Intellectual Capital, Corporate Social Responsibility, And Firm Value In Indonesia's Banking Industries

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Abstract

This study investigates the effect of intellectual capital and corporate social responsibility on the firm value in Indonesia Banking companies. This study was designed as a quantitative study based on multiple linear regression models. The study sample of 116 observations was selected from banking companies listed on the Indonesia Stock Exchange that met the criteria for having financial reports with complete data and disclosing corporate social responsibility in the 2014-2019 period. Research finds that intellectual capital has a positive and significant effect on firm value. On the other hand, corporate social responsibility does not affect firm value. The banking companies must manage intellectual because it positively impacts the market better and efficiently. Also, corporate social responsibility activities need to be improved to obtain a more positive response from the market.

Keyword: Firm Value, Intellectual Capital, Social Responsibility

INTRODUCTION

The capital market is one of the wheels of a country's economy, which is represented in two functions: business funding and as a means for companies to obtain funds from the investor community. Second, the capital market can be a means for people to invest in financial instruments. The capital market also provides a leading indicator in the development of a country's economy. Because of the many benefits obtained from the capital market, capital market opportunities will be even more significant in the future. One of the instruments of the capital market is the stock market. In the stock market, companies will seek to increase their companies' value so that investors can invest and maintain their invested capital. It makes every company have an excellent strategy to increase firm value to attract investors to invest in the company.

The increase in firm value is closely related to macroeconomic problems. The measurement used concerning macro stock market conditions in a country is market capitalization compared to GDP. Firm value is closely related to market capitalization, where market capitalization is obtained from multiplying the share price by the number of shares
outstanding as a whole. The market capitalization/ GDP percentage will determine how big the stock market is compared to the size of the country's economy. If the value of market capitalization/ GDP produces a percentage of 50% or more, the stock market in that country is indicated to be developing very well (theglobaleconomy.com, 2020). From 2014 to 2016, the value of Indonesia's market capitalization/ GDP was still below 50%. In 2017, Indonesia's market capitalization/ GDP value rose to 51.28%, then in 2018, it fell again to 46.71% and increased to 46.76% in 2019. It shows that the stock market in Indonesia has not been stable and not well developed. Indonesia's market capitalization/ GDP still needs to be increased by increasing new investors or making investors maintain their capital. The increase in the number of shares and share prices as a whole will also trigger an increase in market capitalization. That way, Indonesia's market capitalization/GDP can further develop and increase the Indonesian Stock Exchange's ability to compete with the capital markets of other countries.

Apart from being related to the country's macroeconomy, increasing firm value is still an exciting topic because investor behavior depends on management information. Investors can increase or decrease their value to the company, depending on the investor's information. Information received can be in the form of explicit or implicit information (implied from the financial statements) provided by management. Furthermore, investors will interpret this information as good news or bad news, affecting investors' assessment of the company. Changes in the investor's assessment of this company will affect the company's stock price. Management needs to understand investors' behavior and know the factors that can increase or decrease firm value so that the company's stock price becomes stable and even increases.

Based on signaling theory, company management can disclose accounting information in order to provide signals for investors. Accounting information and policies selected by management affect investors' assessment of the company. Companies can use accounting information disclosure through external aspects, including disclosing intellectual capital and corporate social responsibility. Intellectual capital can create a competitive advantage that can increase firm value. The value of a company is not only seen in its financial condition, but investors also value the company through social and environmental aspects.

Previous studies on the factors affecting firm value show inconsistencies in intellectual capital and corporate social responsibility. A study by Rachmwati & Susilawati (2018) shows that voluntary and involuntary intellectual capital disclosure has value relevance. Aida & Rahmawati (2015) concluded that intellectual capital does not affect firm value. Based on Yuliana & Juniarti (2015) research, corporate social responsibility does not affect firm value. However, Wahongan (2019) concluded that firm value is influenced by corporate social responsibility. Therefore, this study aims to confirm these variables' influence on firm value, especially banking companies listed on the Indonesia Stock Exchange (IDX) from 2014 to 2019. In contrast to Wahongan (2019), which analyzes the effect of financial performance and corporate social responsibility on the company's value, this study aims to analyze accounting information through external aspects, namely intellectual capital and corporate social responsibility, on the value of banking company.

