

THE EFFECT OF INTELLECTUAL CAPITAL AND FINANCIAL PERFORMANCE ON FIRM VALUE WITH RETURN ON INVESTMENT AS A MODELING VARIABLE IN THE MINING INDUSTRY LISTED ON INDONESIA STOCK EXCHANGE

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Abstract: This study aims to analyse the effect of intellectual capital, profitability, leverage, firm size and firm growth on firm value with Return On Investment as a moderating variable in Mining Sub Sector Companies listed on the Indonesia Stock Exchange Period 2013-2017. The study was conducted on 29 mining companies listed on the IDX. Data analysis techniques used in this study are Multiple Regression analysis and Moderating Regression Analysis with the help of the E-Views program. The results of the study simultaneously showed a significant influence between intellectual capital profitability, leverage, firm size and firm growth on firm value. Partial testing shows that intellectual capital and firm growth does not affect firm value while profitability and leverage have a positive and significant effect on firm value. Firm size has a negative and significant effect on firm value. Return on investment has no significant effect in mediating the relationship between intellectual capital and firm value.

Keywords: Intellectual capital, firm value, profitability, leverage, firm size, firm growth.

1. INTRODUCTION

Firm value is a reflection of investor perceptions of the level of success of a company that is often associated with the company's stock price. For a company to maximize their value is very important, because by maximizing firm value also means maximizing the company's main goals. The higher the stock price the higher the firm value. Firm value can also be seen from the values of assets, debts and capital owned by the company. According to Kieso (2009), the level of profit generated by the company can be seen through the financial statements made by management. Financial statements can show firm value through the values of assets, debts and capital owned by the company.

Today's business competition is not only focused on physical capital and financial capital based on labor (labor based business), but also focuses on intellectual capital that is characteristic of science-based companies. Theory Resource is a theory that emphasizes the company's resources and how the company utilizes and empowers its resources (Randa & Ariyanto, 2012). Based on the concept of Resource Based Theory, if a company is able to manage its resources effectively it will be able to create competitive advantages over competitors.

In line with the shifting perspective of the company, especially in Indonesia, in conducting its business, companies in Indonesia have now changed businesses

based on labor to businesses based on knowledge, with the main characteristics of science. So that the recognition and measurement of Intellectual Capital can be an added value for mining companies today. Intellectual Capital began to become one of the concerns in Indonesia when it was issued (PSAK 19, 2015). The absence of explicit Intellectual Capital in the PSAK further creates challenges for accountants to identify, measure and disclose them in the financial statements. Mining activities require wisdom and discretion in handling them. This can be achieved through management by competent human resources (HR) in their fields, accompanied by synergies between companies, the government and the community. HR competencies in the mining industry for work needs in the field must be adjusted to the qualifications and level of education. The character of the mining industry, one of which is technology-dense, absolutely requires personnel who master knowledge and technology, both primary and supporting.

2. LITERATURE REVIEW

2.1 Resource Based Theory

Resource based theory is a theory that explains that company performance will be optimal if the company has a competitive advantage so that it can produce value for the company (Anisah, 2016). Competitive advantage is something inherent in companies and difficult for other companies to emulate. Competitive advantage is obtained by utilizing and managing its resources well. Resource based theory recognizes companies as a collection of resource capabilities which will then be managed to produce value for the company itself.

2.2 Signalling Theory

Signalling theory explains why companies are compelled to disclose financial statements to external parties. Companies are encouraged to disclose financial statements because of the asymmetry of information between internal parties and the company's external parties because the company's internal parties are essentially more aware of the company than external parties. The lack of information obtained by external parties influences the decision making in investments from outside parties. Therefore, internal company can reduce the information asymmetry by disclosing company information in the financial statements.

2.3 Intellectual Capital

According to Widiyaningrum (2004) Intellectual capital is a resource in the form of knowledge that will ultimately bring future profits to the company if it is created, maintained, transformed and managed properly. In general, the researchers identified three main constructs of IC, namely: human capital (HC), structural capital (SC), and customer capital (CC).

Intellectual capital is measured by the VAIC™ method developed by Pulic. This model starts with the company's ability to create value added (VA). VA is calculated as the difference between output and input.

VA is influenced by the efficiency of Human Capital (HC) and Structural Capital (SC) and employed capital (CE). The relationship between VA and CE shows how

much VA is created for 1 unit of physical capital. The relationship between VA and CE shows how the contribution of each unit of capital employees to create added value to the company. The relationship between VA and HC is an indicator that shows how much VA can be generated with funds spent on labor. The relationship between VA and SC shows the contribution of structural capital in creating added value to firm value. In this case, structural capital is all elements that generate added value to the company except the company's contribution to the workforce (VA-HC).

