

# INTELLECTUAL CAPITAL DIMENSIONS AND PROFITABILITY OF SHARIA BANKING IN OIC COUNTRIES

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**ABSTRACT** - Sharia banks typically have two primary objectives: commercial and social. To fulfill their commercial mission, sharia banks must generate profits as it is one of the most important metrics used to evaluate long-term competitiveness and ensure their operational sustainability. This paper intends to delve deeper into the impact of intellectual capital dimensions on the profitability ratio of Sharia banking. Using panel data from 34 companies from 2015 to 2019, this study distinguished between fixed and random effects using the Hausman test. The Return on Assets (RoA) is then utilized as a proxy for the profitability ratio. Utilizing samples of sharia banking institutions from OIC countries such as Indonesia, Malaysia, Bangladesh, and Pakistan, we found a positive relationship between intellectual capital dimensions and the profitability ratio. Human capital and structural capital have a partial impact on profitability, while relational capital has no influence on the profitability of sharia banks in OIC-member countries.

**Keywords:** intellectual capital dimensions, profitability, sharia banking, OIC Countries

**ABSTRAK – Dimensi Modal Intelektual dan Profitabilitas Bank Syariah di Negara-negara OKI.** Bank syariah umumnya memiliki dua tujuan utama, yaitu komersial dan sosial. Untuk menjalankan misi komersialnya, bank syariah perlu menghasilkan laba yang merupakan salah satu indikator kunci yang digunakan untuk menilai daya saing jangka panjang dan memastikan keberlanjutan operasionalnya. Tulisan ini bertujuan untuk menggali lebih dalam pengaruh dimensi modal intelektual terhadap rasio profitabilitas bank syariah. Dengan menggunakan data panel dari 34 perusahaan mulai tahun 2015 hingga 2019, penelitian ini menggunakan uji Hausman untuk membedakan efek tetap dan efek acak. Return on Asset (RoA) digunakan sebagai proksi untuk rasio profitabilitas. Adapun sampel dalam penelitian ini adalah bank syariah dari negara-negara anggota OKI seperti Indonesia, Malaysia, Bangladesh, dan Pakistan. Temuan kami mengungkapkan bahwa secara statistik terdapat pengaruh positif signifikan antara dimensi modal intelektual dengan rasio profitabilitas. Dikaji secara parsial, hanya modal manusia dan modal struktural yang berpengaruh, sedangkan modal relasional tidak berpengaruh terhadap profitabilitas bank syariah di negara-negara anggota OKI tersebut.

**Kata Kunci:** Bank Syariah, Dimensi modal intelektual, Negara-negara OKI, Profitabilitas

## INTRODUCTION

The banking sector is considered the most influential sector in a financial system (Tan, 2016). In 2019, Islamic Finance Index Report (IFIR) reported that sharia banking and finance growth up to an average of 12.46% annually (2012-2019), with total assets for sharia banks of US\$ 2,591 trillion at the end of 2018 (Aslam & Haron, 2020). Harisa et al. (2019) stated that sharia banking continues to grow together with the increasingly fierce competition among sharia banks. Nomran et al. (2018) stated that sharia banks experienced substantial growth in the last few years because of the increased community's demands on an Islamic sharia-compliant financial system. The increasingly extensive demand for sharia banking services will automatically increase sharia banks' profitability (Kholilah & Wirman, 2021; Dimitha et al., 2021).

Profitability is a financial performance ratio used to evaluate a sharia bank's performance and assist management in taking advantage of the competitive market opportunities (Krisnawati et al., 2019; Muarif at al., 2021). Profitability is also vital in measuring long-term competitiveness and maintaining a sharia bank's operational sustainability (Harisa et al., 2019). Profitability reflects sharia bank's ability to generate profits through their resources, thus, acting as the best financial ratio to measure financial performance (Kholilah & Wirman, 2021; Nadia et al., 2019).

