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The Analysis of Intellectual Capital Performance of Islamic Bank in Indonesia

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ABSTRACT

Objective – The purpose of this paper was to assess the influence of Value Added Intellectual Capital (VAIC) towards company performances such as: profitability and productivity of Islamic banks of Indonesia measured by ROA, ROE, ROI and ATO.
Methodology/Technique – This research conducted purposive sampling method. Correlation analysis was applied to measure the influence of ICE on company Performance. SPSS 18 was applied for correlation test. VAIC was calculated for measuring intellectual capital efficiency.
Findings – VAIC had positive relationship to company performance such as financial performance and productivity. The highest value of correlation was the relationship between VAIC and ATO. The lowest value of correlation was the relationship between VAIC to ROE.
Novelty – This research assessed the influence of VAIC towards 11 Islamic Banks in Indonesia.
Type of Paper: Empirical

Keywords: Intellectual capital, VAIC, corporate performance, financial performance, productivity, Indonesia, Islamic Banks.
JEL Classification: E5, E58, G2.

1. Introduction

Business world is now turned into a more complex and have stiff competition (Paul, 2012). This change as a part of the impact of globalization is forcing companies to innovate, increase technology and also increase the intensity of competition. This of course changed the way companies run the company. The change is the transfer of production era into the era of knowledge and also the change of production workers into knowledge workers (Madina Latif, 2012). Business is based on science which emphasizes the importance of knowledge assets (Sholikhah et. Al 2010). One approach used to assess and measure knowledge assets is the intellectual capital that became the focus of attention in several areas including in the field of accounting (Petty Andu Gutrie 2000, in Sholikhah et al., 2010).

Based on Certified International Management Accounting – CIMA (2001), it is stated that intellectual capital is the possession of knowledge and experience, professional knowledge and skill, good relationship,

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and technological capacities, so that when it is applied, it will give organization competitive advantage. Judging from the model of intellectual capital that is initiated by Leif Edvisson (1996), intellectual capital has an important role which is illustrated as the root which will give effect to the strategic and financial result illustrated as trees and fruit. It can be concluded that intellectual capital is the root of a company that will provide nutrients to the development and success of the company's business. If intellectual capital in company is well-managed, it will contribute to better performance for the company. The intellectual capital of intangible physically, but it can influence the development of a company's business.

Development study of intellectual capital is not accompanied by the development of appropriate methods for measuring intellectual capital. So far there has been no method of measuring intellectual capital that is really accurate (Soedaryono et.al 2012). But in 1998 and 2000, Pulic proposed methods for measuring intellectual capital companies, known as Value Added Intellectual Capital (VAIC). In empirical studies Pulic (2000) revealed that the contribution of intellectual capital is different for each industry. Research conducted by Tan et.al (2007) strengthens Pulic's opinion, that the contribution of intellectual capital to the performance of different companies for each industry.

Research conducted by Malina Hanum Mohd Kamal et.al (2012) found that Value Added Intellectual Capital (VAIC) consisting of Human Capital, Structural Capital and Employed Capital has a significant impact on the performance of 18 commercial banks in Malaysia. In the health sector, according to research conducted by Yurniwati (2014) it is stated that intellectual capital contribute to the performance of dr. Rasyidin Hospital in West Sumatera, so the performance of dr. Rasyidin Hospital in West Sumatra by the Regulation of the Minister of Health no. 1171 / Menkes / Per / VII / 2011, stated pretty good.

Based on previous research that has been done, the researches produce different results on the effect of intellectual capital on performance of the company. The differences results of that research make this topic was interesting to learn. Therefore, this study tries to assess the effect of intellectual capital on the performance efficiency of the Islamic Bank in Indonesia from 2011 to 2013. The reason to selects the Islamic bank sector for this study, because in June 2008 Indonesian parliament (DPR) authorizes two important laws about Islamic banks. With these two laws, Indonesia is expected to take a role in economic development and Islamic finance in Asia. It is also supported by Firer's and Williams's statement about bank sector (2003) that states the bank is one of the most intensive sectors conducting intellectual capital. As an addition, according to Ahangar (2011), the banking company relies heavily on intellectual capital to earn an income. This paper aims to investigate the correlation between intellectual capital (VAIC) with Islamic bank performance in financial and productivity (ROA, ROE, ROI and ATO).