The last ratio is to calculate the company's intellectual ability by adding up the coefficients that have been calculated previously. The sum results are formulated in a unique new indicator, which is VAIC™. The advantage of the Pulic method is that the data needed is relatively easy to obtain from various sources and types of companies. The data needed to calculate various ratios are standard financial figures that are generally available from the company's financial statements.

2.4 Profitability

Profitability reflects the final results of all financial policies and operational decisions. Profitability ratios are a group of ratios that show the combination of the effects of liquidity, asset management and debt from operating results (Brigham & Houston, 2006). According to Kasmir (2014) profitability ratios are ratios to assess a company's ability to seek profits. This ratio provides a measure of the level of management effectiveness of a company.

2.5 Leverage

The Solvency Ratio is a ratio used to measure the extent to which a company's assets are financed with debt (Kasmir, 2012). This means how much debt burden borne by the company compared to its assets. In a broad sense, leverage ratios are used to measure a company's ability to pay all short-term and long-term obligations if the company is dissolved (liquidated) to use its own capital or loan capital.

2.6 Firm Size

Firm size describes the size of a company. Firm size generally influences investor's judgment in making investment decisions. A large company is a good indicator of firm growth, this certainly gives a positive signal to investors, which will have an impact on increasing firm value. Firm size is an indicator of a company's financial strength.

2.7 Firm Growth

Firm growth is the company's ability to increase size. The firm growth is basically influenced by several factors, namely external, internal, and the influence of the local industrial climate. Firm with high growth rates, in relation to leverage, should use equity as a source of financing to avoid agency costs between shareholders and company management, whereas companies with low growth rates should use debt as a source of financing because of the use of debt will require the company to pay interest regularly.

2.8 Return On Investment (ROI)

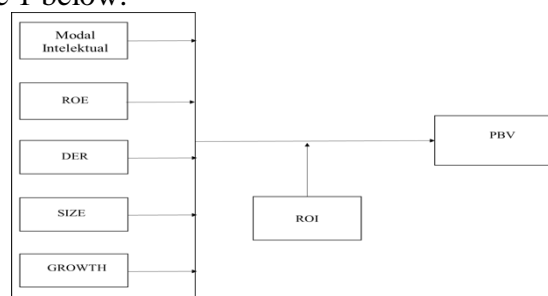
ROI measures the rate of return on assets by a bank. This ratio helps to assess managerial performance, measure the effectiveness of the assets used and evaluate proposed capital expenditure projects. ROI is one form of profitability ratio used to be able to measure a company's ability with the total funds invested in assets used in the company's operations to turn a profit.

2.9 Firm Value

Firm value is investors' perception of the level of success of a company that is often associated with stock prices. High stock prices make the firm value also high, and increase market confidence not only in the company's current performance but also in the company's future prospects. Maximizing the value of the company is very important for a company, because by maximizing the value of the company will maximize the welfare of the owners of the company.

2.10 Conceptual framework

The conceptual framework was built to show the relationship of influence between each variable in a study. The framework of this research concept can be illustrated in Figure 1 below:



Based on the conceptual framework, the research hypothesis is as follows:

- H1: Intellectual Capital, profitability, leverage, firm size, firm growth simultaneously affect firm value in mining companies listed on the Indonesia Stock Exchange.
- H2: Intellectual capital has a positive effect on firm value on mining companies listed on the Indonesia Stock Exchange.
- H3: Return on Equity has a positive effect on firm value in mining companies listed on the Indonesia Stock Exchange.
- H4: Debt to Equity has a negative effect on firm value in mining companies listed on the Indonesia Stock Exchange.
- H5: Company size has a positive effect on firm value on mining companies listed on the Indonesia Stock Exchange.
- H6: Company growth has a positive effect on firm value in mining companies listed on the Indonesia Stock Exchange.
- H7: ROI is able to moderate the relationship between intellectual capital and firm value in mining companies listed on the Indonesia Stock Exchange.

3. METHODS

Data analysis method in this research is multiple regression analysis with the help of Eviews.

4. RESULTS AND DISCUSSION

4.1 RESULT

Chow test has been conducted as Determination of Estimation Model between Common Effect Model (CEM) and Fixed Effect Model (FEM) with Chow Test. Based on the results of the Chow test it is known that the probability value is 0,000. Because the probability value is $0,000 < 0.05$, the estimated model used is the fixed effect model (FEM). Furthermore, the Hausman test has been carried out as a determination of the Estimated Model between the Fixed Effect Model (FEM) and the Random Effect Model (REM) with the Hausman Test. The probability value is 0.2612. Because the probability value is $0.2612 > 0.05$, the estimation model used is the Random Effect Model (REM).