**THEORETICAL FRAMEWORK AND HYPOTHESIS**

**Signaling Theory**

Spence first put forward Signaling Theory in 1973, which states how a company provides signals to users of financial statements. According to Connelly et al. (2011), signaling theory is useful for describing the behavior of two parties who have different access to information. In other words, the signal theory is concerned with information asymmetry. The signaling theory
will encourage those who have access to information to provide signals to those who have less access to information. An information signal sender is defined as a party who has a sufficient amount of useful information (good news) or insufficient information (bad news), while the recipient of the information signal is the user of the information. The signal to be given is identified, as well as a method selection is made on how to communicate the information to the second party.

Signaling theory is often associated with the stock market because there will always be information asymmetry between companies and investors (Morris, 1978). Information asymmetry problems occur because management has much information and is more aware of its condition than investors. However, the problem of information asymmetry can be reduced by providing signals from management to investors. The signal in question is an action taken by company management that guides investors regarding management's views on the company's future (Brigham & Houston, 2012).

Based on the signaling theory's explanation above, the relationship between signal theory and firm value can be explained by information asymmetry between management and investors. To reduce information asymmetry, the company will provide and account for its annual report as a form of signal delivery that can increase firm value (Leland & Pyle in Scott, 2012). If the company’s management reports good news, the information will be captured as a positive signal that will increase the company's value, thereby influencing the opinions and decisions of investors, creditors, and other interested parties. As recipients of information, investors will use the information and analyze the information in the financial statements either explicitly or implicitly (Harahap, 2009).

Firm Value

According to Keown (2012), firm value is the market value of debt securities and company equity in circulation. The firm value is the price a prospective buyer is willing to pay if the company is sold (Husnan, 2013). Firm value is a form of maximizing company goals by increasing shareholders' prosperity (Dewi & Fidhayatin, 2012). Furthermore, Brigham & Erdhadt (2015) defines firm value as the present value of future free cash flows at a discount rate according to the weighted average cost of capital. Firm value reflects the current value of the desired future income and an indicator for the market in assessing the company as a whole (Utomo, 2016). Putri (2018), in her research, states that firm value is the perception of investors towards the company, which is often associated with stock prices. The higher the stock price, the higher the firm value. High firm value is the company owners’ desire because the high firm value will provide maximum prosperity for shareholders (Lindawati & Puspita, 2015). Firm value for companies that have gone public can be determined by a supply and demand mechanism (IDX, 2010). If the stock price in the market is high, the firm value will also be high because investor confidence is also high. It proves that investors believe in the company's current and prospects.

Therefore, the firm value is considered as the market value of all financial components of the company. It reflects the market price of its shares and shows the level of prosperity that the company can provide to investors. The value of the firm can be easily observed with the stock price. The share price leads to an increase in firm value. Investors want the company to have high value because it also shows the high prosperity of shareholders.

Intellectual Capital

Gunawan & Putranto (2017) stated that intellectual capital is an intangible asset, including information and knowledge held by a business entity that must be appropriately
managed to provide a competitive advantage for the business entity. According to Pangestika (2010), intellectual capital includes all knowledge of employees, organizations, and their abilities to create added value and lead to sustainable competitive advantage. Intellectual capital has been identified as an intangible set (resources, capabilities, and competencies) that drive organizational performance and value creation (Bontis, 1998). According to the International Federation of Accountants (IFAC), several terms are almost similar to intellectual capital, including intellectual property, intellectual assets, knowledge assets, all of which are intended as shares or capital based on the knowledge owned by the company (Widyaningrum, 2004).

