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RESEARCH ARTICLE

IS THERE AN INTELLETECTUAL CAPITAL INFLUENCE IN ACHIEVING RETURN ON EQUITY?

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Abstract

This study aims to analyze the effect of intellectual capital on Return on Equity (ROE) contained in the mining sector companies listed on the Indonesia Stock Exchange since 2011 - 2016 . The method used in measuring intellectual capital is the Value Added Intellectual Coefficient (VAIC) model Pulic consists of three components , namely Value Added Capital Employed (VACA) , Value Added Human Capital (VAHU) and Structural Capital Value Added (STVA) , while for the measurement of company's financial performance using Return on Equity (ROE) . The data used are annual financial statements , especially balance sheet and income statement in 2011 - 2016 . The results of this study indicate that the VACA has a significantly positive effect on ROE , VAHU has a significantly positive effect on ROE , STVA has a significantly positive effect on ROE . This means that all three variables have direct relationships . And simultaneous research result of three components of intellectual capital that is VACA , VAHU and STVA have a significant effect to ROE

Introduction:-

The development of the global economy is marked by the emergence of new industries that confront every industry actor must be prepared for changes in the environment, knowledge and technology. Competition between firms lies not only in winning in possession of tangible assets, but also relies on the management of intangible assets owned. The immeasurable resources of an organization are Human Capital is representing the human factor in the organization, which is a combination of skills, intelligence and expertise that characterize the organization itself. The approach used in assessing the ability of knowledge owned by the company is known as Intellectual Capital (hereinafter abbreviated as IC) . Intellectual Capital is a knowledge , information and experience that can be used in the creation of wealth for the company (Stewart , 1997 : 10) . Measurement of IC can be done with some models . One of the non-monetary based IC sizes (Tan et al , 2007) in Ulum (2009 : 49) is The Balance Scorecard developed by Kaplan and Norton (1992) . While the size of the monetary-based IC one of them is Pulic's model VAIC model (1998) which can be a measure to assess the efficiency of the added value as a result of the company's intellectual ability . The greater the value of VAIC produced by a company will further illustrate the efficiency of the company in its capital use . Given this , it is expected to have an effect on improving corporate profitability as measured by Return on Equity (ROE) . ROE is a ratio that can be used as an analytical tool investors in assessing the profitability of the company and make the policy on the investment process because ROE shows the company's performance in managing or capitalizing on capital invested by investors.

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Another case of Widiatmoko (2016) whose research results found that partially and simultaneously the VAIC component has a significant positive effect on the profitability of the company . Wulandari et al (2013) in his research found partially VACA had a significant positive effect on ATO , VAHU have a negative effect and not significant to ATO , STVA have positive but not significant effect to ATO . While the three components simultaneously have a positive effect on ATO . The result of Ciptaningsih (2013) studied found that partially only HCE has an effect on ROA with negative and insignificant nature , while simultaneously these three components have a positive effect on profitability (ROA) . Based on previous research above , showing different results of the effect of the IC on the performance of the company . This may be due to the different sectors of the company being studied and the different time dimensions and benchmarks of the company's financial performance .

Literature Review:-

Stakeholder Theory:-

In the book Ulum (2009:4) , the term stakeholder in the classical definition is defined by Freeman and Reed (1983) stating that stakeholders as "any identifiable group or individual who can affect the achievement of an organization's objectives , or is affected by the achievement of an organization's objectives " . In the context of ICs , stakeholder theory provides an argument that all stakeholders has the right to be treated fairly and managers must manage the organization for the benefit of all stakeholders . By utilizing all the potential for the company , both employees (human capital) , physical assets (capital employed) , and structural capital , then the company will be able to create value added to the company .