4.2 Hypothesis testing

The results of hypothesis testing are performed by multiple linear regression tests on Eviews.

Multiple Linear Regression Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VAIC	0.008183	0.028338	0.288773	0.7732
ROE	0.034069	0.008201	4.154340	0.0001
DER	0.386423	0.077534	4.983906	0.0000
SIZE	-3.348481	1.680219	-1.992884	0.0482
GROWTH	-0.531213	0.865280	-0.613921	0.5403
C	1.886727	0.479906	3.931453	0.0001

Effects Specification			
R-squared	0.201574	Mean dependent var	1.237339
Adjusted R-squared	0.172854	S.D. dependent var	2.928906
S.E. of regression	2.663768	Sum squared resid	986.2970
F-statistic	7.018527	Durbin-Watson stat	1.764692
Prob(F-statistic)	0.000007		

Based on the data in the above table, the hypothesis test results obtained from the coefficient of determination (R^2) in this study, known the value of the coefficient of determination (Adjusted R-squared) of $R^2 = 0,17$. F test was tested on all independent variables together or simultaneously against dependent variable. Based on the results of the F test known the value of Prob. (F-statistics), which is $0.00 < 0.05$, it can be concluded that all independent variables, namely intellectual capital, return on equity, debt to equity, firm size and firm growth simultaneously, have a significant effect on the variable firm value.

T test results on intellectual capital, it is known that the coefficient value of the independent variable intellectual capital is 0.008183, which is a positive value and

a significance value of 0.7732. This shows that the effect of intellectual capital does not affect the increase in firm value (Y) at a significance level of 5%.

T test results on profitability ratios are known that the coefficient value of the free variable Return On Equity is 0.034069, with a significance value, Return On Equity is 0.00001. This shows that the effect of Return On Equity affects the increase in firm value (Y) at a significance level of 5%. T test results on the leverage ratio note that the coefficient value of the independent variable Debt To Equity Ratio is 0.386423. With a significance value, the DER ratio is 0.0000. This shows that the influence of Debt To Equity Ratio has a significant effect on increasing firm value (Y) at a significance level of 5%.

T test results on firm size and company growth is known the coefficient value of the independent variable firm size is 3.348481, which is negative with a significance value, firm size is 0.0482. This shows that firm size has a significant effect on increasing firm value (Y) at a significance level of 5%. While the independent variable of firm growth is 0.531213, which is negative with a significance value of firm growth valued at 0.5403. This shows that the effect of corporate growth does not affect the increase in firm value (Y) at a significance level of 5%.

Moderation Significance Test (Interaction Test)

The results of the interaction test of moderating variables influence the independent variables on firm value obtained the following results:

Significance Test of ROI in Moderating Intellectual Capital, ROE, DER, Firm Size, Company Growth on Firm Value

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	0.033164	0.074148	0.447261	0.6554
X2	0.011350	0.022027	0.515256	0.6072
X3	0.393920	0.083870	4.696816	0.0000
X4	-3.143070	1.374751	-2.286283	0.0238
X5	-0.891509	0.943708	-0.944687	0.3465
X1Z	-0.126588	0.176413	-0.717567	0.4743
X2Z	-0.024669	0.039483	-0.624814	0.5332
X3Z	3.109250	1.889383	1.645643	0.1022
X4Z	21.40032	14.99395	1.427264	0.1558
X5Z	17.39369	13.28551	1.309222	0.1927
Z	-5.318910	3.811170	-1.395611	0.1652
C	1.753717	0.390678	4.488906	0.0000

Weighted Statistics

R-squared	0.272601	Mean dependent var	1.638443
Adjusted R-squared	0.212441	S.D. dependent var	3.179349
S.E. of regression	2.821498	Sum squared resid	1058.793
F-statistic	4.531215	Durbin-Watson stat	1.467572
Prob(F-statistic)	0.000008		

The interaction test results of the effect of ROI on intellectual capital and ROE are negative. This value can be interpreted as a return on investment that weakens the effect of intellectual capital and ROE on firm value. Given the Prob value of X1Z and X2Z is greater than 0.05, the return on investment is not significant in moderating the influence of intellectual capital and ROE on firm value.