2. Literature Review

2.1 Intellectual Capital

Sangkala (2006) states that intellectual capital as the intellectual material, which includes knowledge, information, intellectual property and experience that can be used together to create wealth. Bontis et al. (2000) states IC as being the pursuit of effective use of knowledge (the finished product) as opposed to information (the raw material). According to Marr and Chatzkel (2004), intellectual capital refers to the non-financial fixed assets that do not have physical substance but are identifiable and controlled by the company through custody and legal rights as defined by the Accounting Standards Board.

From various expert definitions above, it can be concluded that intellectual capital is a concept that can provide new knowledge-based resources and describe intangible assets which enable the company to execute its strategy effectively and efficiently when it is used optimally. Thus, intellectual capital is the knowledge that provides information about the intangible value of companies that can increase firms' value from the view of stakeholder and affect the durability and competitive advantage. Until now, the classification of intellectual capital has not applied universally. Bontis et al. (2001) in Ulum (2008) stated that in general researchers

divided intellectual capital into three components: physical capital (VACA), human capital (VAHU) and structural capital (STVA).

2.1.1 Value Added Intellectual Coefficient (VAIC)

Pulic (1998, 2000) developed the "Value Added Intellectual Coefficient" (VAIC) to measure the IC of companies to provide information about the value creation efficiency of tangible and intangible assets owned by the company. This model is relatively easy and very possible to do so because it is constructed from accounts in the financial statements (balance sheet, income statement).

Value creation process is influenced by the efficiency of three main components of VAIC: physical capital (VACA - Value Added Capital Employed), human capital (VAHU-Value Added Human Capital) and structural capital (STVA - Structural Capital Value Added).

- **Value added of Capital Employed (VACA)**
  Value Added of Capital Employed (VACA) describes how much the value added is generated from the use of physical capital. The company will look better in a utilizing its Capital Employed if 1 unit of CE produces greater returns than other companies (Pulic, 1998). Company's ability to properly manage the CE is part of the company's intellectual capital.
- **Value Added Human Capital (VAHU)**
  Value Added Human Capital indicates the ability of labor to produce value for the company from funds spent for that labor. The more value added generated from each rupiah spent by the company the more optimally the company has been managing human resources which results a qualified manpower that will ultimately improve the company's financial performance.
- **Structural Capital Value Added (STVA)**
  Structural Capital Value Added (STVA) shows contribution structural capital (SC) in value creation. STVA measures the amount of SC required to produce 1 rupiah from VA and an indication of how successful the SC in value creation. Calculation of SC is VA less HC.

2.2 Financial Performance

Performance is an important thing to be achieved by every company. Performance can be benchmarks to company's ability in managing and allocating all its resources. The company should continue to make improvements to the quality and performance of the company to achieve corporate objectives. The annual report is information that provides an overview of the performance of the company given by the management to the stakeholders.

Financial performance used in this study is by financial ratio analysis that is Return on Assets (ROA), Return on Equity (ROE) and Return on Investment (ROI).

- Return on Asset (ROA)
  Return on assets is a profitability ratio that measures the amount of profit earned every monetary amount of assets owned by the company. ROA shows a company's ability to perform efficient use of total assets for the company's operations. ROA gives investors an idea of how to convert the company's money which has been invested in net income. Thus, ROA is an indicator of the profitability of the company in using its assets to generate earnings. ROA is calculated by dividing net income to total assets of the company. The higher the ROA, the more efficient the company is at using its assets. This means that the company can make money (earnings) more with little investment.

- Return on Equity (ROE)
  Return on equity is the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates

with the money shareholders have invested. It measures a firm's efficiency at generating profits from every unit of shareholders' equity (also known as net assets or assets minus liabilities). ROE shows how well a company uses investment funds to generate earnings growth. ROEs between 15% and 20% are generally considered good. ROE is expressed as a percentage and calculated as: Return on Equity = Net Income/Shareholder's Equity.

- Return on Investment (ROI)

  A performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed as a percentage or a ratio. ROE is expressed as a percentage and calculated as: Return on Equity = Net Income/Investment x 100%.