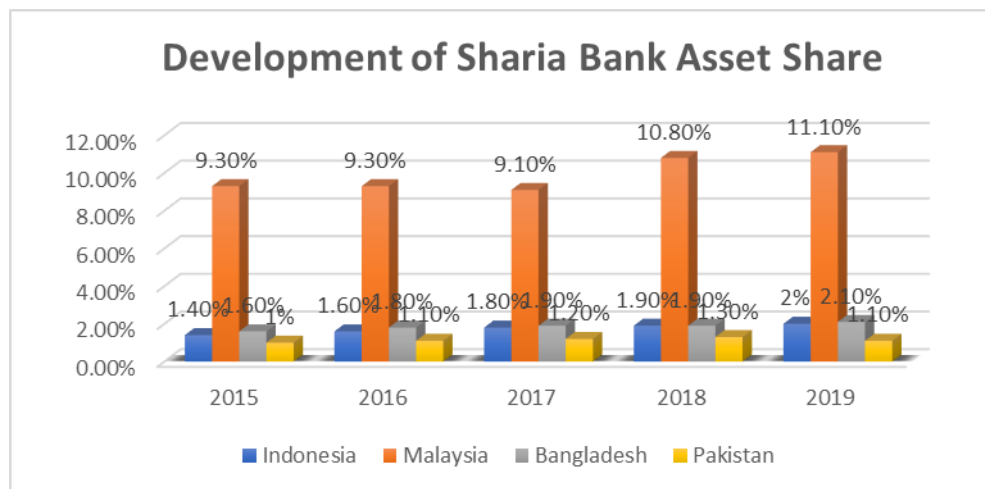


Figure 1. Development of Sharia Bank Asset Share

Source: IFIR (2015-2019)

Haryanto (2020) argued that sharia banks' market share in Indonesia was 5% at the end of 2019. Al-Shaghdari and Bardai (2020) also reported that based on



Bank Negara Malaysia data, sharia banks' assets in Malaysia had multiplied since 2014 with a proportion of 20.7% of the total banking system in 2015. At the same time, the growth of sharia banking in Bangladesh is boosted by the support of Bangladesh Bank in issuing sharia bank's-friendly policies. The high sharia banks growth in Pakistan is also supported by its community that is identical to Muslim (Javaria & Masood, 2020).

Previous studies, such as Cheng et al. (2010), and Lev (2001), concluded that the values presented in the financial statements are not the true value, resulting in a gap between the market value and the company's book value. One of the reasons for this discrepancy is that the value of intangible assets is a fairly large number of assets, which is equal to eighty percent of their market value (Fornell, 2000). These intangible assets are usually referred to as intellectual capital. As financial intermediaries, sharia banking play an essential role in the redistribution of assets from those with a surplus to those in deficit (Hamdan, 2018). Hence, bank tasks rely on creativity, offering edge products and providing exceptional services that demand unique intellectual resources in the competitive banking environment (Rehman et al., 2022).

The phenomenon of the existence of intellectual capital can be explained by Resource Based Theory (RBT) which focuses on organizational resources in the form of value creation, and strategic management which is a competitive advantage and has an impact on company performance. Furthermore, Barney (1991) adds that resource-based theory concludes that in order to achieve a sustainable competitive advantage, companies need unique resources that are valuable, rare, inimitable, and difficult to replace.

This research differs from previous studies that focused on sharia banking objects due to the fact that this industry makes extensive use of intellectual capital. Firer and William (2003) and Weqar et al. (2020) state that the banking industry is one of the most IC-intensive sectors and from the overall aspect of employees in the banking sector are more homogeneous compared to other economic sectors. Furthermore, there are several obstacles that become a problem for the development of the sharia banking business: (1) The level of public understanding related to sharia bank products which are still very low, (2) Most bankers in sharia banks do not understand fiqh muamalah which is a professional standard, and (3) sharia bank technology is still less accessible to customers. These three things are related to the dimensions of intellectual capital.



Our research aims to examine the Intellectual Capital dimensions in the RBT framework through the process of creating financial performance in the form of profitability levels derived from these three dimensions. Next, our paper contributes to the literature in many ways. First, this paper contributes to the understanding of whether the intellectual capital dimensions to enhanced the profitability ratio of sharia banking. Second, this paper is one of the few studies in OIC Countries that studied investigated the relationship between the intellectual capital dimensions and the profitability ratio. Third, besides using Return on Assets (ROA) as proxies for the profitability ratio, this paper also utilizes firm size, and firm age as control variable for the profitability ratio.

