

# THE EFFECT OF EFFICIENCY HUMAN CAPITAL, EFFICIENCY STRUCTURAL CAPITAL, AND EMPLOYED EFFICIENCY CAPITAL TO RETURN ON ASSET (ROA) IN SHARIA COMMERCIAL BANKS IN INDONESIA FOR THE PERIOD OF 2012-2016

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## Abstract

*The purpose of this study is to analyze the effect of Human Capital Efficiency, Structural Capital Efficiency, and Capital Employed Efficiency towards Return On Assets (ROA). Data used in this research is secondary data, taken from the annual report 2012 to 2016 from Sharia Commercial Bank. The samples consist of 11 Bank, from 2012 to 2016 which already included the study criteria. The analysis tools to test the hypothesis are multiple linear regression analysis by using SPSS 20 with the degree significance at 0,05. The results of this study indicate that the VAIC<sup>TM</sup> consisting of Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE), and Capital Employed Efficiency (CEE) simultaneously have a positive influence on Return On Assets (ROA). Human Capital Efficiency (HCE) has no positive effect on Return On Assets (ROA). While Structural Capital Efficiency (SCE), and Capital Employed Efficiency (CEE) have a positive influence on Return On Assets (ROA).*

**Keywords:** *Intellectual Capital, Value Added Intellectual Coefficient (VAIC<sup>TM</sup>), Return On Asset (ROA).*

## Introduction

The birth of sharia banking originated from the concerns of the Indonesian people, especially the Muslim community, towards conventional bank interest rates. The development of Islamic Banks in Indonesia has become a benchmark for the success of the existence of Islamic economics. Bank Muamalat as the first Islamic bank and a pioneer for other Islamic banks has already implemented this system amid the proliferation of conventional banks.

The characteristics of the Islamic banking system that operates based on the principle of profit sharing provides an alternative banking system that is mutually beneficial for the community and banks, highlighting aspects of fairness in transactions, ethical investments, promoting values of togetherness and brotherhood in production, and avoiding speculative activities in financial transactions. [Republika.co.id](http://Republika.co.id) Article, June 13, 2017, OJK Jasmi Director of Supervision of Islamic Banks, stated that the main uniqueness of Islamic banks is the values contained in the operations of Islamic banks such as the values of justice, togetherness, equity, and benefits. These values aim to organize economic activity so that it can be beneficial for all people (rahmatan lil alamin) and as a response to crisis phenomena triggered by bad behavior in the economy, namely ignoring ethics, religion,

and moral values. Islamic banks have many contracts that vary so that customers can choose according to their needs and desires.

Another unique thing is the existence of the Sharia Supervisory Board (DPS) which serves to ensure bank operations in accordance with sharia principles so that customers do not need to worry about misuse of sharia products and will minimize customer doubts to Islamic banks. This is what distinguishes Islamic banks from conventional banks. UU no. 21 of 2008 concerning Islamic banking, explains that what is meant by Islamic banks are banks that carry out their business activities based on Sharia principles and according to their type consist of Islamic Commercial Banks and Islamic People's Financing Banks. Now there are 11 Sharia Commercial Banks (BUS), 24 Islamic banks in the form of Sharia Business Units (UUS), and 156 BPRS, with office networks increasing from 1,692 offices in the previous year to 2,574 in 2012, thus the number of banking service office networks sharia increased by 25,31% (www.bi.go.id, accessed in 2017).

Suryani (2014) said that previous observations by researchers stated that one of the problems of Islamic banking is that it still lacks Human Resources who have competencies in the field of Islamic economics and in the banking sector. Kompas.com Article, 13 August 2012 Secretary General of the Association of Indonesian Islamic Banks (Asbisindo) Achmad K Permana stated that there were three problems of Islamic banking, namely the first problem, the availability and standardization of Islamic banking products, because there are still many Islamic banks that have not implemented sharia principles. Standardization is needed because Islamic banking is different from conventional banks. Islamic banking products are not only for Muslim customers, but also non-Muslim customers. The second problem is the level of understanding of Islamic banking products, because very few people know about Islamic banking products and terms in Islamic banking. The third problem is that Islamic banks find it difficult to find competent and competent human resources in the field of Islamic banking, because Islamic banks actually take a lot of human resources from conventional banks and potential human resources, very few human resources are taken from the Sharia Higher Education graduates.

The progress of Islamic banks is inseparable from the resources they have to achieve the stated goals. The resources owned by banks come from tangible assets and intangible assets where banks can utilize the resources they generate through human capital, structural capital, and customer capital from Islamic banks.

The financial performance used is Return On Assets (ROA) because ROA reflects the company's profits. The better a company is in managing Intellectual Capital, the better its profit can be. Pratama (2014) states that ROA is one indication of banking health. The greater the ROA, the greater the level of profit achieved and the better the position of the bank in terms of asset use. Ramadhani, Maiyarni, and Safelia (2014) define Return On Assets (ROA) as the ratio used to measure the ability of a bank to generate profits relative to its total assets. This ratio measures the ability of a company to generate net income based on a certain level of assets.

