Intellectual Capital Disclosure and Company Financial Performance: Market Capitalization

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This research aimed to test the effect of intellectual capital disclosure and company financial performance on market capitalization. A quantitative research methodology was designed that utilized classical assumption testing and hypothesis testing in a multiple linear regression model. Secondary data from annual reports of financial sector and telecommunication companies listed on the Indonesian stock exchange (BEI) during the period 2012 – 2016 were also accessed and used. The research results show that the intellectual capital disclosure variables positively and significantly influence market capitalization and firm financial performance while ROA, ROE and EPS as proxy, also had a significant positive influence on market capitalization.

Key words: Intellectual Capital Disclosure, Firm Financial Performance Return On Asset (ROA), Return On Equity (ROE), Earning Per Share (EPS), Market Capitalization.

1. INTRODUCTION
Globalization has initiated major developments across the world ranging from technological to science and knowledge innovation. Current world business and economic practices demand high level innovation and creativity based on intellect, knowledge, and technology which, for IC companies are very intensive (Hermawan, dkk., 2015). Digital age business players are constantly competing to advance their company by trying to combine ideas and thoughts in innovation creation that will facilitate company performance. Rachmi and Ardiyanto (2014) state that innovations do not only ensure market competitiveness and found that where innovations are developed and designed for new copyright work, they instigate improvement and change existing company management patterns, particularly in the technology and science fields of knowledge based business.
Intellectual capital in this research is defined as knowledge, information and intellectual property that is used to find opportunities and manage threats in the life of a company, affecting endurance and competitive advantage in a range of contexts (Nugroho, 2012). Hermawan, dkk. (2015) define intellectual capital as an intangible asset whose benefits to a company are performance improvement, high competitiveness and prosperity. Disclosure of information about intellectual capital in the annual financial statements is one form of voluntary disclosure (Rachmi and Ardiyanto, 2014). A company must thus be able to provide intellectual capital information in disclosed financial statements in order to increase company market value and investor confidence in continued investment.

The development of intellectual capital in Indonesia began and was guided by PSAK No. 19 (revised 2000), 2009 which defines that intangible assets or natural resources specific to the development of science and technology include for example: licenses, intellectual property rights, design and implementation of new systems or processes, as well as product brands or brand names including software, computers, patents, copyright, advertisements, lists of customer records, forest tenure rights, import of activity quotas, franchises, supplier relationships, loyal customers, marketing rights and market share (IAI, 2009).

According to Prabowo and Purwanto (2015), companies have the opportunity to build trust with stakeholders, improve external reputation, reduce information asymmetry in the capital market, reduce capital costs, and reflect market performance by disclosing and measuring intellectual capital. Khan and Rasheed (2015) state that continuous company financial performance progress is shown through sustainable human resources, business progress and investor stock returns. The value of a company will be reflected in the price of its shares (Hermawan and Maf'ulah, 2014). Financial ratio analysis is a tool that can be used in analyzing financial performance and aims to attract investors to analyze the ratio before investing. Financial performance in this study is proxied using profitability ratios and market values ROA, ROE and EPS.

ROA is useful to determine the impact of Intellectual Capital on the use of assets (Hermawan and Mardiyanti, 2016). ROE is the ratio of capital to net profit after tax. Through ROE, shareholders can ascertain the level of profitability of capital that has been invested in generating profits (Hidayati, 2013). Earning per Share (EPS) is a comparison between the amount of net profit received by investors and the number of shares owned. A high EPS value indicates greater shareholder profits (Safitri, 2013). If the EPS of the company is high, more investors will want to buy the stock and consequently the stock price rises (Sudarno and Pratiwi, 2017). Market capitalization is a reflection of the overall stock price owned by the company. Factors that can affect the movement of stock prices are financial statements. Good company performance will generate a solid assessment in the eyes of investors, as can be seen from company share demand. Increasing the demand for shares also increases the price of the company shares.
In previous research (Abdolmohammadi, 2005; Taliyang, dkk., 2014; ALShubiri, 2015 and Mudliar, 2016) it was found that intellectual capital has a significant positive effect on market capitalization. Intellectual capital is essential as a company disclosure because it is crucial to consider the information that can be obtained by stakeholders (Sawarjuwono & Kadir, 2004). Investors need accurate information and not asymmetrical information. Kamath (2015) explains that information asymmetry can be reduced by greater processing of information sent to other parties. A high quality company should send signals about its advantages to the market. Specific research about the effect of financial performance on capitalization, includes studies on the measurement of financial performance of EVA, TSR, ROA companies, and market capitalization affect. It was found that ROE and EPS have no effect on market capitalization (Darmawan & Rina, 2008). This research is consistent with Hidayati’s (2013) results regarding how ROA affects market capitalization. Prasetya (2000) and Novita (2012) concluded that ROE has a positive effect on stock returns.

