INTELLECTUAL CAPITAL OF PHARMACEUTICAL COMPANIES AS THE CHARACTER OF THE HIGH-PROFILE INDUSTRY

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Abstract
This study aims to examine the impact of this type of industry on the extent of disclosure of intellectual capital of pharmaceutical companies. The type of industry in this study is divided into two, namely the high profile and low profile industries. This study also examines the impact of firm size on intellectual capital disclosure. This research was conducted on all companies listed on the Indonesia Stock Exchange for five years from 2014 to 2018. Path analysis was used to analyze the research data. The results showed that pharmaceutical companies, which were a high profile industry, proved to be more intense in disclosing their intellectual capital ownership than other industries. The research also found that the larger the company size, the more encouraging them to disclose their intellectual capital ownership in their annual reports.

Keywords: intellectual capital disclosure, pharmaceutical companies, high profile industry, size of the firm.

1. RESEARCH BACKGROUND
Pharmaceutical companies operate on knowledge. Their most important long-term assets are employee expertise, constantly developing technology, customization of production, marketing systems and distribution networks. These companies rely on high technology and require large investments in intellectual capital such as R&D expenses, human capital and product development (Istianingsih, 2015).

These various intangible assets are not presented in the balance sheet or traditional financial statements (Canibano et al., 2000). Mandatory financial reports are considered less informative (Collins et al., 1997; Francis and Schipper, 1999; Lev and Zarowin, 1999). In line with the Signaling theory, companies operating in this knowledge-based industry require more disclosure of intellectual capital. This disclosure is useful for providing signals to investors regarding the relevance of intellectual capital to company performance (Krayyem Al-Hajaya et al., 2019).

Bozzolan et al., (2003) show that there is a difference in the amount of intellectual capital disclosure between companies that are in the high profile industry category and those included in the low-profile industry category in the company's annual report in Italy. Meanwhile, García-Meca et al., (2005) did not find a significant relationship between intellectual capital disclosure and industry type. Bruggen, Vergauwen, and Dao (2009), examined the determinants of intellectual capital disclosure with data from a sample of 125 companies listed on the Australian stock exchange using the content analysis method. The research results of Bruggen et al., (2009) support the findings of Petty and Cuganesan (2005) that the type of industry is a key role as a determinant of intellectual capital disclosure.

Apart from the type of industry, the size of the company also determines the level of disclosure of its intellectual capital. Large companies will be the focus of attention of investors and other stakeholders. According to Lang and Lundholm, (1993) investors will ask for more information for large-scale companies. The bigger the company size, the bigger the shareholders need for company information. In theory, large companies will become political targets, increasingly being pressured to carry out social responsibility, or be subject to large taxes (Jensen and Meckling, 1976). In line with agency theory, the larger the company will make more disclosures to reduce the possibility of wealth transfers from shareholders to managers (Jensen and Meckling, 1976).

Research by García-Meca et al., (2005) examined data from a sample of 257 companies registered in Spain during 2000 to 2001. They found evidence that larger firms disclose more intellectual capital. The research results of Petty and Cuganesan (2005), Oliveira, Rodrigues, and Craig (2006), Bruggen et al., (2009) also support the research results of García-Meca et al., (2005), that firm size is a determinant of capital disclosure. This intellectual.
Some of the literature on intellectual capital disclosure is a descriptive study that does not examine the reasons for differences in the level of intellectual capital disclosure between companies (Whiting and Miller, 2008). Meanwhile, some other studies have examined the factors that can influence the practice of disclosing intellectual capital. However, the results of this previous study are still inconsistent because there are differences in the results of the tests on several variables that are predicted to be the determinants of intellectual capital disclosure. This is in line with the statement of Bruggen et al., (2009) that although there are developments regarding research in the field of intellectual capital, there are no definite and clear results regarding the determinants of intellectual capital disclosure. Therefore, it is still necessary to conduct research on the determinants of intellectual capital disclosure, namely the type of industry and company size.

2. Theory Basis and Hypothesis Development

Legitimacy theory is based on the idea that a company is bound by a contract with the community where the company is engaged. This theory states that the company strives to ensure that its operating activities are within the boundaries of the ties and norms of the community in its environment. The existence of a social contract between the company and the surrounding community requires the company to always be responsive to the existence of the environment and pay attention by carrying out operations that are consistent with environmental values. Therefore, the company will try to disclose its activities voluntarily if management considers that these activities are of concern to the community around the company. Because the company cannot legitimize intellectual capital ownership in the form of tangible assets, it will report to the public by disclosing this information in its annual reports. To measure the level of disclosure of intellectual capital information, content analysis method is the most appropriate method and has been widely used in previous research (Vergauwen and Alem, 2005).

