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Volume 8 Issue 3, March 2019: Page 4

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[Intellectual Capital Disclosure in Indonesia](#)

Authors: Ni Ketut Kartika Amanda Astiti, Ni Made Dwi Ratnadi, Nyoman Wijana Asmara Putra, Gayatri

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Intellectual Capital Disclosure in Indonesia

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Abstract: *Technological developments that occur in the knowledge-based era force companies to no longer depend on tangible assets such as land, buildings, and property, but also intangible assets such as knowledge and information technology. Several companies in Indonesia have implemented the use of intellectual assets owned, this is indicated by the increasing number of companies that use the basis of technology and knowledge in carrying out their activities and then report on the use of intellectual assets to stakeholders. This is in accordance with resource based theory (RBT) which states that if the company owns and manages resources efficiently and effectively, the company will have good financial performance and have an impact on firm value that also increases. The research objective is to prove empirically the effect of intellectual capital disclosure on firm value with profitability as an intervening variable. The population used is companies in the financial, telecommunications and pharmaceutical industry groups listed on the Indonesia Stock Exchange in 2012-2017. The method of determining the sample is purposive sampling, obtained by 43 companies. Data were analyzed by path analysis. The results of the analysis show that the higher disclosure of the company's intellectual capital causes profitability to decline. The higher the company's ability to generate profits causes firm value tends to increase. The higher disclosure of the company's intellectual capital causes the market to appreciate with increasing market value. And the higher the disclosure of intellectual capital causes profitability as short-term performance decreases but causes firm value as a long-term performance tends to increase.*

Keywords: disclosure of intellectual capital; profitability; firm value

1. Introduction

One of the objectives of the company's establishment is to maximize firm value. Firm value is the investor's perception of the company's prospects in the future. In companies going public, firm value can be reflected in the price of shares traded in the capital market. Firm value is a measure of the success of management performance in past operations and future prospects so that it will be able to realize the trust of the company's shareholders. The firm value is an important consideration for every investor because if the company is able to maintain a high corporate value, the survival of the company will be guaranteed and the welfare of shareholders will be achieved (Liestyasih, 2017). A high firm value will attract investors to invest because the company is considered capable of providing higher returns from the funds invested by investors. One measurement of firm value other than stock price is the price to book value (PBV) ratio. PBV ratio is defined as a comparison of the market value of a stock against the company's book value. The PBV ratio shows how far a company is able to create firm value relative to the amount of capital invested.

One way to increase firm value is by owning and managing strategic assets that are not owned by competitors, one of them is intellectual assets. The shift of the traditional economic era towards knowledge-based requires companies not only to use tangible assets, but also intangible assets. Intangible assets known as intellectual assets in the form of knowledge, innovation and information technology are used by companies to carry out business activities. Intellectual assets are a distinctive feature of the company and are not owned by competitors and are an advantage for companies that differentiate from other companies. In Indonesia, intellectual capital has long been used by companies to increase competitiveness in the eyes of customers. With the development of technological trends, more and more companies are using an intellectual capital base in carrying

out company activities. Intellectual capital is able to provide efficiency not only for the company but also for the customer. Companies that are able to utilize intellectual capital will create creative innovations and this will encourage the emergence of the company's competitive advantage. The process of creative innovations produced through intellectual assets will provide opportunities for companies to create value creation. The creation of corporate value through an innovative and creative process of intellectual capital will bring the company to good long-term performance and have an impact on increasing the company's market value.

Intellectual property ownership reported by the company was found to have an effect on firm value by Jihene and Patrel (2013) and Nuryaman (2015). Investors believe that when a company discloses intellectual capital in its annual report, the company has good long-term prospects so that investors make investments in the company and share prices increase. This is in accordance with resource-based theory (RBT) which states that companies have resources that can make companies have competitive advantages and are able to direct good long-term performance (Ulum, 2016). Management of intangible resources can help companies to achieve competitive advantage, increase productivity, and market value (Pulic and Kolakovic, 2003). The resources owned by the company, both in the form of tangible assets and intangible assets, will affect the company's performance and ultimately will increase firm value (Widarjo, 2011).

Profitability is one measurement of the company's financial performance to see the company's ability to generate profits. The more efficient and effective the company utilizes the existing intellectual capital, the profitability will increase (Ulum, 2015). High profitability will make investors interested in investing, which will increase firm value as reflected in the increase in stock prices.