2.3 Productivity

Productivity is commonly defined as a ratio between the output volume and the volume of inputs. In other words, it measures how efficiently production inputs, such as labour and capital, are being used in an economy to produce a given level of output. Productivity is projected by using Asset Turn Over (ATO) is also called total asset turnover ratio is a ratio that measures the efficiency and effectiveness of the turnover and the utilization of its total assets in generating sales.

$$ATO = \frac{\text{Sales Revenue}}{\text{Total Asset}}$$

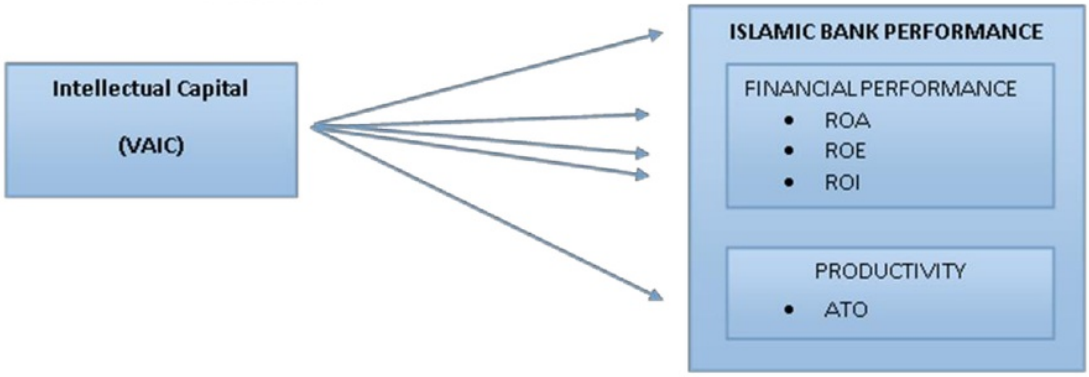

Figure1. Conceptual Framework

3. Research Method

3.1 Variables

Independent Variable (X)	: *Intellectual Capital*
Dependent Variable (Y1)	: *Financial Performance*
Dependent Variable (Y2)	: *Productivity*

Intellectual Capital (X)

The independent variables are the intellectual capital performance. The method used to measure the performance of intellectual capital is VAIC method. VAIC measurement consists of three components: Human Capital Efficiency (VAHU), Capital Employed Efficiency (VACA) and Structural Capital Efficiency (STVA).

VAIC calculation formulation consists of several stages:

- Value Added (VA)

Value Added calculated using data from the accounts of the company, such as:

$$VA = OUT - IN$$

which:
OUT = operating revenues;
IN = all of cost except employee cost, depreciation, interest tax, rent cost and dividend;

- Calculate CE (Capital Employed), HU (Human Capital), and SC (Structural Capital)

CE = Physical Capital + Financial Asset
= Total Asset - Intangible Asset
HU = Total Expenditure on Employees
SC = Value Added - Human Capital

To calculate three components of VAIC:

1. Value Added Efficiency of Capital Employed (VACA)

$$VACA = \frac{VA}{CE}$$

2. Value Added Efficiency of Human Capital (VAHU)

$$VAHU = \frac{VA}{HU}$$

3. Value Added Efficiency by Structural Capital (STVA)

$$STVA = \frac{SC}{VA}$$

After getting the value of each component, then the performance of intellectual capital was able to be measured by using the method of Intellectual Capital Value added Coefficient (VAIC), which can be determined by the formula:

$$\mathbf{VAIC = VACA + VAHU + STVA}$$

Financial Performance (Y)

Financial performance can measure by return on assets (ROA), return on investment (ROI) and return on equity (ROE).

Return on Equity (ROE) = Net Income/Shareholder's Equity
Return on Assets (ROA) = Net Income/Total Assets
Return on Assets (ROI) = Net Income/Investment x 100%

Productivity (Y)

Productivity is projected by using Asset Turn Over (ATO) is also called total asset turnover ratio is a ratio that measures the efficiency and effectiveness of the turnover and the utilization of its total assets in generating sales.

$$ATO = \frac{\text{Sales Revenue}}{\text{Total Asset}}$$

3.2 Sample and Populations

This study will use data from Islamic Banking in Indonesia. In Indonesia there are 11 Islamic Banks;

Table1. The list of Islamic Banks in Indonesia

1. PT Bank Jabar dan Banten Syariah	7. PT Bank Victoria Syariah
2. PT Bank Panin Syariah	8. PT BCA Syariah
3. PT Bank BRI Syariah	9. PT Maybank Indonesia Syariah
4. PT Bank BNI Syariah	10. PT Bank Mega Indonesia Syariah
5. PT Bank Bukopin Syariah	11. PT Bank Muamalat Indonesia
6. PT Bank Mandiri Syariah	