The Influence of Types of Industry on Disclosure of Intellectual Capital

The type of industry will determine the level of intellectual capital disclosure because each industry has different specifications in terms of the composition of intellectual capital. In line with the Signaling theory, companies operating in knowledge-based industries require more disclosure of intellectual capital in order to provide signals to investors about the relevance of intellectual capital to firm value. From the side of legitimation theory, it can be seen that companies engaged in industries that require high investment in intellectual capital will disclose more intellectual capital information to legitimize intellectual capital ownership.

Industry differences have been used in previous studies to explain the differences in disclosure in annual reports in Cooke's (1989) study in Bukh et al., (2005). In their research, Bukh et al., (2005) classified industries into 2 groups, namely IT and Biotechnology companies and manufacturing industries. Because intellectual capital is usually more important in high-tech industries, according to Bukh et al., (2005) the IT and biotechnology industries will reveal more intellectual capital than manufacturing. Garcia Meca et al., (2005) separated the types of industries into financial and non-financial industries to test different types of industries on intellectual capital disclosure. The financial industry is predicted to reveal more than non-financial ones. However, their research results failed to find evidence of the influence of different types of industry on intellectual capital disclosure.

Sonier (2008), divides the industry category into High-Technology industries and traditional industries to examine the effect of industry differences on intellectual capital disclosure. Meanwhile Oliveira and Rodrigues (2008) also examined the effect of industry differences on intellectual capital disclosure by dividing industry categories based on high and low intangibles ownership levels. This research categorizes industries with high intellectual capital content and companies with low intellectual capital content. Companies that are categorized as companies with high intellectual capital loads are companies operating in industries that tend to place great importance on high technology in their operations, prioritize innovation for their products, and require more expertise and human resource skills. Conversely, a company is categorized as a company with low intellectual capital if the company operates in an industry that is relatively less demanding of high technology, innovation, and special expertise or skills. This classification is based on the industry category in ICMD in 2018. Industries that are included in the category with high intellectual capital include the pharmaceutical industry. Meanwhile, other industrial categories are included in the category of industries with low intellectual capital content, including some manufacturing industries, including, among others, the textile, agriculture, retail, food and beverages, animal feed and husbandry industries.

In companies that are categorized as having a high intellectual capital content, they need more disclosure of intellectual capital to provide signals to investors. This is in line with the signaling theory because managers want to provide a signal for the company’s true capabilities that they cannot reveal through the company’s financial statements. The disclosure of intellectual capital that is higher in companies with high intellectual capital can also be explained by stakeholder theory. According to this theory, stakeholders have the right to obtain information about the impact of company activities on them even if they choose not to use this information. As a form of manager’s accountability to stakeholders, managers will disclose intellectual capital information in their annual reports.

To legitimize their intellectual capital ownership and to provide a signal for the true capabilities of the company, companies that are included in the category of high intellectual capital content will disclose more intellectual capital information than other industries. Therefore, the hypothesis proposed in this study are as follows:

H1: Pharmaceutical companies have a higher intellectual capital disclosure index than those with a low profile industry.

The Influence of Company Size on Intellectual Capital Disclosure.

Large companies are usually the center of attention of investors. This type of company also has sufficient funds to make voluntary disclosures. A number of studies have proposed a positive relationship between organizational size and the size of voluntary disclosure (Watts and
Capital

of intellectual capital disclosure are components taken from the research of Guthrie et al. (2004) and Vergauwen et al. (2007) with modifications to suit the data available in Indonesia. The size of disclosure is divided into 3 categories, namely human capital disclosure (HCDI) which consists of 22 items, disclosure of structural capital (STCDI) consists of 18 items, and disclosure of relational capital (RCDI) which consists of 21 items. So that there will be 61 items to be analyzed.

To create an intellectual capital disclosure index, each item will be given a score of 1 if a company makes disclosures on that item. This score will then be added up with all the scores obtained in each category and weighted by the total items per category to obtain an index for each category. The intellectual capital disclosure index is the total index of the three index categories.