Research on the disclosure of intellectual capital in Indonesia has been using more than four-point index where this index has weaknesses when companies disclose intellectual capital in quantitative and qualitative forms, the score used is the highest score, namely quantitative score (number 2) while some companies express more specifically about intellectual capital qualitatively. For this reason, we need a broader scope of intellectual capital disclosure index scores and in this study using a five-point scale index by adding one number to provide a score for companies that express intellectual capital qualitative and quantitative. Based on the background above, the purpose of this study is to obtain empirical evidence regarding the effect of intellectual capital disclosure on firm value with profitability as an intervening variable.

2. Literature Review

Legitimacy theory encourages companies to carry out voluntary disclosures as a form of accountability for social contracts held between companies and their surrounding communities. Information on intellectual capital in annual reports can help companies to assess strengths and weaknesses in conducting business activities. The strength of the company is used to compile business strategies, and with a good business strategy the company can increase profitability. This is supported by Suhendah's (2012) research, Hadiwijaya and Rohman (2013), Ulum (2015), Nuryaman (2015) and Maji and Goswami (2016) found evidence of intellectual capital influencing profitability. The company believes that it will get a greater ROA value with the development of intellectual capital. This is because the allocation of funds for intellectual capital can improve the quality of the company in general, which in turn can increase the profitability of the company.

H1: Disclosure of intellectual capital has a positive effect on profitability.

Profitability is one of the financial performance measurement ratios to assess a company's ability to earn profits, increase firm value. Profitability as measured by ROA shows management efficiency in managing company assets, which also shows a positive measurement of firm value, so that it can be said that profitability has a positive effect on firm value (Chen and Chen, 2011). This is evidenced by research conducted by Hermuningsih (2013) and Kurniasari and Warasuti (2015) stating that profitability has a positive and significant direct effect on firm value. High profitability shows a good prospect for the company which triggers investor demand. This positive response will increase stock prices and will further increase firm value.

H2: Profitability has a positive effect on firm value

Intellectual capital is an intangible asset owned by the company and is believed to be able to provide added value to the company in creating innovations in products and services sold to customers. The advantages of intellectual capital in creating competitive advantage and added value are considered to be able to contribute to increasing firm value.

Research conducted by Jihene and Paturel (2013) successfully proved that intellectual capital information disclosed in annual reports contributes to the creation of corporate value. Information on intellectual capital is considered as one of the important information in making decisions related to investment and funding. The company will report intellectual capital to signal and attract potential investors to invest. The capital market accepts intellectual capital as an opportunity for companies to grow in the long term, and as a strategic indicator or measure the value and condition of the company in the future. These results are also supported by research conducted by Berzkalne and Zelgalve (2014), Nimtrakoon (2015), Holienka, et al. (2016) and Sardo and Serrasqueiro (2017) which state that intellectual capital has a positive and significant effect on firm value.

H3: Disclosure of intellectual capital has a positive effect on firm value.

Intellectual capital is an important resource for companies, because it is believed to be able to create good corporate performance and increase firm value (Ulum, 2016). In the period of knowledge-based economy, intellectual capital is a very important asset for companies to create competitive advantage. Intellectual capital has a significant influence in increasing a company's profitability. This is evidenced by the Ulum (2015) study, and Maji and Goswami (2016) which states that companies believe that they will get a greater value of ROA by reporting intellectual capital. Hermuningsih (2013) and Kurniasari and Warasuti (2015) research states that profitability has a positive and significant direct effect on firm value. Nuryaman (2015) proves that profitability can be used as an intervening variable on the relationship of intellectual capital with firm value. Reporting intellectual capital can increase a company's profitability, and its implications will increase firm value (share price).

H4: Disclosure of intellectual capital affects firm value through profitability.

3. Methods

The population in the study were all companies in the financial, telecommunications and pharmaceutical industry groups listed on the Indonesia Stock Exchange in 2012-2017. The selection of the research period takes into account the availability of the latest data and in accordance with the concept of time series in calculating the variables studied. The object of the research is limited to the type of industry because the characteristics of the industry depend on intellectual capital, namely employees in the form of competencies and knowledge possessed as well as technology and information systems (Firer and Williams, 2003; Basuki and Sianipar, 2009). The sample selection method uses purposive sampling with criteria: 1) companies are registered in a row from 2012-2017; 2) the company does not get negative profits. The number of sample companies used is 43 companies. Disclosure of intellectual capital is measured by using the intellectual capital disclosure index used by Ulum (2014) and using content analysis techniques to see the extent to which disclosure of