Suryani (2014) said there are some researchers connecting Intellectual Capital with financial performance (ROA) as Maheran (2009), Saengchan (2008), Basyar (2011), Anis (2013), Istanto (2014), Prakoso (2015), and Puspitosari (2016) The Intellectual Capital significant to Return On Assets (ROA), it is just the research was inversely with the results Martin et al (2010), Puntillo (2009), Santoso (2012) said that no influence Intellectual Capital to Return On Assets (ROA).

From this phenomenon, researchers are interested in re-examining to prove the justification for the influence of Intellectual Capital as measured by Value Added Intellectual Coefficient (VAIC<sup>TM</sup>) on Return on Assets (ROA) by taking objects in Islamic Commercial Banks entitled "The Effect of Human Capital Efficiency, Structural Capital Efficiency, and Capital Employed Efficiency to Return on Assets (ROA) on Sharia Commercial Banks in Indonesia for the Period of 2012 - 2016. "

### **Formulation of The Problem**

Based on the background description above, the formulation of the research problem is:

1. Is there an effect of Value Added Intellectual Coefficient (VAIC<sup>TM</sup>) simultaneously on ROA?
2. Is there an effect of Human Capital Efficiency (HCE) on ROA?
3. Is there an effect of Structural Capital Efficiency (SCE) on ROA?
4. Is there an effect of the Capital Employed Efficiency (CEE) on ROA?

### **Research Purposes**

The purpose of this study is:

1. To determine the effect of Value Added Intellectual Coefficient (VAIC<sup>TM</sup>) simultaneously on ROA.
2. To determine the effect of Human Capital Efficiency (HCE) on ROA.
3. To determine the effect of Structural Capital Efficiency (SCE) on ROA.
- To determine the effect of the Capital Employed Efficiency (CEE) on ROA

### **Benefits of Research**

This research is expected to add to and broaden insight into Intellectual Capital and its influence on Return On Assets (ROA) seen from several financial factors (capital, asset quality, profitability and liquidity), and as input for leaders of Islamic Commercial Banks, especially regarding the use of Intellectual Capital for the achievement of Value Added in Islamic Commercial Banks and as an input in managing good human capital for the creation of truly sharia-based banking.

### **Literature Review**

#### **Resources Based Theory (RBT) / Resources Based View (RBV).**

Ulum (2016) quotes from Newbert (2007) Resources Based Theory (RBT) is one theory that is widely accepted in the field of strategic management. Basyar (2012) states that Resources Based View (RBV) has the characteristics of knowledge / learning economy that relies on intangible assets. Assumption of Resources Based View (RBV) is how companies can compete with other companies to gain competitive advantage by managing their resources according to the company's capabilities.

#### **Understanding of Intellectual Capital.**

Harianto (2013) quotes from Ellanyndra (2011) as defining that Intellectual Capital is the science or the power of thought, which is owned by the company, intangible, and with the existence of Intellectual Capital, the company will benefit and give the company more value than other companies. Ulum (2016) quotes from Andriessen and Stem (2004) stating that Intellectual Capital is an intangible resource in an organization that is an advantage of the organization, and can create profits in the future.

#### **Value Added Intellectual Coefficient (VAIC™).**

Rambe (2012) quotes from Sawarjuwono (2003) stating that the method of measuring Intellectual Capital is grouped into two groups: nonmonetary measurements and monetary measurements. One of the nonmonetary measurement methods is the Balanced Scorecard by Kaplan and Norton, while the monetary measurement method, one of which is the Pulic model known as the Value Added Intellectual Coefficient (VAIC™).

#### **Return On Assets (ROA).**

Hermawan (2013) quotes from Gitman (2009) stating that Return On Assets (ROA) is a measurement of a company's ability to generate profits with the total amount of assets available within the company. The higher the Return On Assets (ROA), the better the state of a company. Return On Assets (ROA) one of the performance that is often used to measure overall management in generating profits with available assets.

Basyar (2012) states that the VAIC™ method measures the efficiency of three types of company inputs which consist of:

1. Human Capital Efficiency (HCE) is an indicator of the efficiency of human capital added value. HCE is the ratio of Value Added (VA) to Human Capital (HC).

$$\begin{aligned} \text{HCE} &= \text{VA} / \text{HC} \\ \text{HC} &= \text{Employee Salaries and Benefits} \end{aligned}$$

2. Structural Capital Efficiency (SCE) is an efficiency indicator of value added structural capital. SCE is the ratio of SC to VA.

$$\text{SCE} = \text{SC} / \text{VA}, \text{ where } \text{SC} = \text{VA} - \text{HC}$$

3. Capital Employed Efficiency (CEE) is an indicator of the efficiency of value added capital used. CEE is the ratio of VA to CE.

$$\begin{aligned} \text{CEE} &= \text{VA} / \text{CE} \\ \text{CE} &= \text{Book Value of Net Assets} \end{aligned}$$

### **Research Methods**

#### **Types and Data Sources**

This study uses a quantitative approach. With secondary data. In general, quantitative approaches focus more on goals for generalization, by testing.

