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# The Mediating Effect of Financial Performance on Intellectual Capital Performance and Intellectual Capital Disclosure in the Indonesian Islamic Banking

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## Abstract

This study aims to post a viewpoint on intellectual capital performance and intellectual capital disclosure based on Indonesian Islamic banking. This paper adds financial performance (measured with profitability ratio) to mediate the relationship between intellectual capital performance and disclosure. A four-way numerical coding system was used to conduct the content analysis. The sample was drawn from Indonesian Islamic banking for five years of observation, 2011-2015. The results from WarpPLS 3.0 showed that intellectual capital performance (measured with modified value-added intellectual coefficient/MVAIC) has a significant effect on the level of intellectual capital disclosure. Contrasting with our hypothesis, the financial performance of Indonesian Islamic banking did not mediate the relationship between intellectual capital performance and intellectual capital disclosure.

**Keywords:** Financial performance, intellectual capital disclosure, intellectual capital performance

## 1. INTRODUCTION

The business world has evolved with a mindset that businesses' ability to compete favourably depends not only on the ownership of tangible assets alone but also on innovation, information systems, organisational management, and organisational resources. An increase in the company's market value indicates the agent's success (capital manager) to run the business on behalf of the capital provider (principal). The difference between the market value and the company's book value is the company Intellectual Capital (IC) value (Edvinsson & Malone, 1997). The statement of Financial Accounting Standard (IAS)\_19 (revised 2010) on intangible assets recognised and addressed the treatment and disclosure of Intellectual Capital (IC) assets in the financial statement.

In the standard, the IC is not discussed widely. However, their accounting treatment has been discussed the IC component (goodwill). This standard also does not address all components of the IC. Moreover, the goodwill generated should be from the votes of external parties (appraiser). Further, IAS 22 (revised 2010) provides the treatment of goodwill arising from the business combination. According to the provision of the standard, goodwill arising from the acquisition of new business will not be amortised. Each year, it will be subject to an impairment test using the test described in IAS 48 (Revised 2009) on the impairment of assets.

Several studies have examined the relationship between Intellectual Capital Disclosure (ICD) and Intellectual Capital Performance (ICP). For instance, William (2001) studied the relationship between IC disclosure and IC performance. He found that intellectual capital performance negatively influences the intensity of intellectual capital disclosure. Recent studies Ulum, Kharismawati, and Syam (2017); Ulum, Rizqiyah, and Jati (2016) also

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argue that companies reduce disclosure when ICP reaches a certain point threshold because of the fear of losing their competitive advantage. However, to the best of the researchers' knowledge, studies examine the moderating effect of firm performance on the relationship between ICP and ICD. Therefore, the lack of studies provides the opportunity to conduct further studies. The objective of this study is to examine the direct effect of ICP (measured with Modified value-added intellectual coefficient/MVAIC) to the level of ICD and the indirect effect using firm performance (measured by profitability) as a mediator variable.

## 2. LITERATURE REVIEW

Voluntary disclosure of intellectual capital allows investors and other stakeholders to provide a proper means for investors and other stakeholders to assess the ability of the company to operate into the future and reduce risk perception (Williams 2001). Companies disclose information about intellectual capital in their financial statement to meet the information needs of investors and increase the firm's value (Miller & Whiting, 2005). Proper intellectual capital disclosure serves as an excellent signal to the market participant. It provides disclosing companies with a competitive advantage in attracting investors. Extant studies investigate the relationship between ICD and ICP. For instance, Williams (2001) investigated ICD and ICP using the sample of 30 listed companies in the FTSE 100 group. Their analysis revealed that ICP is negatively related to the practice of IC disclosure in the company's annual report. Using the top fifty (50) companies listed on the Indonesia stock exchange based on market capitalisation, Ulum (2012) examined the relationship between intellectual capital performance and the disclosure practices of public companies. The results showed that ICP is negatively related to ICD.