This paper consists of several sections, section 1 contains the importance and gaps of research. Section 2 will explore various literatures to formulate our research hypothesis, and section 3 contains the methodology that discusses the procedures for data collection and analysis. Section 4 describes the data analysis and discussion, and section 5 contains the conclusions, implications and recommendations of this study.

## **LITERATURE REVIEW**

### **Resource Based Theory (RBT)**

Resource-based theory was introduced by Penrose in 1959 is a further development of Ricardo's theory Economic Rent, and structure-performance-conduct Porter (Barney & Clark, 2007). Penrose argues that the effective use of innovation and resources can be achieved if the heterogeneity of resources can be synergized to create a unique company profile (Pitelis, 2009). RBT also states that the company's competitive advantage comes from the firm's ability to assemble and exploit the right combination of resources. These resources can be tangible or intangible, and represent inputs into the company production process; such as capital, equipment, individual skills of employees, patents, financing, and talented managers. As the effectiveness of the company and as capabilities increase, the pool of available resources tends to become large (Cheng et al., 2010). Meanwhile Riahi-Belkaoui (2003) also argues that in resource-based theory, the company will achieve a competitive advantage equivalent to its ability to optimize the management of tangible and intangible assets. Thus, companies that can manage their intellectual capital with strategies that are meaningful and responsive to opportunities and threats will gain a sustainable competitive advantage. Khalique et al. (2018) on the



knowledge-intensive firms of Malaysia and found that all the components of IC are vital for enhancing the organisational performance. The Islamic perspective strongly suggests competitive advantage aimed at the good that does not violate Islamic law during implementation. This is in line with Q.S. al-Baqarah (2) verse 148.

In QS. At Tiin verse 4, Allah stated, "We have certainly created man in the best of stature." This verse shows that humans were created in the best stature with their potential for goodness (Aydin, 2017). Human capital in Islam does not focus on developing educational institutions, skills, and expertise but also considers morals, ethics, and responsibility as a human. Human capital development is a responsibility of humans as a *khalifah* on earth, to continue praying to Allah and creating goodness for the people (Abdullah, 2012). Human capital is also a means to take an example from Rasulullah's character, *Fathonah* (smart). Rasulullah is smart in managing his business, from preparing strategy, management, business opportunities, and future prospects (Zahroh & Nafik, 2015). Human capital also possesses *fathonah* character to improve a company's performance.

In providing financial services, sharia banks are demanded to have competent resources to maintain the company's financial condition. The RBT theory is adopted to support the current study, especially in the relationship between intellectual capital as an intangible asset and company financial performance. RBT theory shows that a company's financial performance can be improved if it can optimally manage and utilize its resources, in this case, intellectual capital.

### **Profitability**

Profitability is a sharia bank's ability to generate profit in a certain period (Ginanjar & Umam, 2020; Elkamiliati & Ibrahim, 2014; Mailinda et al., 2018). Return on Assets (ROA) is the most commonly used financial ratio to measure profitability. ROA reflects sharia bank's efficiency in utilizing its total assets (Setianto & Sukmana, 2016). Customer loyalty to sharia bank as a factor affecting its profitability can be maintained if sharia banks could meet customer expectations regarding sharia compliance aspects. Al-Musali and Ku Ismail (2016) found that IC is significant for the performance of banks in all six GCC countries, while the components of VAIC are significant in the majority of the GCC countries. Asare et al. (2017) report that IC and all its dimensions (HCE,



SCE and CEE) are positively associated with ROA of the Ghanaian insurance industry. Nawaz and Haniffa (2017) classified three aspects of sharia compliance that sharia banks must fulfill: does not involve in interest-based, speculative, and haram funding activities, which is in line with Q.S. al-Baqarah (2) verse 278-279 and Q.S. an-Nisa (4) verse 29.

### **Intellectual Capital**

Basically, there is no definition yet steadily associated with the concept of IC. A number of researchers provide a different definition that then impact on the distribution of components or IC taxonomy (Brooking, 1997; Roos and Roos, 1997; Bontis, 1998, 1999; Pulic, 2000; Petty and Guthrie, 2000). Academicians and researchers had categorised IC into two to four dimensions (Dzenopoljac et al., 2017) but the classification of IC into three parts, deliver the clearest taxonomy of IC (Sydler et al., 2014). The three broad classifications of IC include human capital (HC), structural capital (SC) and relational capital (RC) (Bontis, 1998; Roos et al., 1998; Weqar et al., 2020). Next, intellectual capital has a significant role because all sharia bank phenomena are solved according to the intangible sharia intellectual ideology and Islamic laws (Nawaz & Haniffa, 2017).