Type of Industry

To measure the type of industry, this study will use dummy variables. With a value of 1 for pharmaceutical companies operating in the high profile industry, and 0 for the low profile industry. Industries with a low intellectual capital content (low profile) include some manufacturing industries, such as the textile industry, agriculture, retail, food, and beverages, animal feed and husbandry. Industry types that fall into these two categories are the classification of industry types in Indonesia Capital Market Directory.

Company Size (SIZE)

This variable is calculated using the proxy logarithm of the firm’s market capitalization value. This variable is included to control for the possible influence of firm size on intellectual capital disclosure.

4. RESEARCH RESULT

Overall, the companies that were the samples of this study had characteristics as shown in the descriptive statistics in the table 1. From the results of descriptive statistics on 284 sample companies for 5 years, there are 1420 observations of data, it can be seen that the value of the ICDI variable has a minimum number of 0.045, this means that the minimum index of disclosure of the company's intellectual capital is 4.5%. The maximum value of the intellectual capital disclosure index is 0.587 or 59% and the average sample company has an intellectual capital disclosure index of 20%. By using a scale from 0% to 100%, the average intellectual capital disclosure of the sample companies is still relatively small, namely 20%. Judging from the relatively small standard deviation value of 0.13, it shows that the variation in intellectual capital disclosure between sample companies is not too different.

Meanwhile, the test results on the correlation between variables that are determinants of intellectual capital disclosure are presented in Table 2. The correlation between INDUSTRY and ICDI variables is positive and significant. This result is an initial indication to prove the hypothesis regarding the effect of industry type on intellectual capital disclosure. The results of categorizing the sample companies into industry types show that from a total sample of 284 companies, 122 companies are in the high profile category, while the remaining 162 companies are low profile companies with low intellectual capital.

The results of the correlation test for the INDUSTRY and ICDI variables were also reinforced by the results of
different tests carried out on the INDUSTRI variable which was a categorical variable for the ICDI variable. A summary of the results of the difference test is presented in Table 3. From the results of the average difference test, it was also found that the INDUSTRI variable with a value of 1 had an average ICDI that was higher than that which was 0. This significant positive difference indicates that companies that are in an industry with high intellectual capital will disclose more intellectual capital. a lot when compared to companies that are in industries with low intellectual capital content. This result is interesting to prove further in the regression, whether it can provide consistent evidence that companies operating in industries with high intellectual capital will disclose more intellectual capital than companies operating in industries with low intellectual capital.

Table 1. Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICDI</td>
<td>1420</td>
<td>.04466</td>
<td>.58733</td>
<td>.20302</td>
<td>.13187</td>
<td>.823</td>
</tr>
<tr>
<td>INDUSTRI</td>
<td>1420</td>
<td>.00000</td>
<td>1.00000</td>
<td>.42958</td>
<td>.49519</td>
<td>.285</td>
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<tr>
<td>AGE</td>
<td>1420</td>
<td>8.74208</td>
<td>73.77376</td>
<td>27.50674</td>
<td>13.27627</td>
<td>1.266</td>
</tr>
<tr>
<td>LEV</td>
<td>1420</td>
<td>.29183</td>
<td>1.27818</td>
<td>.55006</td>
<td>.20972</td>
<td>.379</td>
</tr>
<tr>
<td>SIZE</td>
<td>1420</td>
<td>4.58225</td>
<td>8.18185</td>
<td>5.60429</td>
<td>.84480</td>
<td>.723</td>
</tr>
</tbody>
</table>

Table 2. Correlation Test Results

<table>
<thead>
<tr>
<th></th>
<th>ICDI</th>
<th>INDUSTRI</th>
<th>AGE</th>
<th>LEV</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICDI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INDUSTRI</td>
<td>.060*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>.005</td>
<td>.065*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>.032</td>
<td>.035</td>
<td>.178**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>.257**</td>
<td>.097**</td>
<td>.332**</td>
<td>.101**</td>
<td>1</td>
</tr>
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</table>

Table 3. Different Test Results

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MEAN STATISTICS</th>
<th>ICDI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ICDI</td>
<td>t-test For Equality of Mean</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>INDUSTRI</td>
<td>0.213824</td>
<td>0.198755</td>
</tr>
</tbody>
</table>

The SIZE variable has a significant positive relationship to ICDI in the correlation test. This is also an early indication to prove the hypothesis about the positive effect of company size on the intellectual capital disclosure index, where the larger the company size, the greater the disclosure of intellectual capital. The results of the Lisrel test which can be seen in the R2 value for each equation are obtained. The ICDI structural equation model has an R² value of 0.14, which means that this model is able to explain 14% of changes in intellectual capital disclosure. The rest is explained by other variables not examined in this study. The structural equation has an R² value of 0.15, which means that this model is able to explain 15% of the changes in intellectual capital disclosure. The rest is explained by other variables not examined in this study.