Hermawan and Mardiyanti (2016) examined the relationship between ICP and the financial performance of manufacturing companies using VAIC as ICP measure and financial performance measured by ROA, ROE and EPS. The result revealed that ICP affects financial performance (ROA, ROE and EPS). Naovila and Wahyudin (2015) examined the relationship between IC and ICD moderated by firm performance using a sample of listed companies operating in the banking sector. The measures of IC adopted in the study are capital employed efficiency, human capital efficiency and structural capital efficiency. The result showed that capital employed efficiency, human capital efficiency and structural capital efficiency, have no direct effect on ICD. However, after moderating the effect of firm performance on the relationship, the result reversed itself. It indicated that capital employed efficiency significantly affect ICD. Setyaningrum, Barokah, and Com (2015) examined the relationship between ICP and ICD on the performance and value of 87 companies listed on the Indonesian Stock Exchange. The result obtained using multiple linear regression revealed that ICP and ICD significantly affect firm performance measured by ROA, though not significant using Tobin's q as a measure of firm performance.

The present study concludes that empirical studies that examine the direct relationship between ICP with ICD are still rare from the reviewed literature. Ulum (2015b) observed that empirical studies on ICD mainly considered determinants of ICD considering firm characteristics. Though, Williams (2001) found that ICP is negatively related to ICD, as confirmed by recent studies like Ulum (2012); Ulum (2015c). The results of the three studies (i.e. Williams, 2001; Ulum 2012; Ulum 2015c) contradicts the theory of Resource-Based Theory (RBT) and Signaling Theory. According to the signalling theory, sound ICP improves ICD. At the same time, the RBT view IC as a resource that gives a company a competitive advantage and consequently results in high ICP. Thus, the first hypothesis of the study states:

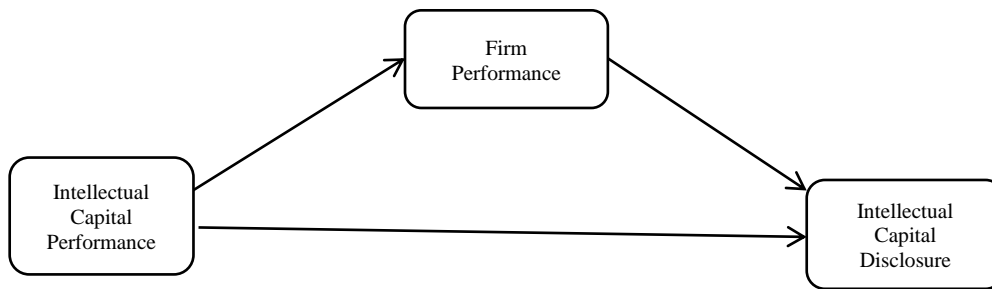
*Hypothesis 1: Intellectual Capital Performance (ICP) has a Positive Effect on Intellectual Capital Disclosure (ICD)*

The direct effect of ICP on ICD has been proved empirically by some researchers, such as Ulum (2012, 2015b); Williams (2001), and the findings of their studies revealed a negative and significant relationship. The present study predicts a result reversal when firm performance measured by ROA moderates the relationship. According to stakeholder theory, "Stakeholders have the power to influence the management in the process of realising all the organisation potentials". In this context, the management must retain and utilise important strategic assets (tangible and intangible assets) in the company.

Based on RBT, the ability of the management to manage, control and utilise resources (both tangible and intangible) gives companies a competitive edge to achieve their potential. A strong competitive advantage will position the company as a market leader. It will undoubtedly affect the wellbeing of the company as a society will accept the product of the company. The acceptability of the company's product will inevitably increase the company's revenue; hence, the company's financial performance. Based on the preceding argument, managers will voluntarily disclose IC in the financial statement to signal the market. Thus, the second hypothesis states:

*Hypothesis 2: Financial performance Mediates the Relationship between Intellectual Capital Performance with Intellectual Capital Disclosure.*

Figure 1. Theoretical Framework



### 3. METHODOLOGY

The study adopts purposive sampling by selecting Companies Listed on the Indonesia Stock Exchange but operating in the Banking sector and have presented an annual report for the periods 2011-2015. Also, the companies must not incur a loss in any of these periods to be included in the sample. Model Specification:

$$ICD = \partial + \beta_1 MVAIC + \beta_2 FP + \beta_3 MVAIC * FP$$

Where:

**ICD** is the dependent variable, i.e. Intellectual Capital Disclosure obtained from the framework developed by Ulum (2015b) and using the four-way numerical coding system developed by Guthrie, Petty, Ferrier, and Wells (1999). According to Ulum (2015a), this method captures the quantity of ICD and the quality of IC disclosure. ICD was calculated by comparing the total components of the ICD- compared with the overall total of components (36 items), i.e. total disclosure by the firm in the annual report/total number of expected disclosures.