### **Population and Sample**

In this study the object used is a Sharia Commercial Bank because the financial statements at the Sharia Commercial Bank are not consolidated financial statements as in the Sharia Business Unit. The sample in this study is the financial statements for the period 2012-2016. As of December 31, 2016 the number of Islamic Commercial Banks in Indonesia is currently 13 (BUS).

The sampling technique used in this study was purposive sampling, namely the selection of nonrandom samples whose information was obtained with certain considerations or criteria. The criteria is that the company has published financial statements for five consecutive years from 2012, 2013, 2014, 2015 and 2016 which have been published.

### **Method of Collecting Data**

Data collection method used in this research is documentation method. This is done by collecting, recording and calculating data related to research. Data obtained are financial reports published by Islamic Commercial Banks at Bank Indonesia and the Financial Services Authority.

### **Analysis Method**

The data in this study will be processed using multiple linear regression analysis with SPSS tools. In this study will be analyzed about the influence of Intellectual Capital (as measured by the VAIC<sup>TM</sup> method which consists of three main components, namely HCE, SCE, and CEE) on Return on Assets (ROA). The proof of hypothesis is done by F statistical test, T statistical test, and Determination Coefficient ( $R^2$ ).

## **Research Results and Discussions**

### **Description of Research Location**

The number of Sharia Commercial Banks that issued financial statements for five consecutive years from 2012, 2013, 2014, 2015 and 2016 which have been published, namely 11 banks. So that the sample used in this study is 11 banks in 2012 - 2016. With the method of merging data, in this case it is obtained as much as  $11 \times 5 = 55$  observation data.

### **Description of Research Results**

Before testing hypotheses, first describe the distribution of the values of each variable. Descriptive statistics are used to provide information, present and analyze data that is owned. The analytical tool used in this study is the mean and standard deviation. The description of each variable is explained as follows: Based on Table 4.2 the results of the analysis using descriptive statistics on Return On Assets (ROA) shows the mean value of -0,1469 and the standard deviation of 0,87487.

The results of the analysis using descriptive statistics on Human Capital Efficiency (HCE) shows the mean value of 0,4654 and the standard deviation of 0,37675. The analysis using descriptive statistics on Structural Capital Efficiency (SCE) shows that the mean value is -1,22842 and the standard deviation is 0,69197. The results of the analysis using descriptive statistics on the Capital Employed Efficiency (CEE) show that the mean value is -1,3787 and the standard deviation value is 0,53867.

### **Data Analysis**

#### **1. Classic Assumption Test**

##### **a. Normality test**

Residual normality testing is carried out using the Kolmogorov-Smirnov test. Data is normally distributed if the results of Kolmogorov-Smirnov show significant values above 005. Based on Table 4.3 the Kolmogorov-Smirnov test (KS) shows that a significant value of 0,893 is greater than 0,05, so the data in this study are normally distributed after Transforming the data. Previously the data used was 55 data after transforming the data into 48 observation data.

##### **b. Multicollinearity Test**

Multicollinearity is tested using the Tolerance value and VIF (Variance Inflation Factor) value. A regression model said the absence of symptoms of multicollinearity is if the Tolerance value is greater than 0,10 and the VIF value is less than 10.

From these results indicate that the Tolerance value of the HCE, SCE, and CEE variables has a Tolerance value greater than 0,10 and has a VIF value smaller than 10. These results indicate that there are no symptoms of multicollinearity.

c. Heteroscedasticity Test

This test is done using Scatter Plots. It is stated that heteroscedasticity does not occur, that is if there is no clear pattern, and the spread points above and below the number 0 on the Y axis.

The test results in the figure show that the Scatter Plot pattern of the regression spreads. This shows that there is no symptom of heteroscedasticity.

d. Autocorrelation Test

This test is carried out using the Durbin-Watson test. Based on the test results, the Durbin-Watson value is 1,146 which means that the DW value is between -2 to +2 so it can be concluded that there is no autocorrelation problem.

## 2. Hypothesis Test.

a. Simultaneous Significance Test (Test Statistics F)

Apriliani (2011) quotes from Ghozali (2006) Test Statistics F shows whether all independent or free variables included in the model have a joint influence on the dependent variable. Prakoso (2015) If the probability value F is smaller than 0,05, the independent variables together affect the dependent variable. Whereas if the probability value is greater than 0,05, the independent variables together do not affect the dependent variable.

