# INTELLECTUAL CAPITAL PROFILE: IS IT EFFICIENT IN ISLAMIC BANKS?

[1]Kania Nurcholisah, [2]Nurleli
Fakultas Ekonomi dan Bisnis Universitas Islam Bandung
Jl. Tamansari No.1 Bandung Indonesia

**ABSTRACT**: *The purpose of this research is to identify the extent of Intellectual Capital Efficiency which consists of Human, Structure and Relational Capital in Islamic banks, in creating Value Added. Intellectual Capital measurement method uses the model VAIC (Value Added Intellectual Capital).The research method used is descriptive quantitative, which is a study that aims to explain the characteristics of research variables. In describing the Intellectual Capital License consisting of Human capital, Capital Structure and Relational capital in Islamic banks. The population of this study was 11 Islamic banks during 2016- 2018. This study uses secondary data obtained from Islamic Banking financial statements.The results of the study show that on average there is an inefficiency in Human Capital and Relational Capital while the capital structure shows the condition of efficiency.*

**KEYWORDS**: human capital, capital structure, relational capital, value added intellectual capital.

## INTRODUCTION

Velasquez (2012: 15) defines efficiency as *operating in the manner that produces the most from a given amount of resources, or that produces a desired output with the lowest resource input.* Boatright (2012: 253) explains that efficiency is *achieving the maximum output with the minimum input.*Peil & van Staveren (2009: 107) grouped the definition of efficiency into two namely first based on *the well-known definition,* efficiency is the *allocation of resources helps to achieve the most ends,* and secondly based on *heterodox - schools of thought*, efficiency is *cost-saving and preventing waste.*Reider (2002: 24) describes efficiency as the least *cost without sacrificing results.* Anthony & Govindarajan (2007: 130) provide an explanation that efficiency is *the ratio of outputs to inputs, or the amount of output per unit of input.* Simons (2000: 110) explains that efficiency is related to *the level of resources that are consumed to achieve a certain level of output.*

Based on the opinions of experts (Velasquez, 2012: 15; Boatright, 2012: 253; Peil & van Staveren, 2009: 107; Reider 2002: 24; Anthony & Govindarajan, 2007: 130; Simons, 2000: 110) above, then efficiency can be said as a measure of success that is assessed in terms of the size of the source / cost / input to achieve the results of the

activities carried out. These investment objectives are needed to create value Lev (2005). Furthermore Kanodia (2007: 39), revealed examples of investment in intangible assets such as expenditures for research & development activities, information technology, human resources, brands and process improvement. According to Mkumbuzi (2015), the component of *human capital investment* is *staff costs* including all costs incurred to obtain benefits from human capital such as health costs, insurance and pension costs. In recent years the investment structure in several countries has changed, which is related to the shift from tangible to intangible (Andriessen: 2004). Several research results have proven that intangible assets have an important role for companies so that they have the power to compete, process improvements and as a determining factor in achieving profits and improving *performance* (Hasannezhadnein and Mazraeh: 2013); (Wang: 2011)

## LITERATURE REVIEW

Changes in the view of *intangible assets* , causing changes in the investment structure, so that in recent years, have increased Lentjushenkova and Lapina (2014); Al.Ali (2002). Intellectual capital investment is an investment that is needed in an effort to increase productivity and grow *performance* long-term(Marr and Roos: 2005). Related to investment in Intellectual capital Lentjushenkova and Lapina (2014), divides investment into three groups, namely
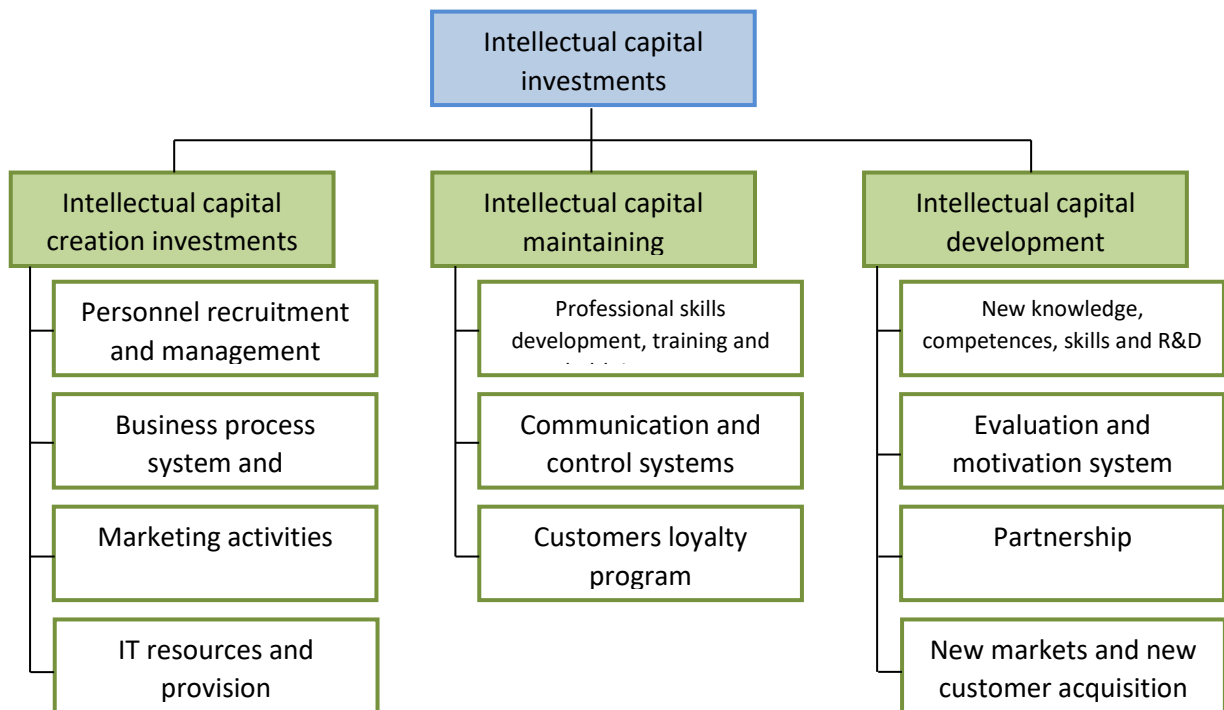