**MVAIC** is the independent variable, which is the ICP. ICP is measured by MVAIC using the following procedures:

Stage I: Calculating a Value Added (VA)

$$VA = OP + EC + D + A$$

Stage II: Calculating the efficiency of the IC (ICE)

$$ICE = HCE + SCE + RCE$$

$$HCE = VA/HC$$

$$SCE = SC/VA$$

$$RCE = RC/VA$$

Stage III: Calculating the efficiency of capital employed (CEE)

$$CEE = VA/CE$$

Stage IV; Resulting MVAIC

$$MVAIC = ICE + CEE$$

$$MVAIC = (HCE+SCE+RCE) + CEE$$

**FP** is the mediator and stands for financial performance. The measure of financial performance is ROA (Net Income / Total Assets). It reflects the business benefits and efficiency in utilising total assets (Brigham & Houston, 2011).

The data analysis technique is done by (1) Content analysis and (2) WarpPLS 3.0. PLS is a method of settling the structural equation modelling (SEM), which in this case (according to research purposes) gives an idea of testing illustration or indirect influence corresponding to this research is more precise than the other SEM techniques. The selection of the PLS method is also based on the consideration that three latent variables are formed with formative indicators in this study and not reflexive.

Furthermore, Ghozali (2011) stated that the formative model assumes that the indicators affect the construct, where the causality direction of indicators to construct. Because the testing of each variable using a sample of

more than one year, then to test the independent variable ICD will be given control to every year by providing a dummy score, which is a value of 1 for the analysis of data to the year under study and the value 0 for data other than the year studied. It aims to control the influence of variables ICP-ICD to obtain maximum results in this study later.

Researchers use a four-way numerical coding system developed by Guthrie et al. (1999) to identify the extent and quality of ICD in the company's annual report. ICD in the annual report is weighted according to the projections. Numeric codes used are:

- 0: item is not disclosed in the annual report.
- 1: item is disclosed in narrative form.
- 2: item is disclosed in numerical form.
- 3: item is disclosed in monetary value.

In addition to seeing the value of r-square, the pls model was also evaluated with viewing full co-linearity VIF and q-square predictive relevance to every latent variable used in this study. Full co-linearity VIF is full of co-linearity test results, which include vertical multi co-linearity, lateral and joint method bias. At the same time, the q-square predictive relevance is used to measure how to fit the observed values generated by the model and parameter estimation. Full co-linearity VIF value should be below 3.3 (Sholihin & Ratmono, 2013) for each latent variable that no matter vertical multi co-linearity, lateral and common method bias. Q-square predictive value relevance over 0 indicates that the model has predictive relevance value. In contrast, the value of the q-square predictive relevance of less than 0 indicates that the model lacks predictive relevance (Ghozali, 2011).

The last stage is the hypothesis-testing procedure of financial performance as a mediator variable for the relationship between ICP and ICD using the regression phase (Baron & Kenny, 1986):

- Step 1: estimating the direct effect of ICP toward ICD.
- Step 2: estimating the indirect effect simultaneously with the SEM PLS triangle model, ICP-ICP, ICP-profitability, and profitability-ICD.

#### **4. EMPIRICAL RESULTS AND DISCUSSION**

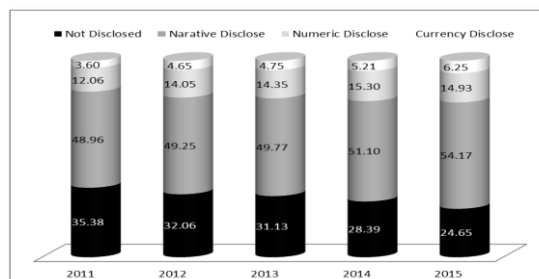
##### **4.1 Content Analysis**

Identification results of content analysis are presented in figure 2; a content analysis is done by identifying the components of ICD-in disclosed in the annual financial statements of Islamic banks and sharia business unit with the observation period from 2011 to 2015. Each disclosure was scored using a four-way numerical coding system.