Based on the results of testing hypothesis 1 shows the F test value of 61,274 with a probability of 0,000. Based on the probability value is less than 0,05, it means that the independent variables consisting of HCE, SCE, and CEE together have a positive effect on ROA. Hypothesis 1 is accepted.

In Resources Based Theory, Ulum (2016) states that companies have resources that can make companies have competitive advantages and are able to direct the company to have long-term and good performance.

In this context, it is explained that the application of Intellectual Capital efficiency which consists of HCE, SCE, and CEE is able to significantly increase the company's profit that is measured through Return on Assets (ROA). It can be concluded that companies capable of managing assets well including Intel Capital can maintain competitive advantage according to RBT theory.

The results of this hypothesis are consistent with the research conducted by Basyar (2012) that VAIC™ which consists of HCE, SCE, and CEE has a positive effect simultaneously on ROA.

b. Test the Significance of Individual Parameters (Test Statistics t)

Apriliani (2011) quotes from Ghozali (2006) stating that the statistical test t basically shows how far the influence of an explanatory / independent variable individually in explaining the variation of the dependent variable. Purnama (2016) states that the significant level in this study is 5%. If the number of significance probability is > 5% then H0 is accepted, if the probability of significance is < 5% then H0 is rejected.

Regression equation of model 1 can be written as follows:

$$ROA = 1,564 + 0,263HCE + 1,044SCE + 0,357CEE + \varepsilon$$

Basyar (2012) quotes from Priyatno (2008) Multiple linear regression equations are used to determine the direction of the relationship between two or more independent variables on the dependent variable.

Testing the hypothesis 2 regarding the effect of the HCE variable on ROA shows that the t value is 0,982 with a significance of 0,332 ( $p > 0,05$ ). This means that the HCE has no effect on ROA. Hypothesis 2 is rejected. This shows that human capital management does not affect the level of corporate profit as measured by ROA. In this case the HCE as measured by ROA is not in accordance with the RBT theory. Putri (2013) stated that the theory of RBT is that knowledge possessed by employees is seen as company assets. One of the HCE measurements is salary and benefits. Putri (2013) states that HCE is obtained if salaries and benefits are lower then income will increase or if salaries and benefits are greater then income will increase. The results of this hypothesis are consistent with Basyar (2012) research that the Human Capital Efficiency (HCE) has no effect on ROA.

Testing of hypothesis 3 shows that the SCE t count for ROA is 7,375 with a significance value of 0,000 ( $p < 0.05$ ). This means that SCE has a positive effect on ROA. Hypothesis 3 is accepted. This shows that SCE is fully capable of increasing company profits. This is due to the amount of structural capital needed by the company

to be able to fulfill the company's routine process in producing optimal performance, accompanied by good structural capital management such as system management, databases, and procedures will increase employee productivity in generating value added. In this case it is in accordance with the RBT theory. The results of this hypothesis are consistent with the research conducted by Dwipayani (2014) that Structural Capital Efficiency (SCE) has a positive effect on ROA.

Testing of hypothesis 4 shows that the CEE t count value for ROA is 3,145 with a significance of 0,003 ( $p < 0.05$ ). This means that CEE has a positive effect on ROA. Hypothesis 4 is accepted. This shows that the management of banking physical assets is able to contribute to increasing corporate profits. So that if the capital used by the company is relatively large, the total assets of the company are also relatively large. Then the company's income will also increase.

This can increase the return on assets owned by the company as measured by ROA. The results of this hypothesis are in accordance with the Resource-Based Theory View. The results of this hypothesis are consistent with the research conducted by Prakoso (2015) that Capital Employed Efficiency (CEE) has a positive effect on ROA.

c. Determination Coefficient ( $R^2$ )

Basyar (2012) quotes from Ghozali (2006) that the coefficient of determination is used to measure how far the model's ability to explain variations in independent variables. The higher the coefficient of determination, the better the ability of independent variables in explaining the dependent variable.

From the test results obtained the value of adjusted  $R^2$  is 0,794. This shows that 79,4% of the variation in ROA performance can be explained by Intellectual Capital consisting of HCE, SCE, and CEE, while the other 20,6% can be explained by other variables outside this model.

### Conclusions and Recommendations

Based on the results of the Multiple Linear Regression analysis, it can be concluded as follows:

1. The results of the F statistical test show that the VAIC<sup>TM</sup> comprising Human Capital Efficiency, Structural Capital Efficiency, and Capital Employed Efficiency have a positive and simultaneous effect on ROA.
2. The results of the statistical test t show that Human Capital Efficiency does not have a positive effect on ROA.
3. Results from statistics show that Structural Capital Efficiency has a positive effect on ROA.

The results of the statistics t show that the Capital Employed Efficiency has a positive effect on ROA.

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