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Analysis of Value Added Intellectual Coefficient on Company Performance (Return on Assets and Assets Turn Over) in Companies as Joint in LQ 45

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Abstract
VAIC or Value Added Intellectual Coefficient (also known as Value Creation Efficiency Analysis) as a solution offered by Pulic on the issue of measuring Intellectual Capital.An indicator that can be used in calculating the efficiency of the value generated by the company is VAIC which is obtained by combining CEE, HCE and SCE. VAIC is an indicator of Intellectual Capital that focuses on the total efficiency of the company. The aim of this study was to determine the effect of VAIC partially and simultaneously on the Return On Assets and Assets Turn Over of companies that are members of LQ 45.This study uses multiple linear regression analysis for companies that are members of the LQ 45 which are listed on the BEI for 2 consecutive years, starting from the 2018 - 2021 period using the purposive sampling method, so that 19 companies were selected as samples.The research results obtained by HCE have a partial effect on the ROA of companies that are members of LQ 45, while CEE and SCE do not have a partial effect on the ROA of companies that are members of LQ 45.CEE, HCE and SCE have no partial influence on the ATO of companies that are members of LQ 45.
Keywords: Value Added Intellectual Coefficient, Return On Assets, Assets Turn Over
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I. INTRODUCTION

1. Background of the Problem

Intellectual capital is recognized as a key of corporate asset capable of generating sustainable competitive advantage and better financial performance, it is still difficult to find an appropriate measure of intellectual capital.

The VAIC method provides information about the efficiency of tangible and intangible assets that can be used to generate value for a company (according to Pulic in Rubhiyanti, 2018). The well-known CEE (Capital Employed Efficiency), HCE (Human Capital Efficiency), and SCE (Structural Capital Efficiency) are the main components of VAIC. A higher value on VAIC indicates a greater efficiency in the use of company capital.

2. Statement of the Problem

1. *Capital Employed Efficiency*, *Structural Capital Efficiency* and *Human Capital Efficiency* partially, do they have an influence on Return On Assets (ROA)?
2. *Capital Employed Efficiency*, *Structural Capital Efficiency* and *Human Capital Efficiency* partially, do they have an influence on Assets Turn Over (ATO)?

3. Research Objectives

1. Examining Capital Employed Efficiency, Capital Efficiency Structure and Human Capital Efficiency that has the partial effect on Return On Assets (ROA).
2. Examining Capital Employed Efficiency, Structural Capital Efficiency and Human Capital Efficiency, which have the partial effect on Assets Turn Over (ATO).

II. RELATED LITERATURE REVIEW

1. Intellectual Capital

According to Sangkala (2016), defines intellectual capital as knowledge that can be converted into value. Intellectual Capital can be summed up as a combination of intangible assets that enable the company to function and provide value.

2. Intellectual Capital as Company Assets

According to Nasih in Ruseno (2018), from the definition of these assets contains three requirements to be included as assets, namely:

1. The economic benefits that the company might get in the future.
2. Companies can use these benefits and control them so that they can control other parties' access to these

benefits.

3. Use or control of those benefits from past transactions.

The indicator used in calculating the value efficiency generated by the company is VAIC which is obtained from connecting Capital Employed Efficiency (CEE), Human Capital Efficiency (HCE) and Structure Capital Efficiency (SCE).

VAIC is an indicator of Intellectual Capital which focuses on the total efficiency of the company. The form of the equation of the indicator is as follows:

VAIC = CEE + HCE + SCE

According to Ruseno (2018), CEE, HCE and SCE can be calculated using the formula:

a. Human Capital Efficiency (HCE)

$$\mathbf{HCE = \frac{VA}{BC}}$$

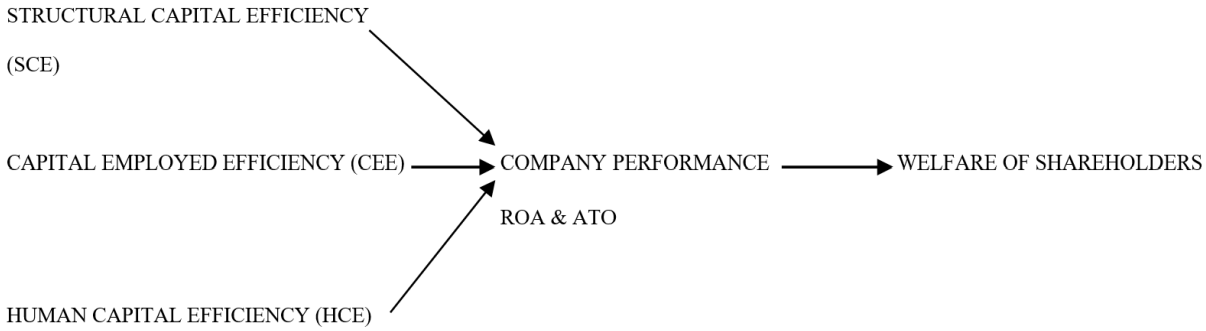
b. Capital Employed Efficiency (CEE)

$$\mathbf{CEE = \frac{VA}{CE}}$$

c. Structural Capital Efficiency (SCE)

$$\mathbf{SCE = \frac{SC}{VA}}$$

3. Road Map



4.Company Performance

Profitability

Return On Assets (ROA) is to measure how well management's ability to manage company resources, also to measure management's ability to gain profit, and also provide an idea of how well a company can use its assets to generate income (earnings). Hanafi (2017) stated the greater the ROA obtained by the company, the greater the level of profit achieved by the company and the better the company's position in terms of asset use. ROA can be obtained by calculating the ratio between profit after tax and total assets (Net Income divided by Total Assets).

