

# The Effect of Intellectual Capital (IC) on Financial Performance of Islamic Banking by Leverage as a Moderating Variable

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**Keywords:** Intellectual Capital, VAIC, Leverage, Financial Performance.

**Abstract:** The purpose of this study was to examine the effect of Intellectual Capital (IC) on Financial Performance which is proxied by Operational Costs to Operating Income (OCOI) and moderated by Leverage on Islamic Banking in Indonesia for annual periods from 2001 to 2018. The results of this study showed that IC can influence OCOI, but Leverage could not moderate the IC relationship to OCOI so that it had a negative and not significant value. The results of this study could be considered by Islamic banks in Indonesia to improve IC quality and financial performance.

## 1 INTRODUCTION

In the current era of globalization, it is encouraging business people to continue to innovate in technology development to facilitate all community activities and activities both in terms of personal and business matters. In the world of good business, trading companies, manufacturers and financial institutions such as Islamic banking are urgently needed technologies that can facilitate all activities in order to run efficiently and effectively so that they can maintain their existence. increasingly fierce competition makes Islamic banking change its business strategy based on the knowledge possessed by human resources or its workforce, so as to improve the quality of knowledge workers and intangible assets or intangible assets they have (Hurwitz et al., 2002). One of the advantages of intangible assets for companies and Islamic banking is having a long and renewable economic life (Prasetyo and Rahardja, 2015). One of the intangible assets owned by the company is Intellectual Capital. Intellectual Capital (IC) or commonly referred to as intellectual capital began to be introduced by the first economist, Galbraith in 1969.

Services-based companies such as Islamic banking rely more on intellectual capital in the knowledge and creativity of employees than on physical capital in the form of land, machinery and monetary capital to obtain maximum value from the company (Barathi, 2010). In the banking business is a service sector business that requires a large amount of human capital and customer capital in maintaining its existence

(Mavridis, 2004).

Banking financial institutions are one of the most intensive sectors of IC when viewed from an intellectual aspect that is more thoroughly homogeneous among employees in the banking sector than other economic sectors (Firer and Mitchell Williams, 2003).

Since the monetary crisis that hit Indonesia in 1998 and in 2009, the impact was almost felt evenly in world countries but Islamic banks experienced a positive influence than conventional banks (Lestari et al., 2018). One of the successes achieved by Islamic banks is that they can reduce Operational Costs and Operational Income (OCOI) with minimal so that it can be said that banks can show efficiency, so that the profitability to be obtained is also higher. High banking efficiency shows that banks are able to run their business effectively (Sunardi, 2019).

The following is a graph of the development of Islamic banking OCOI in Indonesia from 2016-2019, namely:

Development Period 2015-2019.png

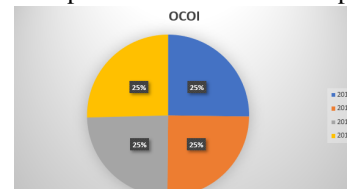


Figure 1: OCOI Development Period 2015-2019 (OCOI Development Period 2015-2019).

Based on the above data, there is a decrease in the percentage of OCOI from 2015-2017 but there was a significant increase in 2018 and then declined again in 2019. This shows that banks can carry out their activities effectively and efficiently despite the increase in the OCOI percentage in 2018. It is necessary to do further research to find out how the influence of Intellectual Capital on Operational Costs and Operating Income or are there other variables that can improve the quality of OCOI in Islamic banking in Indonesia. But the high or low percentage of debt in a company or commonly referred to as the leverage variable can also affect the financial performance of companies and banks if it is balanced with a high intellectual capital (Barathi, 2010; Soewarno, 2011). But too much leverage can also be dangerous for the development of the Company's Financial Performance in the future.

## 2 LITERATURE REVIEW

### 2.1 Intellectual Capital

Intellectual Capital (IC) is an intangible asset that has the potential to give more value to companies and society such as copyright, intellectual property rights and franchising (Mavridis, 2004). Whereas according to (Rehman et al., 2011) intellectual capital is one of the strategic assets that has an important role in economic-based knowledge (Faradina, 2016). In this study, the independent variable is intellectual capital which consists of three components, namely Capital Employed (CE), Human Capital (HC), and Structural Capital (SC). The combination of the three added values is symbolized by the name Value Added Intellectual Capital (VAIC) developed (Pulic, 1998). Intellectual Capital is measured by value added or Value Added (VA). VA is calculated by finding the difference between output and input. Where output consists of total net sales and other income - other. While input consists of expenses and other costs (other than employee salaries) (Pulic, 1998).

Capital Employed (CE) shows the contribution that is made for each capital invested in the company. The CE value is obtained from available funds (equity and net income) (Goh, 2005).