The interaction test results of the effect of ROI on DER, company size and company growth are positive. This value can be interpreted as return on investment to strengthen the effect of leverage, firm size and firm growth on firm value. Given the Prob value of X3Z, X4Z and X5Z is greater than 0.05, the return on investment is not significant in moderating the effect of leverage, firm size and firm growth on firm value

4.3 DISCUSSION

The Effect of Intellectual Capital on Firm Value

The results showed that intellectual capital was not significant to firm value, with a coefficient value of 0.008183 indicating that intellectual capital represented a positive effect on firm value. This finding indicates that market appreciation in a company is based more on physical resources owned, investors tend to focus on the analysis of company performance rather than intellectual resources owned by the company. Widarjo (2011) concluded that the lack of intellectual capital measurement standards might cause the market to not be able to make an appropriate assessment of the intellectual capital owned by the company.

The Effect of Profitability on Firm Value

The results of this study show that profitability has a significant effect on firm value, with a coefficient value of 0.034 indicating that profitability represents a positive effect on firm value. This is consistent with the theory that high profitability reflects the company's ability to generate high profits for shareholders. With a high profitability ratio, it will attract investors to invest in the company. The high interest of investors to invest their capital in companies that have a high level of profitability will increase share prices and will further increase firm value.

The Effect of Leverage on Firm Value

The results of this study indicate that leverage has a significant effect on firm value, with a coefficient of 0.039 indicating that leverage represents a positive effect on firm value. Adding debt can also provide tax benefits for the company, because the interest expense on debt can be used as a deduction from the company's taxable income. This finding is in accordance with the trade-off theory which states that increasing debt has a positive relationship with firm value.

The Effect of Firm Size on Firm Value

The results showed that firm size had a significant effect on firm value, with a coefficient of -3.34 indicating that firm size represented a negative effect on firm value. Large companies also reflect total assets and large inventories. So there is a possibility that large companies are unable to pay dividends because of the large

assets and inventories that accumulate in receivables and inventories (Hirdinis, 2019). This will reduce investor interest in investing in large-scale companies.

The Effect of Firm Growth on Firm Value

The results showed that firm growth had a significant effect on firm value with a coefficient of -0.531, indicating that firm size represented a negative effect on firm value. High growth will result in increased funding needs due to an increasing trend in retained earnings. So that the higher the firm growth, the more costs are needed for investment activities (Safrida, 2008). Firm size does not affect investors in investing their capital, but investors prefer companies that provide profits.

The Effect of Return on Investment in Moderating The Relationship between Intellectual Capital, Profitability, Leverage, Firm Size and Firm Growth on Firm Value

The ROI variable is not able to moderate the relationship between intellectual capital, profitability, leverage, firm size, firm growth and firm value. This study is not in accordance with the results of research conducted by Sayyidah & Saifi (2017). The interaction test results show that return on investment is not able to moderate intellectual capital, profitability, leverage, firm size and firm growth on firm value. The results indicate that the mining industry is not able to optimize its return on investment to innovate and animate the company's routine processes and infrastructure that supports mining employees in improving the performance of their intellectual capital. This indicates that firm size reflects a negative effect on the firm value.

5. CONCLUSION AND SUGGESTION

5.1 Conclusion

From the results of research and discussion that have been carried out, three conclusions can be drawn as follows:

1. Variable intellectual capital, return on equity, debt to equity ratio, firm size and firm growth have a significant simultaneous effect on firm value.
2. Intellectual capital does not have a significant effect on firm value.
3. Profitability ratios have a significant effect on firm value.
4. Leverage ratio has a significant effect on firm value.
5. The ratio of firm size has a significant effect on firm value.
6. The firm growth ratio has no significant effect on firm value.
7. The Return on Investing variable is unable to act as a moderating variable in strengthening or weakening the relationship of intellectual capital and firm value.

5.2 Limitations

This study has several limitations, including:

1. The factors that affect firm value in this research are limited to intellectual capital, ROE, DER, firm size and firm growth with a coefficient of

determination of 17%. This means, there are still other factors that can affect the relationship of intellectual capital and corporate value

2. Return on investment as a moderating variable, because after testing, it turns out that ROI is not able to moderate the relationship between intellectual capital and firm value.
3. Limitations in the selection of research samples. This research is only limited to the mining industry.

5.3 Suggestion

The suggestions based on the conclusions and limitations of the above research are as follows:

1. Future studies are expected to increase the number of independent variables of financial performance ratios. The addition of variables is expected to add new findings that are better for and can strengthen the relationship between intellectual capital and firm value.
2. Future studies are expected to use other moderating variables besides return on investment. For example variables from other financial performance ratios such as earnings per share or dividends per share.
3. Future studies are expected to be carried out in industries other than the mining industry. Preferably in industries based on science and technology.

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