Based on the results of content analysis, as presented in figure 2, the general ic information disclosed in narrative form dominating type of disclosure, which is in the range of 48.96% to 54.71%. This figure is above the percentage should be, that is 36.11%. In comparison, the ic information disclosed in numerical form in the range of 12:06% to 14.93% should reach 50%. In comparison, the ic information is presented in the form of the currency was far enough away from the supposed (13.89%), i.e. Between 3.60% to 6:25% (Ulum, 2015a).

The percentage of intellectual capital items that were not disclosed (score = 0) is seen in figure 2 has continuously decreased from year to year, which amounted to 35.38% in 2011 to 24.65% by 2015. This condition shows that awareness of the importance of intellectual capital disclosure in Islamic banks and sharia business units is already becoming visible. This means that the manager believes that more information is disclosed regarding intellectual capital (ICD) will have a more positive influence on the company or, in other words, will benefit the company.

Figure 2. Content analysis results



## 4.2 Hypothesis Testing

In testing the hypothesis with WarpPLs, two steps are to be followed, including the assessment and evaluation of the model and the outer, inner models or so-called structural models. After these two conditions are met, hypothesis testing can be done. The test result with WarpPLs 3.0 is presented in figure 3, Table 1. Based on the output 'model fit indices and p-value' in the table it is known that the value of  $apc=0.293$ ,  $p<0.001$ ,  $ars=0.333$ ,  $p<0.001$  and  $avif=1.457$ , good if  $< 3.3$ . Warppls provision states that the p-value for the APC and ars should be less than 0.05 (significant). Also, avif as an indicator of multi co-linearity must be smaller than 3.3. Referring to these provisions, it can be concluded that this research model is fit. So that the testing process by WarpPLs can be continued by testing inner models because the criteria the model fit in the assessment of model outer has been fulfilled. No problems do not fit from the model of the three formative latent variables.

Figure 2. Output WarpPLS 3.0- full model

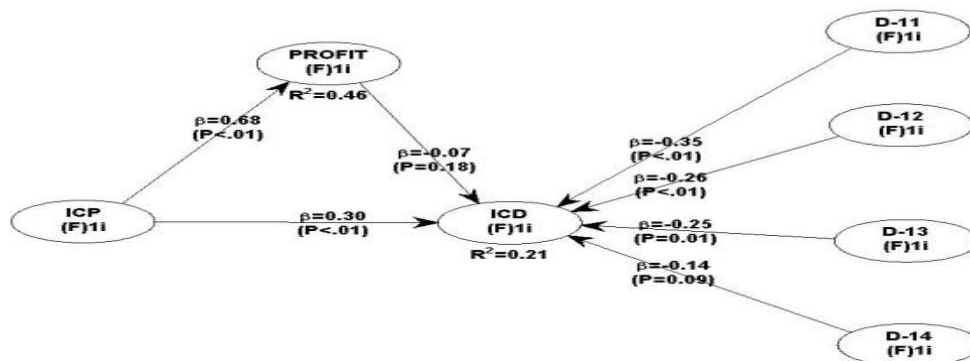


Figure 2 and Table 3 show the path coefficients and a P-value of any direct relation (direct effect) in the study's model, as well as any control year for the independent variables (ICD). Path of ICP-ICD shows 0.303 coefficient was significant at  $P < 0.001$  (\*\*\*), the path of ICP-PROFIT coefficient value of 0.676 indicates significance at  $P < 0.01$  (\*\*\*). In contrast, the path of PROFIT-ICD shows the value of the coefficient -0.072 and is not significant. Controls of year for each year of the independent variables, namely: D11-ICD -0.346 is significant at  $< 0.001$  (\*\*\*), D12-ICD -0.264 to be significant at  $p=0.005$  (\*\*\*), D13-ICD -0.250 to be significant at  $p=0.12$  (\*\*\*), D14-ICD -0.138 to be significant at  $p=0.088$  (\*\*).