The virtue of intellectual capital is explained in Q.S ar-Rahman (55) verse 33 and Q.S. al-Mujadalah (58) verse 11. The commonly accepted method to measure intellectual capital in research is the VAIC model developed by Pulic (Harisa et al., 2019; Octavio & Soesetio, 2019). VAIC has three components: human capital, structural capital, dan relational capital (Pulic, 2004). Human capital is the value of employees' skills, knowledge, and expertise in solving business issues and utilizing their intellectual capital (Hasan et al., 2017). Hasan et al. (2017) defined structural capital as values that support a company's non-physical infrastructures, such as patents, trademarks, company image, information systems, software ownership, and database, enabling human capital to function better. Lastly, relational capital is the value that comes from intangible assets contribution or capital, and tangible assets, in supporting human capital and structural capital performance (Octavio & Soesetio, 2019).

### **Hypotheses Development**

The resource-based theory explains that sustainable competitive advantages come from intangible assets' contribution (Barney, 1991). Hayton (2005) indicated that human capital refers to knowledge, skills, and the abilities of



employees (Martinez-Torres, 2006), and that the depth and breadth of expertise and other human capital characteristics of top management teams are a major organizational resource. Jardo'n and Martos (2008) and Sardo et al. (2018) study a sequential model where the human capital is in the base of the other dimensions of intellectual capital. Human capital is developed in internal relations within the company generating capital structural. Several economists have acknowledged that Human Capital is a significant part of national wealth, and the quality of work can be improved by investing in human capital because it is the most vital source of economic growth (Alamanda, 2019; Al-Musali & Ku Ismail, 2015; Hamdan, 2018).

Studies conducted by Kurniawan and Zulaikha (2020), Nawaz (2019), Octavio and Soesetio (2019), Ousama et al. (2019), Muhanik and Septiarini (2017), Nawaz and Haniffa (2017), and Setianto and Sukmana (2016) proved that human capital positively affects sharia bank profitability. Human capital refers to the measure of employees' competencies through their sustainable contribution of knowledge and ideas (Setianto & Sukmana, 2016). Knowledge and skills in the forms of human resources competencies will improve customers' trust in sharia banks' products more extensively. The increase in customer trust will lead to increased disbursed financing and sharia bank's profitability. Thus, a higher human capital will increase sharia bank's profitability.

H<sub>1a</sub>: Human capital positively affects sharia bank profitability

Resources heterogeneity can be synergized to create a unique company profile and apply the concept of effective use of resources and innovation based on RBT (Pitelis, 2009). Structural capital refers to results of innovation that take the form of intellectual property rights, such as patents and licenses, and is a key factor for a company's ability to maintain long-term competitiveness. Previous researchers used perceived structural capital, showing that intellectual property, innovation and technological ability contributed to corporate value (Cheng et al, 2010). Though financial statements do not include data on such perceived innovation capital, some attempts to link financial data to innovation capital have been made. Wang and Chang (2005), and Nadeem et al. (2017) use research and development (R&D) density to represent innovation ability.

Previous studies from Kurniawan and Zulaikha (2020), Susetyo (2019), and Suroso et al. (2017) proved that structural capital positively affects sharia



banks' profitability. Additionally, Nawaz and Haniffa (2017) stated that structural capital holds a significant role in the sharia bank's operation because an innovative environment could support the creation of new sharia financial service products that could strengthen the company's profile. High structural capital reflects the company's culture in encouraging its employees to continue acquiring new knowledge. This condition will create more product innovation and *akad* derivatives in sharia banking. The increased product and derivatives offered by sharia banks will open a larger market and create competitive advantages for the sharia banks, which is expected to contribute in increasing profitability. Therefore, higher structural capital will increase sharia bank profitability.