4. Analysis and Discussion Result

This section shows the results of how intellectual capital affects Islamic Bank performance in Indonesia. There are 11 Islamic Banks that would be object of this research. In this research, only 8 Islamic banks meet with the requirements (4 years observation). The Islamic Banks that eliminated are PT Bank Victoria Syariah, PT Maybank Indonesia Syariah and PT Bank Muamalat Indonesia. Those banks have no complete financial statement for 4 years observation. This research also eliminate variable of market value because most of those bank do not apart of listed company. The Value Added Intellectual Coefficient (VAIC) used in this study as a basic methodology to measure the intellectual capital was introduced by Pulic (1998). Correlation method is applied to empirically investigate the impact of intellectual capital performance on overall corporate performance.

Table 2 describes the result of correlation analysis. The numbers of populations are 32 with total of 8 Islamic Banks multiply by 4 years observation. By using at least 5% level of significance, only two relationships have 1% level of significance and six relationships have 5% level of significance. As indicated before, intellectual capital efficiency is significantly correlated with all the variables of corporate performance, including financial performance and productivity.

- There is sufficient positive relationship between VAIC and ROA with correlation 0.426
- There is sufficient positive relationship between VAIC and ROE with correlation 0.284
- There is sufficient positive relationship between VAIC and ROI with correlation 0.442
- There is moderate positive relationship between VAIC and ATO with correlation 0.649
- There is very low positive relationship between ROA and ROE with correlation 0.116
- There is very low positive relationship between ROA and ROI with correlation 0.043
- There is very low positive relationship between ROA and ATO with correlation 0.127
- There is no relationship between ROE and ROI with correlation 0.000
- There is very low positive relationship between ROE and ATO with correlation 0.026
- There is very low positive relationship between ROI and ATO with correlation 0.020

In general, it is observed that most of variables correlate significantly among themselves. The highest value of correlation is relationship between VAIC and ATO. On the other hand, the lowest value of correlation is relationship between VAIC and ROE. The indication of highest value between VAIC and ATO shows that how efficiently Islamic bank's employees are being used to produce a given level of output (income). It means the employee of Islamic bank has capability or master the science of Islamic banking. The indication of lowest value between VAIC and ROE can be caused of those Islamic banks are quite new and it also don't a part of listed company. This research also enhances the research by Malina Hanum Mohd Kamal et.al (2012) and Madina Latif (2012) about the relationship between intellectual capital and the performance of banks in developing country. It is as well as supported the research by Yurniwati (2014) about intellectual capital and performance of organization even in different types of business.

Table 2. The result of correlation analysis

Correlations						
		VAIC	ROA	ROE	ROI	ATO
VAIC	Pearson Correlation	1	.146	.195	.141	-.084
	Sig. (2-tailed)		.426	.284	.442	.649
	N	32	32	32	32	32
ROA	Pearson Correlation	.146	1	.283	.359*	.276
	Sig. (2-tailed)	.426		.116	.043	.127
	N	32	32	32	32	32
ROE	Pearson Correlation	.195	.283	1	.832**	.393*
	Sig. (2-tailed)	.284	.116		.000	.026
	N	32	32	32	32	32
ROI	Pearson Correlation	.141	.359*	.832**	1	.410*
	Sig. (2-tailed)	.442	.043	.000		.020
	N	32	32	32	32	32
ATO	Pearson Correlation	-.084	.276	.393*	.410*	1
	Sig. (2-tailed)	.649	.127	.026	.020	
	N	32	32	32	32	32
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						

5. Conclusion and Implication for future research

Based on the correlation analysis, it shows that there is relationship between intellectual capital and Islamic Banks performance in Indonesia. These findings also enhance findings of Malina Hanum Mohd Kamal et.al (2012) and Madina Latif (2012). It is also supported by the research of Yurniwati (2014) even in different types of business. Now, Business world become more complex and have stiff competition in forcing companies to innovate, increase technology and also increase the intensity of competition. Then intellectual capital appears and has important role for corporate competitive advantages.

For future research it will better if the study can assess the components of intellectual capital to each variables of bank performance separately. It can assess which factor has more significant affect to the Islamic bank performance. It can help increasing the awareness of Islamic Bank in Indonesia, and able to use it as their evaluation to increase their performance. The importance of intellectual capital should be applied to other Islamic product in financial industry in Indonesia. Because Indonesia is expected to take a role in economic development and Islamic finance is the center of international economics and Islamic finance is important in Asia.

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