Value Added Capital Employed (VACA) can be calculated with the following formula:

$$VACA = \frac{ValueAdded}{CapitalEmployee}$$

Human Capital (HC) reflects the collective ability to produce the best solutions based on the knowledge

held by people in the company to add value to the company (Gupta, 2015). Value Added Human Capital (VAHU) shows the contribution made by each rupiah invested in human capital (HC) to the organization's value added, where vahu value is obtained from the employee's burden. VAHU is calculated using the following formula:

$$VAHU = \frac{ValueAdded}{HumanCapital}$$

Structural capital (SC) is a facility and infrastructure that supports employees to create optimum performance, including organizational capabilities to reach markets, hardware, software, databases, organizational structures, patents, trademarks, and all organizational capabilities to support employee productivity (Bontis, 2004). Structural capital value (STVA) can be calculated by finding the difference between VA and HC and divided by VA value, where structural capital value is obtained from the difference between VA and HC values. The formula for calculating STVA can be seen below:

$$VAHU = \frac{StructuralCapital}{ValueAdded}$$

After calculating the overall components of the IC, the last step is to calculate the value added intellectual capital (VAIC). VAIC can be calculated using the following formula:

$$VAIC = VACA + VAHU + STVA$$

$H_1 = VAIC$  has a significant effect on OCOI

### 2.2 Leverage

Leverage is the portion of company assets financed by debt. With the existence of leverage, also the interest costs that must be paid by the company. On the one hand, leverage can increase the ability of companies to invest in the creation of information systems that can enhance the competitiveness and excellence of companies, but the repayment of loans and interest payments can also limit funding for human resources (Nawaz and Haniffa, 2017).

$H_2$  : Leverage affects significantly between VAIC and OCOI

### 2.3 Firm Size

Firm size as an indicator that shows how much the company has wealth that is used to run a business. Firm size is used as a control variable because it has a direct effect on company performance. Firm size is used to control the impact of measures in the creation of prosperity through economies of scale, monopoly

power, and bargaining power. The size of the company (firm) can be measured using market capitalization, total assets, number of employees, and company cycles, such as growing and mature (Audreylia and Ekadjaja, 2014).

### 2.4 Bank Age

Older companies have better performance than younger ones, because their experience in the market helps them gain competitive advantage through better implementation of staff recruitment, production and marketing strategies (Irawan and Achmad, 2014). The age of the company is proxied by the period of time since the company was established until the research was carried out so that the age of the bank is used as a control variable because it has an effect on the duration of the establishment of the company or bank.

### 2.5 Financial Performance

The success of the company in achieving company goals can be seen by measuring its performance. Performance measurement is needed as information for internal and external parties to make decisions. Intellectual capital affects the company's financial performance. Companies that have human capital with the ability, competence and high commitment will increase productivity and efficiency which in general will increase company profits. Structural capital is reflected in the ability of the system, structure, strategy and corporate culture in finding market demand and achieving company goals (Puspitosari, 2016).

Bank efficiency measurements can be used by using a comparison between Operational Costs and Operating Income (OCOI). This performance is a measure of efficiency commonly used to assess the performance of banking efficiency. The greater the OCOI of a bank shows the greater the amount of operating costs, so it tends to decrease the profitability of the bank and conversely the smaller the OCOI a bank shows the more efficient, so that profitability will be higher. Banks with high efficiency show banks are more effective in carrying out their business (Sunardi, 2019).

## 3 RESULTS AND DISCUSSION

The purpose of this study was to see the effect of Intellectual Capital as an independent variable on financial performance which is proxied by Operational Costs

and Operating Income (OCOI) as the dependent variable with leverage as a moderating variable and total assets and bank age as a control variable in Islamic banks in Indonesia.

Good management of intellectual capital will make customers or partners loyal to banks so that they can have a good influence on financial performance. The data used in this study is secondary data obtained from annual reports from 2001 to 2018 published by the Financial Services Authority (FSA). The population in this study are all Islamic banks in Indonesia which consist of Sharia Commercial Banks (SCB) and Sharia Business Units (SBU). The sample used in this study consisted of 3 Islamic banks, namely Bank Mega Syariah, Bank Muamalat Indonesia and Bank Syariah Mandiri. The sample selection in this study uses Purposive Sampling. Purposive Sampling is the selection of samples based on several criteria, as follows: a. Banks registered consecutively during the observation period, namely 2001-2018; b. Banks that issue annual financial reports regularly. This study applied data analysis techniques using simple linear regression, multiple linear regression and linear regression with moderating variables (Moderate Regression Analysis) and control variables. The tool used in this study is to use Statistical Product and Service Solution (SPSS) version 22.0.