Intellectual Capital (IC):-

The development of intellectual capital was pioneered by Stewart (1997) . Stewart (1997 : 10) defines " intellectual as intellectual material - knowledge , information , intellectual property and experience - that can be put to use to create wealth "According to Bontis (2000) , Intellectual Capital is a set of intangible assets in the form of resources that drive organizational performance and value creation . Intellectual Capital is also known as intellectual property, intellectual assets, and knowledge assets . One of the monetary-based models on the IC assessment , the VAIC's Pulic's rating model (1998) . In the research model , IC measurement is divided into three sources , namely Capital Employed Efficiency , Efficiency of Human Capital and Structural Capital Efficiency. Acoording Ming-Chin Chen, Shu-Ju Cheng (2005) on their studied : An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance. The results support the hypothesis that firms' intellectual capital has a positive impact on market value and financial performance, and may be an indicator for future financial performance. Daniel Zéghal and Anis Maalou,(2010) findings that companies' IC has a positive impact on economic and financial performance. However, the association between IC and stock market performance is only significant for high-tech industries. The results also indicate that capital employed remains a major determinant of financial and stock market performance although it has a negative impact on economic performance.
Intellectual Capital Measurement with Value Added Intellectual Coefficient (VAIC) .

The Value Added Intellectual Coefficient (VAIC) method is one of the monetary measurement methods used in measuring ICs . This method is designed to present information about the value creation efficiency of tangible assets and intangible assets owned by the company . The advantage of the Pulic method is that the data required is relatively easy to obtain from various sources and types of companies . The data needed to calculate the various ratios are standard financial figures that are generally available from the company's financial statements . The calculations for this method focus on a company's ability to create Value Added (VA) . Value Added is the most objective indicator in assessing a business's success and demonstrates the company's ability in value creation . Value added is calculated through output difference in input (Ulum , 2009 : 87) .

Return on equity (ROE):-

Return on equity (ROE) is part of the profitability ratios that need to be known by the management in managing their own capital . According to Kasmir (2012 : 204) . Return on equity (ROE) is the ratio to measure net income after tax with own capital . This ratio shows the efficiency of own capital use , the higher this ratio the better the position of the owner of the company is getting stronger , and vice versa . According to Fahmi (2012 : 99) , return on equity (ROE) is the ratio used to assess the extent to which a company uses its resources to be able to provide return on equity .

In this study , the researcher tried to re-test the IC simultaneously and partially based on three components namely Value Added Capital Employed , Value Added Human Capital , Structural Capital Value Added . This test is expected to provide more definite results and able to develop previous studies by drawing hypotheses as follows:
H1 : Value Added Capital Employed (VACA) has a significant positive effect on Return on Equity (ROE) .
H2 : Value Added Human Capital (VAHU) has a positive significant effect on Return on Equity (ROE)
H3 : Structural Capital Value Added (STVA) has a positive significant influence on Return on Equity (ROE)
H4 : Value Added Capital Employed (VACA) , Value Added Human Capital (VAHU) , Structural Capital Value Added (STVA) simultaneously have a positive significant effect on Return on Equity (ROE)

Research Methods:-
This research uses quantitative approach to two variable hypothesis tests that is independent variable and dependent variable with the relationship between variable one with other variable is correlation.
Variable Operationalization
Independent Variables:-
VA = OUT - IN. Output (OUT) = Total sales and other income from the company's activities (in the income statement); Input (IN) = Expenses and expenses (other than personnel expenses, in the income statement); Value Added (VA) = Difference between Output and Input. Value Added Capital Employed (VACA). VACA is an indicator for VA created by a unit of physical capital.
VACA = VA / CE. Value Added (VA) = Difference between Output and Input; Capital Employed (CE) = Available funds in the form of equity and net income (on equity and net income statement). Value Added Human Capital (VAHU). Value Added Human Capital (VAHU) indicates how much value added can be generated through the funds it has of its human resources.
HCE = VA / HC. Value Added (VA) = Difference between Output and Input; Human Capital (HC) = employee expense (salary expense in income statement)

Structural Capital Value Added (STVA):-
STVA is a supporting component of human capital that serves as a means and infrastructure of employee performance, such as database, strategy and organization network
SCE = SC / VA. Value Added (VA) = Difference between Output and Input; Structural capital (SC) = VA - HC.

Dependent Variables:-
Dependent variable in this study is the company's financial performance proxies with Return On Equity (ROE). ROE = net income / total equity.

Population and Sample:-
The population used in this research is mining Subsector companies listed in Indonesia Stock Exchange in 2011 - 2016 as many as 42 companies. The criteria used to select the sample are companies from the mining sector that have been listed on the Indonesia Stock Exchange from 2011 to 2016, have annual financial reports that have been audited and published in a row from 2011 to 2016, have a positive net profit for from 2011 to 2016. Based on these criteria, there are 8 companies taken using the relatively new year of research.