These results were further supported by Handoko, (2008) who states that the results of EPS research have the most dominant influence on changes in stock prices. While research conducted in Indonesia by Hidayati, (2013) shows that ROE has no effect on market capitalization, the latest research shows that company financial performance results are proxied by profitability ratios (GPM, NPM, ROCE, ROE and RonW) and market value ratios (EPS, PER and DPR) and that only ROCE ratios, ROE and EPS have a positive effect on market capitalization (Prasad and Shrimal, 2015). Kamath (2015) posited that the ROE relationship has a significant effect on market capitalization. This research is different to the findings of Hermawan et al (2020) who examined intellectual capital, business performance, and competitive advantage in pharmaceutical companies. The aforementioned research findings also differ to those of Hermawan (2019) who examined Intellectual Capital, Financial Performance and Market Performance in High IC Intensive companies in Indonesia. In this context, this research aims to test the effect of intellectual capital disclosure and financial performance of companies on market capitalization. The study was conducted using data from financial sector companies and Indonesian telecommunications companies listed on the Indonesia Stock Exchange during the 2012-2016 period.

2. LITERATURE REVIEW AND FORMULATION OF HYPOTHESES

2.1 Intellectual Capital Disclosure

Intellectual capital is defined here as the intangible assets of a company and includes knowledge, relationships with customers or other companies, brands, processes, and technology (Ningsih and Laksito, 2014). Intellectual capital disclosure aims to reduce the level of information asymmetry and company capital costs. It is anticipated that conducting an Intellectual Capital Disclosure will improve financial statements (Rachmi and Ardiyanto, 2014). Sawarjuwono and Kadir (2004) suggest that intellectual capital disclosure is a complex form of reporting that combines numbers and narratives, from company knowledge and can be in the form of visualizations and sketches that provide illustrations of specific working capital.
Mouritsen and Bukh (2001) suggest that intellectual capital statements are used to track the knowledge management activities employed to manage company knowledge resources.

2.2 Signaling Theory
Asymmetric information is an imbalance of information about the company obtained by several parties so that the information received is not the same and will cause gaps in stakeholder understanding. With the use of signal theory it is intended that good information will be conveyed correctly. Kamath (2015) explains that information asymmetry can be reduced by processing more of the information that is shared with concerned parties and that a high quality company need to signal its performance to the market. This theory is specific to the signals received by both investors and other potential parties who are making economic decisions based on disclosed information (Yuskar and Novita, 2014).

2.3 Resourced Based Theory (RBT)
According to Resource Based Theory (RBT), a company will gain competitive advantage and record good performance by acquiring and using strategic assets that are important for competitive advantage and good financial performance appraisal (Hermawan, 2017). Tangible and intangible assets are potential strategic assets. This theory proposes that the benefits of these two assets are positive in terms of the relationship between company resources and performance measurement. Intangible assets are defined by the characteristics of strategic assets and intellectual capital is generally considered an important strategic asset (Anam, dkk., 2011) Resource-based theory can be used to determine the relationship between intellectual capital disclosure and market capitalization.

2.4 Stakeholder Theory
Stakeholder theory states that access to all information about company activities is a stakeholder right. Stakeholder theory emphasizes organizational accountability far beyond simple financial or economic performance and considers the position of stakeholders as crucial to the company. The stakeholder group is the main consideration in company disclosing and nondisclosure of information in financial statements. These stakeholders include shareholders, employees, customers, suppliers, creditors, the government and the community (Zuliansyah, 2015). This theory suggests that company management is required to carry out activities expected by stakeholders to ensure their information access as relevant to their company role. According to Purnomosidhi (2006), reporting of company activities is not limited to reporting economic or financial performance. Thus, reporting on intellectual capital and other information outside of mandatory disclosure, for example voluntary intellectual capital disclosure, is also necessary.