Table 2. model fit indices, Path coefficients and P-value

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<i>Model fit indices and P values</i>		
	APC=0.293, P<0.001	
	ARS=0.333, P<0.001	
	AVIF=1.457, Good if < 5	
<i>Path coefficients and P Values</i>		
	ICP-ICD	0.303, P<0.001
	ICP-ROA	0.676, P<0.001
	ROA-ICD	-0.072, P=0.179
	D11-ICD	-0.346, P<0.001
	D12-ICD	-0.264, P=0.005
	D13-ICD	-0.250, P=0.12
	D14-ICD	-0.138, P=0.088

Table 3 presents the output value of the coefficient of indirect effects and total effect completed with significance value (P). It is one of the advantages of WarpPLS 3.0. Researchers do not need to calculate manually to determine the coefficient of indirect relationships as a formula proposed by (Baron & Kenny, 1986) and (Preacher & Hayes, 2004).

Table 3. Indirect effect, total effects, effect size

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	Path	Coefficients and P-value
<b>Indirect effect</b>	ICP-ICD	-0.049, P=0.179
<b>Total effect</b>	ICP-ICD	0.254, P=0.018
	ICP-PROFIT	0.676, P<0.001
	PROFIT-ICD	-0.072, P=0.179
<b>Effect size</b>	ICP-ICD	0.087
	ICP-PROFIT	0.457
	PROFIT-ICD	0.012

Based on Table 3 can be seen that the indirect effect of ICP-ICD is -0049. This result is multiplication by using his formula Sobel (1986), namely multiplying the between path coefficient ICP to PROFIT (0.676) and PROFIT to ICD (-0.072). As described above, by using WarpPLS, researchers do not need to manually calculate the value of the indirect effect of ICP-ICD (-0.049) because this program has produced output calculations for the mediation.

### Inner Assessment Model or Structural Model

Table 4 presents data R-squared, Q-squared and Full co-linearity of VIF. R-squared shows how an exogenous construct can explain the percentage of endogenous variance construct. Q-squared (usually called Stoner-Geisse coefficient) is analogous to the R-squared, but can only be obtained through re-sampling (Sholihin & Ratmono, 2013), while Full co-linearity of VIF is full co-linearity test result, which includes multi co-linearity in vertical, lateral and common method bias. Criteria for the full vertical test is that the value should be lower than 3.3 (Kock, 2015).

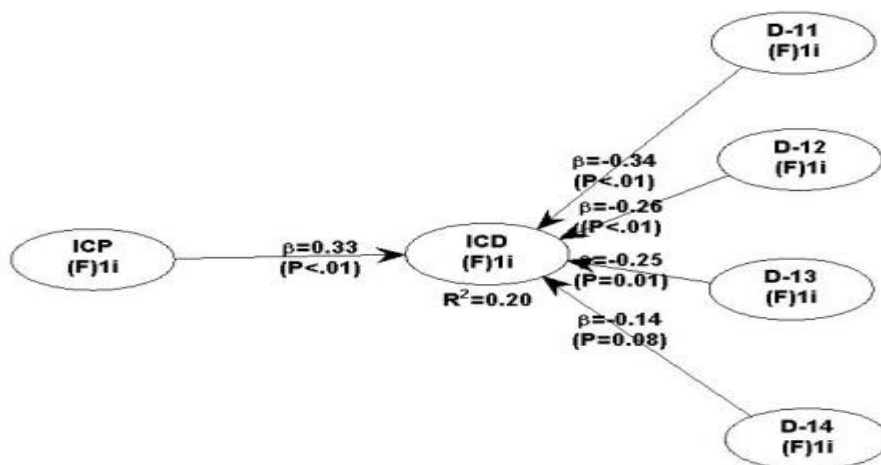
Table 4. R-Squared, Q-Squared, and Full collinearity VIF

R-squared	Q-squared	Full collinearity VIFs
PROFIT= 0.457 ICD= 0.209	PROFIT= 0.461 ICD= 0.212	ICP= 1.966 PROFIT= 1.914 ICD = 1.202

The test results showed that the model is not multi-vertical, both vertical and lateral multi-vertical and common method bias. It can be seen from the full vertical of VIF that it was below 3.3 for all variables. Q-Square predictive relevance value is greater than 0 indicates that the model has a great relevance predictive value so that this research model is accepted by the assessment criteria of the Inner Model. Hypothesis testing can be done since both terms have been done. There is no problem with the Outer assessment and Inner Model.