$$\mathbf{ROA = \frac{Net\ Income}{Total\ Assets}}$$

The company's productivity measurement indicator is calculating the Assets Turn Over (ATO) ratio. Assets Turn Over (ATO) is used to measure the effectiveness of management to generate income from investment in assets. This ratio also measures efficiency in managing all assets. Generally, the higher the ATO of a company, the smaller the investment require company to generate revenue and thus, more profitable for the company. The level of productivity achieved by the company is also getting bigger and the position of the company is getting better in terms of revenue generation.

$$\mathbf{ATO = \frac{Total\ Revenue}{Total\ Assets}}$$

III.RESEARCH METHOD

1. Population and Sample

In this study the population is companies that are members of LQ 45 which are listed on the Indonesia Stock Exchange from 2018 - 2021.

The sampling used was in the form of purposive sampling, while the criteria for taking the sample were companies that joined in LQ 45 for consecutive years, namely between 2018 - 2021. There were 21 companies as research samples that joined in LQ 45.

2. Variable Identification

Based on the discussion above, the variables that can be analyzed in this study can be identified as follows:

1. The dependent variable, namely:
   a. Y_1 = Return On Assets
   b. Y_2 = Assets Turn Over
2. The independent variable consists of:
   a. X_1 = Capital Employed Efficiency (CEE)
   b. X_2 = Human Capital Efficiency (HCE)
   c. X_3 = Structural Capital Efficiency (SCE)

3. Operational Definition

Value Added Intellectual Coefficient (VAIC) is a new method aimed at measuring the success of companies that focus on value creation. This method can be seen in the following equation:

1. Capital Employed Efficiency (CEE)

CEE is the ratio between Value Added (VA) divided by the total amount of Capital Employed (CE), which is the book value of the company's net assets.

2. Human Capital Efficiency (HCE)

HCE is the ratio of total of Value Added (VA) divided by the total cost of wages and salaries used by the company for its employees.

3. Structural Capital Efficiency (SCE)

SCE is the ratio between the company's structural capital divided by the total of Value Added (VA):

4. Return On Assets (ROA)

Return On Assets can be obtained by calculating the ratio between profit after tax with total assets (Net Income divided by Total Assets)

a. *Assets Turn Over* (ATO)

Assets Turn Over (ATO) is the ratio between total of income and total assets (Total Revenue divided by Total Assets).

4. Analysis Techniques

Regression Analysis

The formula in multiple linear regression analysis is as follows:

$Y_1 = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + e$

$Y_2 = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + e$

3.5. Hypothesis Test

Partial Regression Coefficient Test (t-Test)

The hypothesis test uses the t-Test according to Ghozali (2016) to find out whether the independent variable affects the dependent variable by looking at the significant value if the significance is < 0.05 then the research hypothesis is accepted and if the significance is > 0.05 then the research hypothesis is rejected.

IV. DISCUSSION

The next test, namely the t-Test, is a partial or independent significance test that is used to test whether there is an effect of the independent variable on the dependent variable. This test is carried out to test the regression coefficient of each variable individually according to the analysis model that has been made before. The following table results of the t-Test, namely:

Regression Analysis of the Influence of CEE, HCE, and SCE on ROA

Coefficientsa

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.124	.335		-.371	.713		
CEE	-.002	040	-.011	-.042	.966	.200	4,990
HCE	.009	003	.744	3,417	002	.298	3,351
SCE	.146	.353	.070	.413	.682	.494	2,024

a. Dependent Variable: ROA

To determine the effect of each independent variable partially or individually on the dependent variable, t-Test analysis is used.

a. Partial Influence of CEE (X_1) on ROA (Y_1)

Based on the coefficient table, a significant value of 0.966 is obtained. Because the significant level is

0.966 > 0.05, this means that CEE partially has no effect on ROA, so the hypothesis tested is not proven true. This explains that the utilization of capital efficiency used cannot increase ROA. This will affect investors' assessment of companies that are members of LQ 45, so that investors will judge that companies that are members of LQ 45 have not paid attention to *Capital Employed Efficiency* (CEE) in increasing the total efficiency of the company.