2.5 The Effect Of Intellectual Capital Disclosure On Market Capitalization
Intellectual capital is defined here as the intangible assets of a company which includes knowledge, relationships with customers or other companies, brands, processes, and technology (Ningsih and Laksito, 2014). Intellectual capital disclosure aims to reduce the level of information asymmetry that reduces company capital costs. Intangible assets are reflected in a company as its characteristic or unique resources which are heterogeneous and can create
wealth and increase competitive advantage. When companies provide intellectual capital disclosure information in annual reports, it is expected that this will increase the positive value in their financial statements (Rachmi & Ardiyanto, 2014; Prabowo & Purwanto, 2015). Disclosure of intellectual capital emboldens investor confidence in owned capital (Abdolmohammadi, 2005; Taliyanget al., 2014; Mudliar, 2016) and intellectual capital has a significant positive effect on market capitalization. Intellectual capital disclosure is thus essential for stakeholder engagement and sustainability (Sawarjuwono and Kadir, 2004). Based on the results of these studies, the first hypothesis in this research is as follows:
H1: Intellectual capital disclosure affects market capitalization

2.6 Effect Of ROA On Market Capitalization.
Good financial performance is a reflection that a company is in a healthy condition and this affects the value of shares circulating in the market as a form of market capitalization (Rahman, dkk., 2013). The methods of evaluating financial performance that are often used to measure profitability are ROA and ROE. ROA describes the level of corporate profits obtained through the level of investment invested. ROA can be used as a reference to determine the capability of company owned assets to generate profit. Research conducted in Indonesia by Darmawan and Rina (2008) shows that ROA affects market capitalization. The use of financial ratios in market valuing is more attractive to potential investors because of the additional information which facilitates decision making and increases the value of market capitalization. Based on the description above, the second hypothesis in this study is as follows:
H2: ROA affects market capitalization

2.7 ROE Effect On Market Capitalization.
ROE is the ratio of operating income to equity. High ROE will more efficiently and effectively use company equity so that it will attract investor confidence in the capital to be invested in the company. The potential improved result can have a positive influence on stock prices in the market so that market capitalization increases (Nurfadillah, 2016). Research conducted by Darmawan & Rina (2008) found that ROE and EPS have no effect on market capitalization. However, Prasad & Shrimal (2015) and Venugopal (2015) found that the relationship between ROE and EPS has a significant effect on market capitalization. Based on the description above, the third hypothesis in this study is as follows:
H3: ROE affects market capitalization

2.8 The Effect Of EPS On Market Capitalization.
The next ratio is proxy to the EPS market value ratio. Earning Per Share (EPS) is defined as a comparison between the amount of net profit received by investors and the number of shares owned. A high EPS value indicates greater shareholder profits (Safitri, 2013). Eljelly and Alghurair (2001), Aloysius (2004) & Che et.al, (2006) found that EPS is a significant variable in explaining changes in stock returns. According to Darmadji & Fakhirudin (2006), earnings per share or EPS is a ratio that shows how much profit (earnings) is earned by investors or shareholders per share so that it market capitalization value is determined from earnings per
share. Prasad & Shrimal (2015) and Venugopal (2015) also found that the relationship between ROE and EPS has a significant effect on market capitalization. Based on the description above, the fourth hypothesis in this study is as follows:

**H4**: EPS affects market capitalization

### 3. RESEARCH METHODS

#### 3.1 Research Sample

The sample selection in this study was made using a purposive sampling method. Purposive sampling is a sampling technique using certain criteria or considerations (Sugiyono, 2014). The population in this study are all financial sector companies or telecommunications sector companies listed on the Indonesia Stock Exchange (IDX) during the 2012-2016 period. The research conceptual framework is depicted in Figure 1 below.