#### H<sub>1b</sub>: Structural capital positively affects sharia bank profitability

A company's competitive advantage equals its ability to optimize its tangible and intangible assets management following the resource-based theory (Riahi-Belkaoui, 2003). The third intellectual dimension is relational capital. Relational capital is the knowledge embedded in the relationships with any stakeholder that influences an organization. Bontis (1998) states that knowledge of marketing channels and customer relationships play a major role in relational capital, and that they are primarily derived from knowledge embedded in relationships that are external to the company. Prahalad and Ramaswamy (2000) suggest that customers become a new source of competence for the organization because they renew the overall competency of the organization. In addition, other aspects relating to suppliers and competitors contribute to relational capital. Fornell (1992) finds that customer satisfaction enhances business relationships, decreases the elasticity of product price and improves company prestige.

Relational Capital is the knowledge embedded in relationships with shareholders, stakeholders, suppliers, and industry associations that influences the firm directly and indirectly to create value in the market (Oppong & Pattanayak, 2019). Previous studies from Kurniawan and Zulaikha (2020), Naufallita and Hendratmi (2019), Nawaz (2019), Ousama et al. (2019), Nawaz and Haniffa (2017), Setianto and Sukmana (2016), and Ousama and Fatima (2015) have proven that relational capital positively affect sharia bank profitability.





The combination of human capital, structural capital, and relational capital will improve sharia banks' performance (Nawaz & Haniffa, 2017), and Ali et al. (2022), concluded that relational capital could push human capital and structural capital to develop employees' knowledge and implement sharia bank's operational procedures effectively and efficiently. The effective and efficient use of relational capital in supporting human capital and structural capital mechanism will create an excellent performance that increases sharia bank's profitability. Thus, high relational capital will increase sharia bank's profitability.

H<sub>1c</sub>: Relational capital positively affects sharia bank profitability

## METHODOLOGY

The current study is quantitative research to examine the effect of intellectual capital dimensions on profitability. The population of sharia banks in the Organization of Islamic Cooperation (OIC) members, Indonesia, Malaysia, Bangladesh, and Pakistan. The choice of Indonesia, Malaysia, Bangladesh and Pakistan is because these countries are the countries that have the largest asset growth from 2015 to 2019 according to the Islamic Financial Service Board (IFSB) report. The annual report of sharia banks was collected from various websites: [www.ojk.go.id](http://www.ojk.go.id), [www.bnm.gov.my](http://www.bnm.gov.my), [www.bb.org.bd](http://www.bb.org.bd), [www.sbp.org.pk](http://www.sbp.org.pk), and [www.ifsb.org](http://www.ifsb.org)

The samples were selected using the purposive sampling method under several criteria:

1. Sharia banks are listed in the Financial Service Authority (OJK), Bank Negara Malaysia, Bangladesh Bank, and State Bank of Pakistan.
2. Sharia banks issued annual reports from 2015 to 2019.
3. Sharia banks that did not experience mergers or acquisitions during the research period.

## Return on Assets

The dependent variable in this study is profitability measured using ROA, the level of management efficiency in utilizing its assets to generate profit (Harisa et al., 2019; Putri & Gunawan, 2019). The formula to calculate ROA follows



the studies conducted by Hamdan (2018), Harisa et al. (2019) Mohammad and Ibro (2018), Ozkan et al. (2016), and Putri and Gunawan (2019).

$$ROA = \frac{\text{Earning before tax}}{\text{Total Assets}} \quad (1)$$

The independent variable in this study is intellectual capital measured using the VAIC model developed by Pulic (2004) and adopted by Ulum (2013). The value added component in Pulic (2004) model was computed from total income, while the value added in sharia banks was computed from incomes generated through activities that follow the sharia principles (Ulum, 2013). Therefore, the value added in this study was measured using the difference between total income generated through sharia-based activities (out) and total costs excluding employee costs (in).

$$\text{Value Added} = \text{Out} - \text{In} \quad (2)$$

### Human Capital

Human capital was measured using human capital efficiency as a component of VAIC to assess a unit of employee const on value added (Octavio & Soesetio, 2019). Human capital efficiency measurement in this study was conducted based on the VAIC measurement model suggested by Pulic (2004) and Ulum (2013) by dividing the value added by human capital (employee costs).

