that shareholders who are not involved directly in managing the company could obtain necessary information they need from other sources in order to reduce the existing information asymmetry.

Leverage (LEV) variable has a significance level of 0.8584 which is above 0.05. This means that Ha3 is not supported. This shows that leverage has no influence on ICD. This might explain that higher debt financing does not cause company to disclose more about IC in order to reduce the possibility of increased agency cost. Profitability (ROA) variable has a significance level of 0.1083 which is above 0.05. This means that Ha4 is not supported. This shows that profitability has no influence on ICD. It seems companies' performance do not cause companies to have incentives in disclosing more about IC resources they have.

Listing age (LogLISTING) variable has a significance level of 0.1740 which is above 0.05. This means that Ha6 is not supported. This shows that listing age has no influence on ICD. It seems that Indonesian rules on annual report presentation are able to make Indonesian companies to follow specified disclosures whether they are old companies or newly listed companies.

Level of intellectual capital (ICLevel) variable has a significance level of 0.9592 which

is above 0.05. This means that Ha8 is not supported. This shows that level of intellectual capital has no influence on ICD. Since market capitalization is investors' perceived values of a company, those investors might apply other

considerations over companies' resources and capabilities. Thus, there is small correlation between ICD and investors' perceived values of those companies.

REFERENCES:

Asare, Nicholas, Jacob Sekyi Arku, and Joseph Mensah Onumah. 2014. Intellectual Capital Disclosures in Ghana: The Views of Stakeholders. *Research Journal of Finance and Accounting*, Vol. 5, No. 18: 51-63.

Brüggen, Alexander, Philip Vergauwen, and Mai Dao. 2009. Determinants of intellectual capital disclosure: evidence from Australia. *Management Decision*, Vol. 47, No. 2: 233-245.

Ferreira, Ana Lúcia, Manuel Castelo Branco, and José António Moreira. 2012. Factors influencing intellectual capital disclosure by Portuguese companies. *International Journal of Accounting and Financial Reporting*, Vol. 2, No. 2: 278-298.

Freeman, R. Edward, and David L. Reed. 1983. Stockholders and Stakeholders: A New Perspective on Corporate Governance. *California Management Review*, Vol. 25, No. 3: 88-106.

Goh, Pek Chen, and Kwee Pheng Lim. 2004. Disclosing intellectual capital in company annual reports: Evidence from Malaysia. *Journal of Intellectual Capital*, Vol. 5, No. 3: 500-510.

Guthrie, J, R Petty, K Yongvanich, and F Ricceri. 2004. Using content analysis as a research method to inquire into intellectual capital reporting. *Journal of Intellectual Capital*, Vol. 5, No. 2: 282-293.

Guthrie, James, and Richard Petty. 2000. Intellectual capital: Australian annual reporting practices. *Journal of Intellectual Capital*, Vol. 1, No. 3: 241-251.

Guthrie, James, Richard Petty, Fran Ferrier, and Rob Wells. 1999. *There is no Accounting for Intellectual Capital in Australia: a review of annual reporting practices and the internal measurement of Intangibles*. Paper presented at OECD Symposium on Measuring and Reporting of Intellectual Capital, June 9-11, in Amsterdam, Australia.

Kamath, G. Bharathi. 2014. A Theoretical Framework for Intellectual Capital Disclosure. *Pacific Business Review International*, Vol. 6, No. 8: 50-54.

Oliveira, Lídia, Lúcia Lima Rodrigues, and Russell Craig. 2006. Firm-specific determinants of intangibles reporting: evidence from the Portuguese stock market. *Journal of Human Resource Costing & Accounting*, Vol. 10, No. 1: 11-33.

Ousama, Abdulrahman Anam, Abdul-Hamid Fatima, and Abdul Rashid Hafiz-Majdi. 2012. Determinants of intellectual capital reporting: Evidence from annual reports of Malaysian listed companies. *Journal of Accounting in Emerging Economies*, Vol. 2, No. 2: 119-139.

Owusu-Ansah, Stephen. 1998. The Impact of Corporate Attributes on the Extent of Mandatory Disclosure and Reporting by Listed Companies in Zimbabwe. *The International Journal of Accounting*, Vol. 33, No. 5: 605-631.

Rashid, Azwan Abdul, Muhd Kamil Ibrahim, Radiah Othman, and Kok Fong See. 2012. IC disclosures in IPO prospectuses: evidence from Malaysia. *Journal of Intellectual Capital*, Vol. 13, No. 1: 57-80.

Soebyakto, Bambang Bemby, Mira Agustina, and Mukhtaruddin. 2015. Analysis of Intellectual Capital Disclosure Practises: Empirical Study on Services Companies Listed on Indonesia Stock Exchange. *Journal on Business Review*, Vol. 4, No. 1: 80-96.

Suchman, Mark C. 1995. Managing legitimacy: Strategic and institutional approaches. *The Academy of Management Review*, Vol. 20, No. 3: 571-610.

Wheelen, Thomas L., J. David Hunger, Alan N. Hoffman, and Charles E. Bamford. 2015. *Strategic Management and Business Policy: Globalization, Innovation, and Sustainability 14th edition*. London: Pearson Education.