**Figure 1. Conceptual framework**

![Conceptual framework](image)

#### 3.2 OPERATIONAL DEFINITION AND MEASUREMENT OF VARIABLES

**3.2.1 Dependent Variable**

**3.2.1.1 Intellectual Capital Disclosure**

Intellectual capital is defined as the intangible assets of a company and includes knowledge, relationships with customers or other companies, brands, processes, and technology (Ningsih and Laksito, 2014). Intellectual capital disclosure aims to reduce the level of information asymmetry that reduces company capital costs lower. Intellectual Capital Disclosure is measured by attributing a score where a value of 1 will be given for each item disclosed by the company through the annual report and if there are no items disclosed in the annual report, then a value of 0 is allocated (Abdolmohammadi, 2005). ICD can be measured by the below formula:

\[
ICD\ index = \frac{\sum Di}{N}
\]

where:

- **ICD index** = independent variable intellectual capital disclosure index.
Dj = value 1 is given if an item is disclosed in the annual report and value 0 is given if no item is revealed in the annual report. 
n = total of items measured.

3.2.1.2 Return on Total Assets (ROA)
ROA is a measurement of financial performance that interrogates how assets owned by a company can generate profits by looking at the capital invested (Hidayati, 2013). The higher the level of the ratio obtained, the higher the level of efficiency of company management in using assets to produce a certain amount of net income. ROA calculation can be measured by the below formula (Ardhila, 2016):

\[
ROA = \frac{Net\ Income}{Total\ Assets} \times 100\%
\]

3.2.1.3 Return on Equity (ROE)
ROE is a comparison between a company's net profit and its own capital. This ratio explains which part of the profit comes from (own) capital. Calculations using ROE measure the level of company performance to reveal how a company benefits by utilizing the funds obtained from investors (Hermawan and Mardiyanti, 2016) using the below formula:

\[
ROE = \frac{Net\ Income}{Equity} \times 100\%
\]

3.2.1.4 Earning Per Share (EPS)
EPS measures how much net income the company generates for each share outstanding and is one indicator of company success (Sudarno and Pratiwi, 2017). Earning Per Share (EPS) is one part of the market valuation ratio that shows how much rupiah can be obtained for each common stock. A high EPS value indicates greater shareholder profits (Safitri, 2013) as determined using the below formula:

\[
EPS = \frac{Net\ Income}{Number\ of\ shares\ outstanding} \times 100\%
\]

3.2.1.5 Market Capitalization
Market capitalization is a reflection of the overall price of shares owned by the company. Market capitalization measurement is made by multiplying the stock market price at the end of the financial year with the number of shares outstanding (Rachmi and Ardiyanto, 2014). MCAP calculation formula is outlined below:

\[
Market\ Capitalization = Number\ of\ shares\ outstanding \times stock\ price
\]

To simplify the processing and description of research results, market capitalization variable data will be converted to natural logarithms.
3.3 Hypothesis Testing
This research uses SPSS program assistance for perform statistical data analysis. In this study the research test used multiple regression analysis methods. The study conducted a determinant test R2 of the T test. The R2 test was used to measure the extent of the independent variable in explaining the dependent variable as tested through the coefficient of determination test. T test was conducted with the aim of determining whether each independent variable has a partial effect on the dependent variable. F test was performed to determine whether all independent variables have a joint or simultaneous influence on the dependent variable.

4. HYPOTHESIS TEST RESULTS
4.1 Descriptive Statistics Test Results
It can be seen in Table 1 below that the ICD variable has a mean value of 0.9493 with a standard deviation of 0.99827, with a minimum value of 0.66 and a maximum value of 8.52. The ROA variable has a mean value of 0.0355 with a standard deviation value of 0.02100. The minimum ROA variable value is 0 and the maximum value is 10. The ROE variable has a mean value of 0.1820 with a standard deviation value of 0.07862. With a minimum ROE variable value of 0.03 and a maximum value of 0.39. The EPS variable has a mean value of 353.7333 with a standard deviation value of 294.667632. The minimum value of the EPS variable is 12.00 and the maximum value is 1072.

4.2 T Test Results
It can be seen in Table 2 below that the significance value of the independent variable Intellectual Capital disclosure (X1) is 0.002 where this value is smaller than 0.05 (0.002 <0.05). Then it can be concluded that Ho was rejected and H1 accepted and it can be interpreted that (X1) Intellectual Capital disclosure partially influences market capitalization.

The significance value of the independent variable ROA (X2) is 0.000 where this value is smaller than 0.05 (0,000 <0.05). Thus ROA partially influences market capitalization and Ho was rejected and H1 was accepted and it can be interpreted that (X2) ROA affects market capitalization.