Notably, Hypothesis 1 tested the direct effect between ICP and ICD without entering a mediator variable. This stage is also a requirement (step) in the first assessment of the effects mediated by the three stages of the regression (Baron & Kenny, 1986). The test results of direct effect are presented in Figure 4 and Table 5.

Figure 4. Output WarpPLS 3.0- Direct Effect



Based on figure 4 is known that the path coefficient of direct relation (Direct Effect) of ICP-ICD showed a significant coefficient value as 0329 with a value of P = 0.010. For more details, the following will be presented in detail WarpPLS output for testing directly in Table 5.

Table 5. Output WarpPls 3.0 – Direct Effect

Model fit indices and P-value	Path coefficients and P-value	R <sup>2</sup>	Effect size
APC= 0.264, P<0.001 ARS= 0.205, P=0.041 AVIF=1.487, Good if<5	0.329, P<0.010	0.20	0.113

Based on WarpPLS output as shown in table 5 is known that criteria about the model fit have been met, where the P-value of APC (<0.001) and ARS (0041) were <0.005 and AVIF value <5. The path coefficients resulting from

this test are equal to 0.329 with a  $p < 0.010$ . Thus, it can be concluded that hypothesis 1 is accepted; this means that ICP has a positive effect on the ICD. The amount of ICP's ability to explain the variability of ICD is 20% means that there are 80% who are influenced by other variables not examined in this study.

The results of this study are consistent, unidirectional, and support the perspective of RBT theory (resources based theory) and the theory of signalling (signalling theory). In RBT theory, IC is a resource that can help companies achieve a competitive advantage. So, according to signalling theory, IC good performance is a positive signal for the market. The better performance of IC-owned company, the managers will certainly disclose more information about its IC (e.g., through annual reports and voluntary disclosure), which aims to lure and attract the attention of stakeholders.

### **Mediation Effect of PROFIT**

Testing for the effect of mediation was carried out in three stages regression (Baron & Kenny, 1986). The procedure in this context is as follows:

- Estimating ICP direct effect on the ICD is by giving control to the independent variable (ICD) each year, without entering the mediator variable. The direct effect of this should be significant. This stage has been conducted when testing hypothesis 1 (H1) and shows a significant direct effect,  $P > 0.05$ .
- They estimate the indirect effect simultaneously with the triangle SEM PLS models for each mediator, namely ICP-ICD, ICP-PROFIT and PROFIT-ICD (for a mediator for PROFIT). The mediating effect that must be met is that the path ICP-PROFIT and PROFIT-ICD should be significant (Sholihin & Ratmono, 2013).

Using the data in Table 4, the coefficient of direct effect ICP-ICD is significant at  $p = 0.329 < 0.010$  (\*\*\*). When testing the indirect effect (Table 3), it is known that the path coefficient value of ICP-ICD fell to 0.303 with  $p < 0.001$  (\*\*\*). However, the PROFIT-ICD path indicates the direction of a negative relationship and is not significant. Although ICP-PROFIT path showed a significant result, a condition for determining that the PROFIT into mediator factor in the relationship between ICP-ICD are not met because one of the paths is not unidirectional and is also not significant. Thus, the second hypothesis is not supported. PROFIT is not a mediator factor in the relationship between ICP with ICD.

The relationship between ROA-ICD that in this study becomes the cause of non-fulfilment of the criteria for the relationship ROA as mediator ICP-ICD can be seen from the output WarpPLS as presented in Table 4.3, which shows the path coefficient is -0.072. The value of  $p > 0.05$  (not significant) showed that actual financial performance (profitability) is measured using the formula ROA does not affect the broad disclosure of intellectual capital (ICD) that they were measured using components ICD-in, so in this study, ROA cannot be a mediator of relationship ICP and ICD because the relationship ROA-ICD-offs are even insignificant.

These results are consistent with Ulum (2015b) research, which has reviewed this relationship with a sample of public companies included in the category of banks. The result is PROFIT, not affecting the ICD. In this case, Ulum (2015b), explaining that there is a tendency of companies that have high profitability was not necessary anymore made another attempt to influence the market through disclosure in the annual report because, of course, the high ROA is enough weeks to appeal to the stakeholders (investors and the Customer).