One of the most widely used definitions of intellectual capital is that offered by the Organization for Economic Co-operation and Development (OECD, 1999), which describes intellectual capital as the economic value of two categories of intangible assets: (1) organizational (structural) capital; and (2) human capital. Organizational (structural) capital refers to software systems, distribution networks, and supply chains. Human capital includes human resources within the organization (namely labor/employee resources) and external resources related to the organization, such as consumers and suppliers. Furthermore, Bontis et al. (2000) stated that, in general, researchers identified three primary constructs of intellectual capital, namely: human capital (HC), structural capital (SC), and customer capital (CC). From the description explained above, this study's intellectual capital is an intangible asset of the company, consisting of several parts: employees, information technology, processes, research and development, strategy statements, and customers that can provide a competitive advantage.

Corporate Social Responsibility (CSR)

The definition of corporate social responsibility disclosure has been widely stated in several works of literature. Corporate social responsibility is the company's voluntary commitment to society in being responsible for the company (Korontriz, 2013). According to The World Business Council on Sustainable Development in Rahman (2009), corporate social responsibility is a commitment from companies to implement behavioral ethics and contribute to sustainable economic development. Three dimensions focus on corporate social responsibility, namely the economic dimension, the environmental dimension, and the social dimension (Sarvaiya & Wu, 2014). According to the European Commission (2011), corporate social responsibility is a concept in which companies integrate concern for the social and environmental fields in their interactions with stakeholders and voluntarily.

Regarding ISO 26000, CSR is the organization's responsibility related to its decisions and activities concerning society and the environment. CSR is manifested in transparent and ethical behavior. It contributes to sustainable development, public health, and welfare, taking into account stakeholders' expectations, in line with applicable law and norms of international behavior, and integrated with the organization (Committee Draft ISO 26000, Guidance on Social Responsibility, 2010). The purpose of corporate social responsibility disclosure is to convey social responsibility that has been carried out by the company within a certain period. The company can disclose CSR implementation in the media of its annual report, which contains reports on corporate social responsibility for one year running. From the description that has been explained above, Corporate Social Responsibility in this study is the company's commitment to contribute to sustainable economic development by paying attention to corporate social responsibility and emphasizing the balance of attention between economic, social, and environmental aspects.
Hypotheses Development

According to signaling theory, to reduce information asymmetry between management and investors, management needs to provide information, including information related to its intellectual capital. Information regarding intellectual capital will provide a signal to investors and influence the company's valuation decisions. The information signal provided will determine the company's assessment by investors. Investors will interpret whether this information is a good or bad signal and influence their company's assessment.

Intellectual capital is an essential aspect because it can influence the company. Intellectual capital is a unique resource to maintain and create a competitive advantage in a company. For banking companies that use more intellectual capital than physical capital in earning profits, disclosure of intellectual capital will provide a signal to investors. With adequate intellectual capital, it is hoped that it can reduce investors' risk and uncertainty and increase stakeholder confidence. Therefore, information regarding intellectual capital will provide an excellent signal for investors to assess the company.

The description above is supported by previous research conducted by Yusuf & Gasim (2015) and Rachmawati & Susilawati (2018). According to Rachmawati & Susilawati (2018), it is revealed that Intellectual Capital affects firm value. Yusuf & Gasim (2015) concluded that intellectual capital has positive relevance to market value, increasing firm value. Therefore, the first hypothesis in this study is as follows:

H1: Intellectual Capital has a positive effect on firm value.

According to the signaling theory, to reduce information asymmetry between management and investors, management will provide corporate social responsibility information. Information signals regarding the corporate social responsibility of a company received by investors will be used for decision making and assessing the company. Until now, the implementation of corporate social responsibility is an important aspect to pay attention to. Companies are no longer only faced with a responsibility that rests on a single bottom line, namely firm value, which can be seen in its financial condition. Corporate responsibility must be based on triple bottom lines: financial, social, and environmental. Financial conditions are insufficient to guarantee a company to grow sustainably; other aspects such as social and environmental aspects are needed. When a company implements corporate social responsibility and discloses it in an annual report, investors will interpret this information as a good news signal because it is considered capable of growing sustainably. Therefore, this information will be accepted as a positive signal for the company and influence investors in determining its value.