intellectual capital by companies. The use of content analysis techniques with a five point scale (0-4) was adopted from Wang's research, et al., (2016), where if items in each category of disclosure of intellectual capital are expressed in qualitative, quantitative and monetary terms are given a value of 4, expressed in monetary form given a value of 3, in a quantitative form given a value of 2, in the qualitative form given a value of 1 and not expressed given a value of 0. The five point scale adds one recent score (score 4) so that intellectual capital is not only in terms of numbers, quality, or monetary, but also all three. Furthermore, intellectual capital items are made index scores to bring up one number for each company. The score of the index number of intellectual capital of each company is $0 \leq \text{index} \leq 1$. Scores of disclosure index are obtained by summing the scores of items of intellectual capital divided by cumulative scores (Hooks and Staden, 2011). Profitability is measured by using return on assets (ROA), and firm value is measured using price to book value (PBV). The research hypothesis was tested using path analysis. The path analysis model is used to analyze the pattern of relationships between variables with the aim of knowing the direct and indirect effects of the independent variables on the dependent variable.

4. Result and Discussion

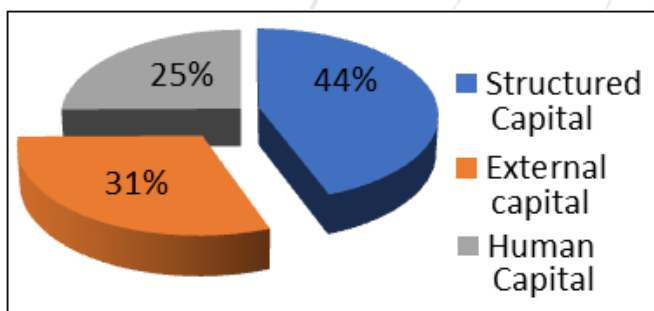


Figure 1: Intellectual capital disclosure Trend in Indonesia

Disclosure of corporate intellectual capital in Indonesia shows an inconsistent trend. Disclosures made by 43 companies in 2012 amounted to 1,007 items both quantitatively, qualitatively, or qualitatively and quantitatively from a maximum of 1,505 items (66.91 percent). In 2013 there was an increase in the disclosure of intellectual capital by 2.13 percent, which was 1,039 items (69.04 percent). The downward trend began in 2014 which was 1,002 items (66.58 percent), in 2015 it increased to 1,004 items (66.71 percent), and finally in 2016 the disclosure of intellectual capital increased to 1,006 items (66.84 percent). Inconsistent trends are caused by several items not disclosed by the company the following year. The average amount of disclosure of intellectual capital from 2012-2016 amounted to 67.22 percent. These results indicate the amount of disclosure of intellectual capital in Indonesia is quite high. Structured capital is the component of intellectual capital most expressed by companies from 2012-2016 with an average disclosure of 44.25 percent of all components, then external capital as much as 30.6% and finally human capital as much as 25.15%.

Table 1: Descriptive Statistic

Variable	N	Max	Min	Mean	StD
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Intellectual Capital	43	0,72	0,16	0,49	0,14
Profitability	43	17,89	0,11	3,44	3,37
Firm Value	43	6,84	0,11	1,34	1,06

Primary Data, 2018

The results of descriptive statistics show that the intellectual capital variable has an average value of 0.49. This shows that the level of disclosure of intellectual capital in sample companies is already high. Profitability variable has an average value of 3.44 which indicates that every Rp. 1 of total assets issued by the company is able to produce 3.44 times profit for all investors. The firm value variable has an average value of 1.34. This figure shows the current market price of the company is greater than 1.34 than the value of the book.

Table 2: Hypothesis Result

Variable	PBV		ROA	
	Coefficient	Sig	Coefficient	Sig
ICD	0,420	0,000	-0,501	0,000
ROA	0,379	0,000		

Primary Data, 2018

The results of hypothesis testing are summarized in table 2. The first hypothesis aims to examine the effect of intellectual capital disclosure on profitability. The test results are presented in table 2, indicating that it shows that the value of the intellectual capital disclosure coefficient (ICD) is -0.501 with a significance value of <0.05, which is 0,000. This means that intellectual capital has a negative effect on profitability, which means H1 is rejected. The results of this study are in line with the Aprilina study (2013) and Scafarto, et al. (2016). Some intellectual capital indices used in this study are components of the company's income statement such as investment in employees for education and training, marketing strategies and customer loyalty programs so that when the company issues a certain amount of funds for investment in the above matters, the company's profits will decrease. This is a factor the higher the company invests in intellectual capital, the profitability of the company tends to decline. In addition, intellectual capital investment is a form of long-term investment so it takes time for companies to get results. The development and formation of intellectual capital of a company can be time consuming and expensive and there is no guarantee of success.