Before conducting multiple regression analysis to test the effect of VAIC on Operational Costs and Operating Incomes (OCOI), a classic assumption test was carried out to ensure that the data obtained passes the normality test. The classic assumption test showed that the data was normally distributed with the value of Asymp. Sig (2-tailed) 0.200 greater than  $\alpha$  (0.05). The results of the normality test were shown in Figure 2:

		Unstandardized Residual
N		54
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	6.36621249
Most Extreme Differences	Absolute Positive	.086
	Negative	-.071
Test Statistic		.086
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

Figure 2: Normality Assumption Test of Regression Model One-Sample Kolmogorov-Smirnov Test.

Source: data processed.

After passing the classic assumption test then the research hypothesis testing was carried out as follows: From the results of multiple linear regression analysis the multiple linear regression equation was obtained

according to the research conducted (Nawaz and Haniffa, 2017) as follows:

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + e. \quad (1)$$

$$Y = 121.316 - 4.186VAIC - 1.788Firmsize + 0.399AgeBank + e. \quad (2)$$

Variable	Unstand arized Coeffi cients	T	Sig.
(Constant)	121.316	10.769	.000
VAIC	-4.186	-4.999	.000
FirmSize	-1.778	2.665	.009
AgeBank	.399	-2.726	.010
R Square	.438		
Adjusted R Square	.404		

Figure 3: T-test of Multiple Linear Regression Models Coefficients<sup>a</sup>.

**a Dependent Variable: BOPO**

Based on Figure 4 showed that the determination coefficient value is 0.438. This showed that the OCOI variable could explain VAIC, firm size, and age bank variables of 0.438 or 43.8%. From the results of the regression analysis, it was found that VAIC had a negative effect that was significant on OCOI, indicated by a significance value of 0.000 and a t value of -4.999. This result was in line with the research of (Soheili and Pakdel, 2012; Andriana, 2014) but was contrary to the study. The high Intellectual Capital (IC) cannot guarantee that the Operational Costs Ratio (OCR) can be calculated because the development of IC in banks is not a priority but it is the focus of government policy direction and Indonesian banks are still oriented to structural improvements that focus on economies of scale, efficiency and adequacy capital. That is why the quality of the policies taken by banking companies in Indonesia is still not optimal because human resources have not been managed optimally ((Hutagalung, 2012).

Whereas for moderate regression analysis (MRA) for testing VAIC variables that were controlled by control variables against OCOI as follows:

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_1X_1 * \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + e. \quad (3)$$

$$Y = 121.316 - 4.186VAIC - 0.070Leverage - 1.835VAIC * \beta_2X_2 - 1.835Firmsize + 0.450Agebank + e. \quad (4)$$

Model	Unstand arized Coeffi cients	T	Sig.
(Constant)	110.846	10.648	.000
VAIC	-4.618	-3.690	.001
Leverage	-.070	-.074	.941
VAIC*	-.932	-.645	.522
Leverage			
FirmSize	-1.835	-2.746	.008
AgeBank	.450	2.639	.011
R Square	.443		
Adjusted R Square	.443		

Figure 4: T-test of Moderation Regression Analysis Models Coefficients<sup>a</sup>.

**a Dependent Variable: OCOI**

Based on Figure 4 showed that the determination coefficient value was 0.443. This showed that the OCOI variable could explain the VAIC, firm size, and age bank variables of 0.443 or 44.38%. From the results of the moderation regression analysis (MRA), it was found that VAIC\*Leverage had a negative and was not significant effect on BOPO, indicated by a significance value of 0.522 and a t value of -0.645. This result was in line with. Leverage cannot strengthen the relationship between IC and financial performance (BOPO) if the leverage value held by the company or bank is not too high or is still within reasonable limits.

**4 CONCLUSION**

This study showed that Intellectual capital (IC) could affect financial performance which was proxied to operating costs and operating incomes (OCOI) if moderated by leverage which means that H1 was accepted and H2 was rejected. Leverage cannot strengthen IC relations with OCOI, if the leverage value held by the bank is still too high level because if the bank has high debt, the bank will not be able to meet all operational costs that will have a direct impact on the bank's operations. It is important for banks to improve IC quality, especially in one component of IC, namely human capital. Quality human capital certainly can provide a

good contribution to the company so that it can minimize the amount of debt and operational costs so as to increase the income that will be received.

The limitations in this study were on data and variables, this was due to the limited data obtained by researchers. Therefore, it was expected that researchers in the future could add variables and data that would be examined so that other variables could be identified which was able to strengthen IC relations with operational costs and operating incomes (OCOI) in Sharia banking in Indonesia.

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