Several previous studies examined the effect of corporate social responsibility on firm value and supported previous descriptions; for example, Adhitya (2016), Sari & Priantinah (2018), and Wahongan (2019). They stated that CSR has a positive effect on the relevance of firm value in their studies. Therefore, the second hypothesis in this study is as follows:

H2: Corporate Social Responsibility has a positive effect on firm value.

RESEARCH METHOD

The population studied in this study consists of banking companies listed on the Indonesia Stock Exchange from 2014 to 2019. A purposive sampling method was adopted, using the following criteria: banking companies that listed on the Indonesia Stock Exchange from 2014 to 2019, publish annual reports with complete data under research variables, and disclose corporate social responsibility in their annual reports for 2014 to 2019.
This study was conducted to determine the effect of intellectual capital and corporate social responsibility as independent variables on firm value as a dependent variable. Intellectual capital is measured using the VAICTM model developed by Pulic (1998). The VAICTM method measures intellectual capital performance based on the added value created by three types of company input, namely physical capital (VACE), human capital (VAHU), and structural capital (STVA). The formula is:

\[ \text{VAICTM} = \text{VACA} + \text{VAHC} + \text{STVA} \]

\[ \text{VACA} = \frac{\text{operating income} + \text{personnel costs}}{\text{total equity}} \]

\[ \text{VAHC} = \frac{\text{operating income} + \text{personnel costs}}{\text{personnel costs}} \]

\[ \text{STVA} = \frac{\text{operating income}}{\text{operating income} + \text{personnel costs}} \]

Corporate social responsibility is measured using GRI G4 proxies that follow Kurniawan et al. (2018) and Firmansyah & Ardi. If the company discloses an item, it will be given a score of 1, whereas if the company does not disclose an item, it will be given a score of 0. The number of items disclosed will be calculated according to the number written in each company’s sustainability report. The total score will be divided by the total points in GRI G4, which is 91 points. The formula used to measure CSR is:

\[ \text{CSR}_i = \frac{\sum\text{CSR}}{\sum\text{GRI}} \]

\[ \text{CSR}_i = \text{Company GRI Index in the year i} \]

\[ \sum\text{CSR} = \text{The number of components of corporate social responsibility disclosed} \]

\[ \sum\text{GRI} = \text{The number of components that should be disclosed as a component of CSR based on GRI 4} \]

The firm value as the dependent variable is measured using the price to book value (PBV) proxies instead of Tobin’s Q, which proxy was employed by Firmansyah & Ardi (2020), Firmansyah & Purnama, Novianti & Firmansyah. PBV is a comparison between the share price and its book value. Book value is calculated by dividing equity by the number of shares outstanding. This ratio shows how far a company can create firm value relative to the amount of invested capital. This study uses PBV as the proxy follows Forma & Amanah (2018), as follows:

\[ \text{PBV} = \frac{\text{Market prices}}{\text{BV}} \]

\[ \text{PBV} = \text{firm value} \]

\[ \text{Market prices} = \text{the market price per share at the closing price of the stock} \]

\[ \text{BV} = \text{book value per share (BV = Total Equity / Number of share outstanding)} \]

This study also uses the variable firm size (SIZE) as a control variable. The natural logarithms of total assets measure firm size. The research models tested in this study are as follows:

\[ \text{PBV}_{it} = \alpha_{it} + \beta_1\text{VAICTM}_{it} + \beta_2\text{CSR}_{it} + \beta_3\text{SIZE}_{it} + \varepsilon_{it} \]

\[ \text{PBV}_{it} : \text{Firm value} \]

\[ \text{VAICTM} : \text{Intellectual Capital} \]

\[ \text{CSR}_{it} : \text{Corporate Social Responsibility} \]

\[ \text{SIZE}_{it} : \text{Firm size} \]

\[ \text{DER}_{it} : \text{Debt to Equity Ratio} \]

**RESULTS AND DISCUSSION**

The research sample was selected based on specific criteria (using purposive sampling). The sample selection using purposive sampling is presented in Table 1.