The second hypothesis aims to examine the effect of profitability on firm value. The test results show that the standardized beta value of firm value (PBV) is 0.379 with a significance value of <0.05, which is 0,000. This means that profitability has a positive effect on firm value, which means H2 is accepted. The results of this study are in line with research from Hermuningsih (2013), Kurniasari and Warasuti (2015), Sabin, et al., (2016), Lubis, et al., (2017) and Tui, et al., (2017). High profitability shows a good prospect for the company which triggers demand for shares by investors. Positive responses from these investors will increase stock prices and will further increase the firm value.

The third hypothesis aims to examine the effect of disclosure of intellectual capital on firm value. The results showed that the standardized beta value of firm value (PBV) was 0.420

with a significance value of <0.05 , namely 0,000. This means that intellectual capital has a positive effect on firm value, which means that H3 is accepted. The results of this study are in line with research conducted by Jihene and Paturel (2013), Berzkalne and Zelgalve (2014), Nimtrakoon (2015), Nuryaman (2015), Hejazi, et al., (2016), and Li and Zhao (2017). The higher intellectual capital causes the firm value to increase. The results of this study indicate that companies in Indonesia have been able to utilize the intellectual capital they have to increase the firm value. Intellectual capital relating to business processes, organizational capabilities, technological and information systems, and relationships or networking is captured as a positive signal by investors. The company is able to manage and develop components of intellectual capital so that it becomes a competitive advantage from other companies. With intellectual capital owned by the company can create the best solutions and value added so as to increase market appreciation for the company which has an impact on the firm value increases.

Table 4: Fourth Hypothesis

Variable	Intervening Variable	ab	S _{ab}	t _{hitung}	Detail
IC → PBV	ROA	-1,42	0,321	-4,41	Intervening Variable

Primary Data, 2018

The fourth hypothesis aims to examine the effect of disclosure of intellectual capital on firm value through profitability. The test results in table 4 show that the tcount of regression influences intellectual capital (X1) on firm value (Y1) with profitability (X2) as an intervening variable of -4.41. Z values smaller than -1.96 indicate profitability can function as an intervening variable the effect of intellectual capital on firm value. This means that hypothesis 4 is accepted, i.e. intellectual capital influences the firm value through profitability. The results of this study are consistent with resource based theory which states that companies have resources that can make companies have competitive advantages and are able to direct companies to have good financial performance, and later will increase the firm value. The results of this study are in line with the research of Nuryaman (2015), Suhendra (2015), and Aida and Rahmawati (2015) which state that intellectual capital affects the firm value through profitability. Investors believe that intellectual capital investment is a long-term investment and does not necessarily yield results in the same year. Investors place trust in companies with a high level of intellectual capital, because in the long run, companies are able to provide high returns for investors with good management of intellectual capital.

5. Conclusion

The results of empirical testing in this study are potentially important for governments and companies. The results of this study can be applied by the government to develop rules regarding procedures for disclosure of intellectual capital in the company's annual report. For companies, the results of this study contribute to providing views to stakeholders on how investors respond to assets owned by the company, both

tangible assets and intangible assets. Based on the results of testing and discussion that has been presented, it can be concluded that the disclosure of intellectual capital has a negative and significant effect on the profitability of the company. Profitability has a positive effect on firm value. Disclosure of intellectual capital has a positive effect on firm value. Finally, disclosure of intellectual capital has a positive effect on the firm value through profitability. This study has limitations, namely the use of a sample of three types of company sectors that have different business activities so that there is a possibility that the application of intellectual capital in the three sectors will be different. Further research can use one type of sector to see the effect of disclosure of intellectual capital on firm value in the same business activity. As well as further research it is recommended to use the event study method to see the effect of disclosure of intellectual capital on the firm value by using a stock price proxy at the time of publication of the company's annual report. Based on the conclusions from the results of the study, suggestions that can be put forward are for companies to make good use of intellectual assets and make intellectual property owned as a characteristic of the company so that the company has advantages that are not owned by competitors. In addition, companies can combine tangible assets and intellectual assets in carrying out business activities. Both of these assets can function to complement and support each other in advancing the company.

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