$$HCE = \frac{\text{Value Added}}{\text{Human Capital}} \quad (3)$$

### Structural Capital

Structural capital was measured using structural capital efficiency as a VAIC component measuring structural capital contribution to the value-added (Octavio & Soesetio, 2019). Structural capital efficiency in this study was measured using the VAIC model proposed by Pulic (2004) and Ulum (2013) by dividing structural capital (value-added human capital) by value added.

$$SCE = \frac{\text{Structural Capital}}{\text{Value Added}} \quad (4)$$



## Relational Capital

Relational capital was measured using relational capital efficiency as a component of VAIC that determine the contribution of tangible assets on value added (Octavio & Soesetio, 2019). In this study, relational capital efficiency was measured using the VAIC method proposed by Pulic (2004) and Ulum (2013) by dividing the value added by relational capital (total equity).

$$CEE = \frac{\text{Value Added}}{\text{Capital Employed}} \quad (5)$$

The current study also included control variables: firm size and firm age. Firm size was measured using a natural logarithm of total assets. This measurement follows previous studies conducted by Ausat (2018), Nomran et al. (2018), and Octavio and Soesetio (2019). The second control variable, firm age, was measured by counting firm age from established to the research period following the studies by Ausat (2018) and Nomran *et al.* (2018).

The collected data was analyzed using descriptive statistics, classical assumption tests, and linear regression analysis. The analysis process started with a classical assumption test and was followed by model estimation selection to choose between Common Effect Model, Fixed Effect Model, and Random Effect Model. The selected estimation model for the current study was Fixed Effect Model with the following regression formula:

$$ROA = \alpha + \beta_1 HCE + \beta_2 SCE + \beta_3 CEE + \beta_4 Size + \beta_5 Age + \epsilon \quad (6)$$

## RESULT AND DISCUSSION

The data collection process using the purposive sampling method resulted in 26 sharia banks with a total of 110 observations, as summarized in Table 1.

Table 1 Sampling Results

Sampling Criteria	N
Sharia banks listed in Financial Service Authority, Indonesia that issued an annual report in 2015-2019 (11 banks x 5 years)	55
Sharia banks listed in Bank Negara Malaysia that issued an annual report in 2015-2019 (13 banks x 5 years)	65



<b>Sampling Criteria</b>	<b>N</b>
Sharia banks listed in Bangladesh Bank that issued an annual report in 2015-2019 (8 banks x 5 years)	40
Sharia banks listed in the State Bank of Pakistan that issue an annual report in 2015-2019 (2 banks x 5 years)	10
<b>Total</b>	<b>170</b>
The outlier was taken out of samples	(60)
<b>Total observations</b>	<b>110</b>

Source: Processing Results (2022)

### Descriptive Statistics

The descriptive statistics analysis showed that the average ROA in Indonesia, Malaysia, Bangladesh, and Pakistan sharia banks in 2015-2019 was 0.782%, indicating that the ROA is still considerably low, with an average of below 1%. The measured intellectual capital shows that HCE has the highest mean, with 1.890871, compared to SCE and CEE. Therefore, it can be concluded that HCE has the highest contribution to sharia banks' operation. The result of descriptive statistics analysis on firm size (size) generated a mean of 31.03835 with a maximum score of 33.06566 in Bank Islam Malaysia Berhad. For firm age (age), the mean score was 13.15455, with a maximum score of 36 in Bank Islam Malaysia Berhad.

Table 2. Descriptive Statistics

Variable	ROA	HCE	SCE	CEE	Firm Size	Firm Age
Min	-0.001560	0.875290	-0.142480	0.057760	28.32572	2.000000
Max	0.019630	5.321090	0.812070	0.629300	33.06566	36.00000
Mean	0.007820	1.890871	0.389809	0.246906	31.03835	13.15455
St. Dev	0.004826	0.818692	0.212961	0.135883	1.034528	7.565235

Source: Processing Results (2022)

### Normality Test

The result of the normality test showed a score of 0.000961 ( $< 0.05$ ), indicating that the data was not normally distributed. Basuki and Prawoto (2016) stated that normality is not mandatory because it is not the requirement for the best linear unbiased estimation (BLUE). Therefore, this study's normality test result can be put aside.