Table 1. Sample Selection
This study's descriptive statistical analysis includes the mean, median, maximum, minimum, and standard deviation of each research variable, as is presented in Table 2.

### Table 2. Descriptive Statistics

<table>
<thead>
<tr>
<th>Var</th>
<th>PBV</th>
<th>VAIC</th>
<th>CSR</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1.2990</td>
<td>2.6708</td>
<td>0.4962</td>
<td>31.843</td>
</tr>
<tr>
<td>Med.</td>
<td>1.0335</td>
<td>2.7306</td>
<td>0.5054</td>
<td>32.190</td>
</tr>
<tr>
<td>Max.</td>
<td>3.6715</td>
<td>6.1113</td>
<td>0.6373</td>
<td>34.887</td>
</tr>
<tr>
<td>Min.</td>
<td>0.2901</td>
<td>-0.9176</td>
<td>0.3406</td>
<td>28.126</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.7420</td>
<td>1.1102</td>
<td>0.0716</td>
<td>1.7404</td>
</tr>
</tbody>
</table>

During the 2014 to 2019 period, the average firm value (PBV) of bank companies is 1.299009, and the median value is 1.033549. It illustrates that the firm value of bank companies, on average, exceeds the book value of the company. The mean and median values of the Intellectual Capital variable are 2.6708 and 2.730650. The corporate social responsibility variable's average value is 0.4962, with the maximum and minimum values being 0.63736 and 0.3406. The company size variable's average value is 31.84300, with a minimum value of 28.126 and a maximum value of 34.887.

The multicollinearity test aims to test whether there is a high correlation or relationship between the independent variables (Ghozali, 2016). A good regression model should not have multicollinearity problems. The regression model indicates a multicollinearity problem if there is a high enough correlation between the independent variables (above 0.80). The results of the multicollinearity test between the independent variables can be seen in Table 3. There is no correlation value between independent variables that exceed 0.80 in the test results, which means no multicollinearity problem exists in this regression model.

### Table 3. Correlation Matrix

<table>
<thead>
<tr>
<th>VAIC</th>
<th>CSR</th>
<th>FIRM_SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAIC</td>
<td>1.000000</td>
<td>0.259602</td>
</tr>
<tr>
<td>CSR</td>
<td>0.259602</td>
<td>1.000000</td>
</tr>
<tr>
<td>FIRM_SIZE</td>
<td>0.343725</td>
<td>0.505925</td>
</tr>
</tbody>
</table>
The regression results shown in Table 4 show that intellectual capital exerts a positive influence on the firm value, supporting hypotheses H1. Meanwhile, the coefficients for corporate social responsibility are negative, rejecting hypotheses H2.

### Table 4. Regressions Test Results

<table>
<thead>
<tr>
<th>Var</th>
<th>Pre</th>
<th>Coef</th>
<th>t-Stat</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAIC</td>
<td>+</td>
<td>0.1276</td>
<td>2.4388</td>
<td>0.0163 **</td>
</tr>
<tr>
<td>CSR</td>
<td>+</td>
<td>-2.8554</td>
<td>-1.7127</td>
<td>0.0895 *</td>
</tr>
<tr>
<td>SIZE</td>
<td></td>
<td>-0.0209</td>
<td>-0.2907</td>
<td>0.7718</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>3.0409</td>
<td>1.5037</td>
<td>0.1355</td>
</tr>
<tr>
<td>R2</td>
<td></td>
<td>0.073767</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. R2</td>
<td></td>
<td>0.048957</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-stat.</td>
<td></td>
<td>2.973295</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob(F-stat)</td>
<td></td>
<td>0.034787</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Discussion**

The result suggests that the first hypothesis was supported. It shows that the Intellectual Capital variable positively affects bank companies' firm value as measured by price to book value (PBV) in the 2014-2019 period. Based on the signaling theory, to reduce the information asymmetry between management and investors, management needs to provide information, including information related to its intellectual capital. Information regarding intellectual capital will provide a signal to investors and influence corporate judgment decisions. The information signal provided will determine the company’s assessment by investors. Investors will interpret whether this information is a good or bad signal and influence their company's assessment.