## **5. CONCLUSION**

From this study can be taken an assumption that the good ICP is a positive signal for companies both Islamic Banks and Sharia Business Unit, so that it is the manager will reveal information about the IC owned through the disclosure of intellectual capital when the company has a good performance IC (ICP) as well managed with maximum.

Different things happen when companies have felt to have high profitability. After all, they will feel less critical again to make another attempt to affect the market for one of them by disclosing intellectual capital in the annual report because ROA is high enough to appeal to stakeholders. In this case, the manager is not too concerned about whether disclosure of intellectual capital (ICD) will do it or not. Thus, ROA cannot mediate the relationship between ICP with ICD.

## REFERENCES

- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173.
- Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower (1997).
- Ghozali, I. (2011). *Structural Equation Modeling Metode Alternatif Dengan Partial Least Square (PLS)* Semarang Badan Penerbit UNDIP.
- Guthrie, J., Petty, R., Ferrier, F., & Wells, R. (1999). There is no accounting for intellectual capital in Australia: A review of annual reporting practices and the internal measurement of intangibles. Paper presented at the OECD Symposium on Measuring and Reporting Intellectual Capital, Amsterdam.
- Hermawan, S., & Mardiyanti, U. I. (2016). Intellectual capital dan kinerja keuangan perusahaan manufaktur high ic intensive. *Benefit*, 1(1), 70-78.
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration (IJeC)*, 11(4), 1-10.
- Miller, J., & Whiting, R. (2005). Voluntary disclosure of intellectual capital and the 'hidden value'. Paper presented at the AFAANZ Conference, Melbourne.
- Naovila, T. P., & Wahyudin, A. (2015). Peran kinerja keuangan untuk memediasi pengaruh modal intelektual terhadap tingkat pengungkapannya. *Accounting Analysis Journal*, 4(3).
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behaviour research methods, instruments, & computers*, 36(4), 717-731.
- Setyaningrum, H., Zuni Barokah, S., & Com, M. (2015). Analisis pengaruh modal intelektual dan luas pengungkapannya terhadap kinerja dan nilai perusahaan (Studi pada Perusahaan Farmasi, Telekomunikasi, dan Perbankan yang Terdaftar di Bursa Efek Indonesia). Universitas Gadjah Mada.
- Sholihin, M., & Ratmono, D. (2013). Analisis SEM-PLS dengan WarpPLS 3.0 untuk Hubungan Nonlinier dalam Penelitian Sosial dan Bisnis.
- Ulum, I. (2012). Investigasi Hubungan antara Kinerja Modal Intelektual dan Praktik Pengungkapannya dalam Laporan Tahunan Perusahaan. *Jurnal Ekonomi Bisnis*, 17(1), 36-45.
- Ulum, I. (2015a). *Intellectual Capital*. Malang: UMM- Press.
- Ulum, I. (2015b). Peran Pengungkapan Modal Intelektual dan Profitabilitas dalam Hubungan antara Kinerja Modal Intelektual dan Kapitalisasi Pasar. Paper presented at the Simposium Nasional Akuntansi XIIIIV.
- Ulum, I. (2015c). Peran Pengungkapan Modal Intelektual dan Profitabilitas dalam Hubungan antara Kinerja Modal Intelektual dengan Kapitalisasi Pasar. Unpublished Disertasi Tidak Dipublikasikan, Universitas Diponegoro, Semarang.
- Ulum, I., Ghozali, I., & Purwanto, A. (2014). Konstruksi Model Pengukuran Kinerja dan Kerangka Kerja Pengungkapan Modal Intelektual. *JAMAL (Jurnal Akuntansi Multiparadigma)*, 5(3), 380-392.
- Ulum, I., Kharismawati, N., & Syam, D. (2017). Modified value-added intellectual coefficient (MVAIC) and traditional financial performance of Indonesian biggest companies. *International Journal of Learning and Intellectual Capital*, 14(3), 207-219.
- Ulum, I., Rizqiyah, & Jati, A. W. (2016). Intellectual Capital Performance: A Comparative Study between Financial and Non-Financial Industry of Indonesian Biggest Companies. *International Journal of Economics and Financial Issues*, 6(4), 1436-1439.
- Williams, S. M. (2001). Is intellectual capital performance and disclosure practices related? *Journal of Intellectual Capital*, 2(3), 192-203.