The significance value of the independent variable ROE (X3) is 0.002 where this value is smaller than 0.05 (0.002 <0.05) and thus Ho was rejected and H1 accepted and it can be interpreted that (X3) ROE partially influences market capitalization.

The significance value of the independent variable EPS (X4) is 0.000 where this value is smaller than 0.05 (0,000 <0.05) and thus Ho was rejected and H1 accepted and it can be interpreted that (X4) EPS partially influences market capitalization.

4.3 Test Results F
It can be seen in Table 3 that the significance value is 0.000 where this value is less than 0.05 (0,000 <0.05). Thus, the variables of intellectual capital disclosure, return on assets (ROA),
return on equity (ROE) and earnings per share (EPS) simultaneously or jointly affect the Market Capitalization.

**Table 1. Descriptive Statistics Test Results**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICD</td>
<td>60</td>
<td>0.66</td>
<td>8.52</td>
<td>0.9439</td>
<td>0.99827</td>
</tr>
<tr>
<td>ROA</td>
<td>60</td>
<td>0.00</td>
<td>1.10</td>
<td>0.0355</td>
<td>0.02100</td>
</tr>
<tr>
<td>ROE</td>
<td>60</td>
<td>0.03</td>
<td>0.39</td>
<td>0.1820</td>
<td>0.07862</td>
</tr>
<tr>
<td>EPS</td>
<td>60</td>
<td>12.00</td>
<td>1072.00</td>
<td>353.7333</td>
<td>294.67632</td>
</tr>
<tr>
<td>MCAP</td>
<td>60</td>
<td>27.76</td>
<td>33.63</td>
<td>31.2269</td>
<td>1.68020</td>
</tr>
<tr>
<td>Valid N</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 2. Statistical Test T Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>29.878</td>
</tr>
<tr>
<td></td>
<td>ICD</td>
<td>0.389</td>
</tr>
<tr>
<td></td>
<td>ROA</td>
<td>-38.546</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>6.473</td>
</tr>
<tr>
<td></td>
<td>EPS</td>
<td>0.003</td>
</tr>
</tbody>
</table>

a. Dependent Variable: MCAP
Table 3. *Simultaneous Statistical Test (F) ANOVA*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>120,525</td>
<td>4</td>
<td>30,131</td>
<td>35,998</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>46,036</td>
<td>55</td>
<td>.837</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>166,561</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), EPS, ICD, ROA, ROE
b. Dependent Variable: MCAP

Table 4. *Summary of Hypothesis Results*

<table>
<thead>
<tr>
<th>H</th>
<th>Keterangan</th>
<th>Nilai Sign.</th>
<th>Hasil</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Intellectual capital disclosure (ICD) affect Market Capitalization</td>
<td>0,002</td>
<td>Significant</td>
</tr>
<tr>
<td></td>
<td>Return On Asset (ROA) affect Market Capitalization</td>
<td>&lt; 0,05</td>
<td></td>
</tr>
<tr>
<td>H2</td>
<td>Return On Equity (ROE) affect Market Capitalization</td>
<td>0,000</td>
<td>Significant</td>
</tr>
<tr>
<td></td>
<td>Earning per Share (EPS) affect Market Capitalization</td>
<td>&lt; 0,05</td>
<td></td>
</tr>
<tr>
<td>H3</td>
<td>Intellectual capital disclosure (ICD), Return On Assets (ROA), Return On Equity (ROE) Earning per Share (EPS) simultaneously affect Market Capitalization</td>
<td>0,000</td>
<td>Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt; 0,05</td>
<td></td>
</tr>
</tbody>
</table>
5. CONCLUSION
Intellectual Capital Disclosure has an effect on Market capitalization. Thus companies must disclose intellectual capital information in financial statements to increase company market value and increase investor confidence and interest. Return on assets affects market capitalization. Return on equity affects market capitalization. Earning per share has an effect on market capitalization. It follows then that company financial performance has an effect on market capitalization. From these conclusions it is determined that companies should disclose intellectual capital information more effectively so that all necessary stakeholder information is conveyed without information asymmetry. To improve company financial performance, it is important for investors to assess how well the company is performing and thus it is recommended that further research be designed that adds more variables and research objects to produce further knowledge that facilitates information access, reliability and accuracy.
6. REFERENCES


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