Banking companies are service sector companies that require intensive intellectual capital in running their business. When intellectual capital in the form of knowledge, competence, and skills is used efficiently, it will reduce errors such as human errors and benefit the company, adding value-added and competitive advantage. Based on the Resourced Based Theory developed by Pulic (1998), it is stated that the resources owned by the company have an effect on company performance, which in turn will increase firm value. Information that reflects intellectual capital that is managed efficiently will increase market appreciation of firm value. This firm value is reflected in the share price, which can be measured using PBV. Therefore, investors will consider disclosing information regarding the measurement of intellectual capital to reflect a company's actual value and performance. Disclosure of intellectual capital in the form of knowledge, experience, sources of information, and other intangible assets can create competitiveness to improve company performance. Generally, companies also use intellectual capital to get maximum profit. This information regarding intellectual capital will provide an excellent signal to investors and affect the market value of the company's shares so that the firm's value increases—the results of this study support previous research conducted by Rachmawati & Susilawati (2018).

Based on the findings of this study, the second hypothesis is rejected. Corporate social responsibility disclosure cannot increase firm value. The results of this study contradict research from Adhitya (2016). Adhitya (2016) findings state that corporate social responsibility has a positive effect on firm value. Various factors cause this difference. First, corporate social responsibility does not affect bank companies' firm value because the company has not conveyed corporate social responsibility disclosures correctly to investors so that investors have
not caught corporate social responsibility as something that needs attention. The research period 2014-2019 shows that banking companies in the initial period of the study reported corporate social responsibility activities only to meet formal and administrative requirements. Based on the signaling theory, disclosure of information will signal investors to assess the company. Inaccurate and incorrect corporate social responsibility disclosure will give investors bad signals, so that information from corporate social responsibility does not increase company value. Investors still underestimate the information received from the company's corporate social responsibility disclosures because the information provided is still not informative and not relevant to the facts. Therefore, the company's size of corporate social responsibility disclosure cannot affect the increase in company value (Ramona et al., 2017).

Furthermore, corporate social responsibility does not affect banking companies' firm value because the corporate social responsibility disclosed has not created significant economic benefits. The more CSR activities carried out by companies, and the investors will signal that the costs incurred by the company are increasing without getting reciprocal economic benefits. It will impact the decline in firm value from investors' perspective—the results of this study support previous research conducted by Sabatini & Sudana (2019).

**CONCLUSIONS**

The results of this study indicate that intellectual capital has a positive and significant effect on firm value. Intellectual capital in the form of knowledge, competence, and skills used efficiently will reduce errors such as human errors and provide benefits for companies used to add value-added and competitive advantage. Information that reflects intellectual capital that is managed efficiently will increase market appreciation of firm value. Corporate Social Responsibility does not affect firm value. The bank companies have not been able to appropriately convey CSR disclosures to investors to not catch CSR as something that needs attention. Also, the fact is that banking companies in the initial period of the study reported CSR activities only to meet formal and administrative requirements and could not create significant economic benefits.

This study also has limitations. First, this study's data used banking companies listed on the IDX during the 2014 to 2019 period, not to be generalized to all Indonesian companies. Second, even though the corporate social responsibility score is based on the GRI G4 criteria that have been set, the subjectivity in the researcher's assessment is not eliminated. Third, in measuring firm value, this study only uses the proxy price to book value (PBV), so the study results can be different when using different firm value proxies such as Tobin’s Q and EPS. Consequently, future research is recommended to test the firm value from other sectors than the banking sector or cross-country banking companies, use different independent variables, and other proxies in determining firm values.

Based on the test results in this study, companies should maintain intellectual capital if they intend to positively respond to the market. Investors and potential investors can also make investment decisions by choosing companies that consider that intellectual capital is essential in their business operations. This information can be seen from employee appreciation for their achievements and the low employee resignation.
REFERENCES