b. Partial Influence of HCE (X_2) on ROA (Y_1)
Based on the coefficient table, a significant value of 0.002 is obtained. Because the significant level is 0.002 < 0.05, this means that HCE partially influences ROA, so the hypothesis tested is proven true. This is in accordance with the fact that when the company's intellectual capital through Human Capital Efficiency is getting higher, through maximum and optimal utilization of manpower, for example, an employee has the expertise and ability to complete more than one task compared to other people so as to increase the company's competence. Another indication is bigger salaries and benefits to employees can motivate these employees to increase their productivity in the production process. Good management of Human Resources (HR) within a company can increase employee productivity which in turn will also increase company revenue and profits. In other words, the efficient use of human capital in companies that are members of LQ 45 is an important factor for improving financial performance. This will affect investors' assessment of companies that are members of LQ 45, so that investors will judge that companies that are members of LQ 45 have paid attention to *Human Capital Efficiency* (HCE) in increasing the total efficiency of the company.

c. Partial Influence of SCE (X_3) on ROA (Y_1)
Based on the coefficient table, a significant value of 0.682 is obtained. Because the significant level is 0.682 > 0.05, this means that SCE partially has no effect on ROA, so the hypothesis tested is not proven true. This explains that the efficiency of structural capital seems not to be able to increase the company's ability. There are various factors that cause SCE not to be fully able to improve the company's capabilities. There are indications that the amount of Structural Capital (SC) required by the company has not been able to fulfill the company's routine processes in producing optimal performance, without being accompanied by good Structural Capital management such as managing systems, procedures, databases, it will hamper employee productivity in generating Value Added (VA). Another indication is that the company has not been able to create the culture to motivate employees to improve performance. Organizations that have a strong structure will have a supportive culture that allows their employees to try new things, to learn and to practice them. This will affect investors' assessment of companies that are members of LQ 45, so that investors will judge that companies that are members of LQ 45 have not paid attention to *Structural Capital Efficiency* (SCE) in increasing the total efficiency of the company.

Regression Analysis of the Effects of CEE, HCE, and SCE on ATO

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1,813	1,263		-1,435	.160		
	CEE	.074	.149	.167	.493	.625	.200	4,990
	HCE	011	010	.301	1,084	.286	.298	3,351
	SCE	2,496	1,333	.404	1873	.070	.494	2024

a. Dependent Variable: ATO

Partial Test – t-Test

To determine the effect of each independent variable partially or individually on the dependent variable, t-Test analysis is used.

a. Partial Influence of CEE (X_1) on ATO (Y_2)
Based on the coefficient table, it is found to be significant at 0.625. Because the significant level is 0.625 > 0.05, this means that CEE partially has no effect on ATO, so the hypothesis tested is not proven true. This explains that the use of capital efficiency cannot increase ATO. This will affect investors' assessment of companies that are members of LQ 45, so that investors will judge that companies that are members of LQ 45 have not paid attention to *Capital Employed Efficiency* (CEE) in increasing the total efficiency of the company.

b. Partial Influence of HCE (X_2) on ATO (Y_2)
Based on the coefficient table, a significant value of 0.286 is obtained. Because the significant level is 0.286 > 0.05, this means that HCE partially has no effect on ATO, so the hypothesis tested is not proven true. This shows that HCE does not seem to be fully supportive of improving the performance of companies that

are members of LQ 45. There are various factors that cause HCE not to be fully able to increase company profits. There are indications that the salaries and benefits provided by the company to its employees have not been able to motivate employees to increase the company's revenue and profit, without being accompanied by good Human Resources management such as employee training and development. *Human Capital Efficiency* (HCE) in increasing the total efficiency of the company.

c. Partial Influence of SCE (X_3) on ATO (Y_2)
Based on the coefficient table obtained a significant value of 0.070. Because the significant level is 0.070 > 0.05, this means that SCE partially has no effect on ATO, so the hypothesis tested is not proven true. This explains that the efficiency of structural capital seems not to be able to increase the company's ability. There are various factors that cause SCE not to be fully able to improve the company's capabilities. There are indications that the amount of Structural Capital (SC) required by the company has not been able to fulfill the company's routine processes in producing optimal performance, without being accompanied by good Structural Capital management such as managing of systems, procedures, database, it will hamper employee productivity in generating Value Added (VA). Another indication is that the company has not been able to create the culture to motivate employees to improve performance. Organizations that have a strong structure will have a supportive culture that allows their employees to try new things, to learn and to practice them. This will affect investors' assessment of companies that are members of LQ 45, so that investors will judge that companies that are members of LQ 45 have not paid attention to *Structural Capital Efficiency* (SCE) in increasing the total efficiency of the company.

V. CONCLUSION AND RECOMMENDATION

5.1. Conclusion

Based on the results of the analysis and discussion in the previous chapter, some conclusions that can be drawn from this research are:

1. HCE has a partial influence on the ROA of companies that are members of LQ 45, while CEE and SCE do not have a partial effect on the ROA of companies that are members of LQ 45.
2. CEE, HCE and SCE have no partial influence on the ATO of companies that are members of LQ 45.

5.2. Suggestion

As the end of this research, the suggestions that can be submitted by researchers are:

1. Adding the research period so that it is hoped that the results of the observations will provide the better power of test.
2. Entering other variables, namely the ratios of other company performance such as ROI, ROE and others so that it can be seen which company performance ratios are affected by VAIC.

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