### Multicollinearity Test

The multicollinearity test results show that the centered VIF score of all independent variables was below 10. Thus, the collected data were free from multicollinearity issues.

Table 3. Multicollinearity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	6.92E-05	1894.072	NA
HCE	3.16E-07	36.66194	5.743416
SCE	5.36E-06	28.91555	6.599930
CEE	3.12E-06	6.766946	1.562101
Size	8.24E-08	2175.411	2.392130
Age	1.28E-09	8.059375	1.989372

Source: Processing Results (2022)

### Heteroskedasticity Test

The Glejser test results show that all variables' probability was higher than the significance level of 0.05. Therefore, the data is free from heteroscedasticity issues.

Table 4. Heteroscedasticity Test Result

Variable	Coefficient	Probability
C	-0.026599	0.2717
HCE	-0.000031	0.9455
SCE	0.000804	0.6422
CEE	0.001428	0.5949
Size	0.001024	0.2050
Age	-0.000165	0.1035

Source: Processing Results (2022)

### Autocorrelation Test

The Durbin-Watson (dW) score in this study was 1.851257, while the dU score was 1.8262. This result shows that  $dU < dW < 4-dU$ , meaning that the data is free from autocorrelation issues.



### Regression Model Selection

The chow test results show a probability F score of 0.0000, indicating that the appropriate model for the data according to the chow test is the fixed effect model. The next step is conducting the Hausman test to select the final model for the current research. The result of the Hausman test shows probability chi-square of 0.0000. Thus, the final model appropriate for this study according to the Hausman test is the fixed effect model.

Table 5. Regression Model Selection

<b>Chow Test</b>			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	15.389495	(25.77)	0.0000
<b>Hausman Test</b>			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	39.759906	7	0.0000

Source: Processing Results (2022)

### Hypotheses Testing Result

The hypothesis testing result in Table 6 shows that the score for the probability F-statistic was 0.000000. This result shows that the probability F-statistics is lower than the significance level of 0.05. Thus, the independent variables in this study simultaneously and significantly affect the profitability of sharia banks. Table 6 also shows the Adjusted R-squared score of 0.479141. This result indicates that the independent variables in this study could explain 47.91% of the variation in the dependent variable, while other variables outside this study caused 42.09% of the variation.

Table 6. Hypotheses Testing Results

Hypothesis	Variable	Dependent Variable	Coef.	Prob.	Notes
<b>Independent</b>					
H <sub>1a</sub> (+)	HCE	ROA	0.040858	0.0218	Positive effect
H <sub>1b</sub> (+)	SCE	ROA	0.076100	0.0011	Positive effect
H <sub>1c</sub> (+)	CEE	ROA	0.058205	0.6346	No effect
<b>Control</b>					
	Size	ROA	0.313452	0.7546	No effect
	Age	ROA	0.436766	0.6632	No effect



Hypothesis	Variable	Dependent Variable	Coef.	Prob.	Notes
			0.511695		
			0.479141		
			15.71851		
			0.000000		

Source: Processing Results (2022)

### The Effect of Human Capital on Profitability

Table 6 shows that human capital efficiency has a probability score of 0.0218 with a coefficient of 0.040858. This result shows that human capital efficiency positively affects profitability at a 5% significance level, thus, supporting H<sub>1a</sub>. This result is in line with studies conducted by Kurniawan and Zulaikha (2020), Nawaz (2019), Octavio and Soesetio (2019), Ousama et al. (2019), Muhanik and Septiarini (2017), Nawaz and Haniffa (2017), and Setianto and Sukmana (2016). Additionally, this study is also in line with the resource-based theory, which states that intangible asset is a vital factor in creating a sustainable competitive for leading organizational performance (Barney, 1991). Human capital is a component of intangible assets in the form of professional, high-quality, and skilled employees that its management holds a central role in service companies such as sharia banks. Human capital with deep knowledge of sharia or Islamic laws will increase the bank's credibility and reputation in the capital market (Nawaz, 2017).