The hypothesis of this research states that companies operating in industries with high intellectual capital content will have a higher intellectual capital disclosure index than companies operating in industries with low intellectual capital content. The test results show that this hypothesis is proven. The findings of the study show that the pharmaceutical industry as a high profile industry with high intellectual capital has a higher level of intellectual capital disclosure than companies that are in a low profile industry with low intellectual capital.

The SIZE variable, which is a proxy for firm size, has a positive and significant effect on intellectual capital disclosure (ICDI) at the 1% level. The larger the company size, the higher the intellectual capital disclosure index. These results indicate that the larger the company, the more concerned it will be with disclosure of intellectual capital. This is probably because the larger the size of the company will have more relationships with outsiders who are an important asset for large companies, which triggers them to increasingly disclose this intellectual capital ownership.

**DISCUSSION**

The overall results for hypothesis 1 support the findings of Petty and Cuganesan (2005) and Burggen et al., (2009), but these results are not in line with the results of research by García-Meca et al., (2005) which also did not find there are different effects of types of industry on intellectual capital disclosure. Pharmaceutical companies that are included in the category of high intellectual capital-laden industries usually produce the components they market themselves. They have relatively large R&D
expenses and marketing expenditure values. The results of this study are in line with the signaling theory and legitimation theory in which companies in the high profile category industry with high intellectual capital need to legitimize their intellectual capital ownership as well as give signals to investors about the relevance of intellectual capital to their company value. The results of this study also indicate that the greater the size of the company, the higher the level of intellectual capital disclosure. These findings support the findings of previous studies, namely García-Meca et al., (2005) Oliveira et al., (2006), and Burggen et al., (2009). This result is in line with the Agency’s theory that large companies will be motivated to disclose more intellectual capital in order to reduce the possibility of wealth transfers from shareholders to managers (Jensen and Meckling, 1976).

Table 4. Summary of Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted Sign Koefisien (t-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDUSTRY</td>
<td>+ 0.0074 2.20*</td>
</tr>
<tr>
<td>AGE</td>
<td>- 0.0011 -3.95*</td>
</tr>
<tr>
<td>SIZE LEV</td>
<td>+ 0.0017 3.65*</td>
</tr>
<tr>
<td></td>
<td>+ 0.0066 0.45</td>
</tr>
<tr>
<td>R²</td>
<td>0.15</td>
</tr>
<tr>
<td>RMSEA GOF</td>
<td>100</td>
</tr>
<tr>
<td>p-value</td>
<td>1</td>
</tr>
</tbody>
</table>

ICDI: intellectual capital disclosure index, measured by the content method analysis of the annual report using a list of instruments used in research by Li et al., (2008). INDUSTRY: a dummy variable, with a value of 1 for companies operating in industries included in the category of high intellectual capital content, and 0 for others. AGE: the age of the company, calculated in units of years since the company was founded. LEV: Leverage, is the proportion of total debt compared to the company’s equity. SIZE: company size calculated from the logarithm of market capitalization.

5. CONCLUSION

Pharmaceutical companies that have the characteristics of a high profile industry are proven to pay more attention to the disclosure of their intellectual capital than the low profile industry. The method used to classify the types of high profile industries with high intellectual capital and low intellectual capital in this study is only based on the list of industries contained in the ICMD. Future research needs to use other methods to classify different types of industries with high intellectual capital and low intellectual capital. This method is for example by classifying industries based on the ratio of marketing expenditure, R&D expenses or other ratios. This study also has limitations in calculating the intellectual capital disclosure index using the content analysis method of annual reports only. Further research needs to use interviewing techniques and questionnaires or other media to capture the intellectual capital ownership of pharmaceutical companies.

This research contributes to the management of pharmaceutical companies in determining what information needs to be conveyed regarding intellectual capital in order to provide more transparency to investors. Second, the findings of this study are important for management as a reference in managing intellectual capital better and focus on the components needed so that they can contribute to improving company performance and its ability to obtain funds from the capital market.

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