Research Result and Discussion:-
This research uses fixed effect model with the following result :
Table Test the goodness of fit VACA, VAHU, STVA to ROE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VACA	0,352428	0,081851	4,305728	0,0001
VAHU	0,021885	0,001908	11,47060	0,0000
STVA	0,158380	0,043821	3,614265	0,0009
C	-0,138502	0,035607	-3,88972	0,0004
Weighted Statistics				
R-squared	0,948096	Mean dependent var		0,352872
Adjusted R-squared	0,934067	S,D, dependent var		0,284126
S.E. of regression	0,077448	Sum squared resid		0,221931
F-statistic	67,58491	Durbin-Watson stat		2,182486
Prob(F-statistic)	0,000000			

Source: Eviews data processing result

On the table , the regression model is formed as follows :
ROE = - 0.138502+ 0,352428 VACA + 0,021885 VAHU + 0,158380 STVA + ε .
The hypothesis test results from of this study are as follows :
For t test each of these three variables yields different values , different are as follows :
• Hypothesis testing between VACA to ROE shows the value of t count of 4.305728 and a coefficient of 0.352428 with a significance of 0.0001 which means smaller than 0.05 . So it can be concluded that there is a significant positive influence of VACA on ROE . A positive sign indicates the effect of VACA on ROE , if the VACA variable increases 1% then ROE will increase by 0.352% assuming other variables in this research are constant . Thus H1 which states that the VACA effects / effected on ROE is accepted .
• Hypothesis testing for VAHU to ROE shows the value of t arithmetic of 11,47060 and a coefficient of 0.021885 with a significance of 0.0009 in other words the probability value is smaller than 0.05 so there is a significant positive influence of VAHU on ROE . Thus H2 states that the VAHU affects the acceptable ROE .
• Hypothesis testing for STVA to ROE shows the value of t arithmetic of 3.614265 and a coefficient of 0.158380 with a significance of 0.0004 or the level of significance is in the position of less than 0.05 which mean there is a significant positive influence STVA on ROE . Thus H3 which states that STVA affects on acceptable ROE .
• F tests .
F-statistic tests results obtained probability value of 0.0000000 . So it can be said that the independent variables of VACA , VAHU and STVA simultaneously significantly positive effect on ROE . Thus H4 which state that Value Added Capital Employed (VACA) , Value Added Human Capital (VAHU) , Structural Capital Value Added (STVA) simultaneously have a positive significant effect on acceptable Return on Equity (ROE).
• Coefficient of Determination . The adjusted R2 value generated by EViews 8 between VACA , VAHU and STVA against ROE is 0.934067 . This means that VACA , VAHU and STVA affect ROE by 93.4% while the remaining 6.6% is explained by other variables that are outside the research model

Conclusion:-

Based on the result of research , it can be concluded that :
1. The IC component of the Value Added Capital Employed (VACA) empirically has a significant positive influence on ROE .
2. Value Added Human Capital (VAHU) empirically has a positively positive influence on ROE
3. Structural Capital Value Added (STVA) empirically has a significant positive influence on ROE .
4. The influence of all three IC components when tested simultaneously has proven empirically that it has a significant effect on ROE .

Limitations:-

In this research , the measurement of influence of intellectual capital utilization of company to the company financial performance only uses ROE proxy only as dependent variable , the data used for the research only pivot on the figures contained in annual financial statements , whereas skill , experience manager , employee training and others, should be included in the calculation .

Recommendation:-

From the various conclusions and limitations that has been put forward before , researchers try to give the following recommendations :

1. Further research should be able to add a dependent variable of research by measuring the influence of IC to other financial performance like other profitability ratio , company growth , so that result can be more varied explaining definitively to influence of IC to company .
2. Include data that can assist in IC calculations other than the data contained in the company's financial statements such as manager's experience , skills , employee training results , corporate strategy and others . It is intended that the results obtained will be able to describe in more detail of the composition of intellectual capital in a company , so that possible results obtained will be more reliable .
3. From the above conclusions , it has been proven that intellectual capital has a significant influence on increasing profitability in the company . Therefore , companies should pay more attention to intellectual capital by allocating their capital properly , for example , allocated to employee training and strategy improvement , and continuing to improve both in facilities and infrastructure in order for the company to increase revenue and performance both short and long term

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