Additionally, Setianto and Sukmana (2016) argued that high-quality human capital becomes an immediate need in globalization. Human resource management that is expected to create high human capital efficiency must start during the recruitment process and continues through the employee's tenure. This explanation is in line with Allah's order in Q.S. al-Imran (3) verse 103 because sharia bank aims to achieve collective well-being with all of its stakeholders by managing and developing its human capital optimally to ensure its profitability and maximum customer satisfaction. Therefore, this study shows that effective human capital efficiency management could increase sharia bank's profitability.



### **The Effect of Structural Capital on Profitability**

Table 6 shows that structural capital efficiency has a probability value of 0.0011 with a coefficient of 0.76100. This result shows that structural capital efficiency positively affects profitability at a 5% significance level, supporting H<sub>1b</sub>. This finding is in line with studies conducted by Kurniawan and Zulaikha (2020), Susetyo (2019), and Suroso et al. (2017) and aligns with the resource-based theory, which explains that resources heterogeneity can be synergized to create unique company characteristics and encourage the effective use of resources and innovation (Pitelis, 2009). Structural capital efficiency has a significant role in creating an innovative environment in supporting the creation of new sharia service products, which is expected to improve firm values (Nawaz & Haniffa, 2017).

The success of structural capital efficiency in creating innovative environments highly depends on a sharia bank's ability to plan, organize, and determine strategy, procedure, and system (Muhanik & Septiarini, 2017). This process is connected to Allah's command in Q.S. Yusuf (12) verse 47-49 because sharia banks also need to conduct planning and organizing to create structural capital, especially in utilizing the technology that will significantly affect the creation of innovative environment for its employees. Therefore, innovative and dynamic structural capital efficiency management could increase sharia bank's profitability.

### **The Effect of Relational capital on Profitability**

Table 6 shows that relational capital efficiency has a probability value of 0.6346 and a coefficient of 0.0. This finding shows that relational capital efficiency does not affect sharia bank's profitability at a 5% significance level. Thus, H<sub>1c</sub> is not supported by the data. This result is in line with studies conducted by Octavio and Soesetio (2019) and Muhanik and Septiarini (2017) but contradicts Kurniawan and Zulaikha (2020), Naufallita and Hendratmi (2019), Nawaz (2019), Ousama et al. (2019), Nawaz and Haniffa (2017), Setianto and Sukmana (2016), and Ousama and Fatima (2015) studies. This finding also contradicts the resource-based theory, which explains that a firm's competitive advantage will equal its ability to optimize tangible and intangible assets (Riahi-Belkaoui, 2003).

Muhanik and Septiarini (2017) stated that relational capital efficiency that does not affect the profitability indicates that tangible assets do not contribute to





increasing the profitability. This condition could arise because the company's tangible assets are funded by capital sources that have not been managed optimally. On the other hand, sharia banks should appropriately manage their tangible and intangible assets to achieve balanced performance and maximum outcomes. Both results will increase stakeholder and shareholder trust, leading to increased profitability. Nawaz and Haniffa (2017) explained that a sharia bank must be able to manage its physical capital that comes from stockholders and depositors efficiently and with trustworthiness. This concept is in line with Q.S. al-Mujadalah (58) verse 11.

## **CONCLUSION**

This study shows that human capital, structural capital, and relational capital simultaneously and significantly affect sharia bank's profitability. Partially, only human capital and structural capital poses a significant impact on profitability, while relational capital does not affect sharia banks' performance in OIC members. The control variables, firm size and age, do not affect sharia bank's profitability.

This study uses profitability with a proxy Return on Assets, even though this proxy has several weaknesses, including profit affected by method of depreciation of fixed assets, and the presence of value distortions, especially during inflation. This study is unable to describe the relationship between the market and financial performance. Future studies can use other proxies to measure profitability and can divide the performance measure into two segment, market and financial performance, and investigate their relationship.

In its connection to the implementation of resource-based theory, sharia banks need to have an optimum intellectual capital management strategy to increase their performance and services for customers. This strategy can be implemented by providing various funding and financing products that meet today's needs and the current digital business development. The current study's empirical finding has valuable implications for managers and policymakers in the sharia banking industry, especially in intellectual capital management that matches sharia banking characteristics in Indonesia, Malaysia, Bangladesh, and Pakistan. Precise regulation on performance assessment could stimulate sharia banking growth in terms of assets capitalization, income, and profit sharing with customers.



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