Source: Lentjushenkova and Lapina (2014)

**Figure1: Investment Classification in Intellectual Capital**

Meanwhile al-Fawaeer (2013), divides intellectual capital in areas based on the aim of creating excellence.

**Table 2.1: Investment Area Intellectual Capital**

| No | Element | Components Element | Investment Area |
|---|---|---|---|
| 1 | Attracting Intellectual Capital | The organizations ability to search advance for expertise and scarce skills and pulled to work in | - Investment in research for advantage expertise<br>- Investment in Attracting advanced technical skills<br>- Investment in information system design facilities the task of attraction and polarization |
| 2 | Creating Intellectual Capital | The ability of the organization to increase its total down through cognitive capacity enhancement and development of relations between individuals to cooperate in solving complex problems (Quinn, et.al 1996) | - Investment in strengthening the capacity of individual employee<br>- Program for the development of human relationships in the workplace to reduce the opposition between individual employees<br>- Create intellectual tissues and represent those tissues intellectual groups of individuals cooperation on joint learning and spreading it among a group of professionals sional |
| 3 | Developing Intellectual Capital | Collection methods used by organizations to review the process of innovation and creativity among employee constantly (Kanter, 1999) | - Use the method of brainstorming ideas with the staff to stir their creativity abilities they have, and to generate the largest number of ideas<br>- Create spirited and groups that represent active groups like the challenge and high achievements in the work. |

| | | | - Set up a system to gather the views of employees and their development proposals |
|---|---|---|---|
| 4 | Retaining Intellectual Capital | The organization's ability to pay attention and cognitive energy shining stars of workers who are able to produce new ideas serve organizations (Saleh, 2001) | - Ongoing training and development<br>- Physics and creative intensive.<br>- Reduce the chances of organizations expatriation |
| 5 | Customer Satisfaction | Attention span of organization views of customers and their suggestions taken into account when designing new products or upgrading existing | - Customers requirements documentation system<br>- Service delivery system for customers<br>- Granting additional benefits to customers |

Source: Al-fawaeer (2013 ), which was adapted from Mafragy & Salih (2003). The Impact of Intellectual capital expenditure on the success of industrials companies.

The key to investing in intellectual capital is the intellectual component of the capital in achieving the company's goals, through increasing innovative and competitive ability, and renewing and increasing intellectual capital.

**Intellectual Capital: Human Capital, Structural and Relational**
Petty and Guthrie (2000); Andriessen (2004: 3); Cheng *et.al* (2010) states that intellectual capital in the context of accounting has the same meaning as intangible assets.*" The International Accounting Standards Board (IASB)* provides a definition of intangible assets:

> *"an identifiable non-monetary asset without physical substance held for use in the production or supply of goods or services, for rental to others, or for administrative purposes"*

Intellectual capital is resources and determinants for a company's ability to compete, economic success, and the creation of corporate value (Lev et.al., 2011); Chatzkel et.al., (2002: 6) defines intellectual capital as knowledge that can be transformed into value and profit. The value is attached to the ideas of employees, added value to the process and added value inherent to consumers / users.

> *"Intellectual Capital is knowledge that can be converted into value or profit. It is the value embedded in the ideas embodied in people, processes, and customers / stakeholders. "*

In terms of value creation also delivered by Yeh, et.al., (2011: 3) which has defined intellectual capital as the company's ability to achieve future profits *(future earning capabilities)*.

According to Wall,*et.al* (2004: 16) Muhammad & Ismail (2009); Sonnier 2008, Intellectual capital into three components, namely:

1. Expertise, ability, and *know-how* that exists in human resources *(Human Capital) Capital*
2. structure includes organizational culture, intellectual property, and processing *(Structure Capital)*
3. Good relations with consumers, consumer loyalty and relationship with suppliers *(Relational Capital)*

Lipunga, 2013 presents a grouping of intellectual capital in banks *listed and unlisted* in the country of Malawi as follows:

**Table 2.2: Distribution of Intellectual Capital in the Banking Sector**

| Human Capital | Internal (Structure)CapitalStructure) | External(Relational Capital) |
|---|---|---|
| Employee knowledge Employee | Patent | Brands |
| education and training | Copyright | Recognition of Brands |
| Ability to work together | Philosophi Management | Development of Brands |
| Number of staff | Corporate culture | Distribution channels |
| Passion for business | leadership | Information about consumers (Type / numbers) |
| Safety and health in works | Information System | Services Of consumer |
| loyalty of employees of | network systems | Consumer Loyalty |
| Motivation | Innovation | Retention consumer |
| satisfaction is employee | research and development of | consumer satisfaction |
| communication and activity cooperate | | Feedback consumers |
| qualification of employees | | Attention Consumers |
| Productivity of employees | | Collaboration business |
| report value added | | stock markets |
| Career development | | Quality Standards |
| Team work | | Image company |

Source: Lipunga 2015

According to Javornik, Tekavcik & Marc (2012), the method used to measure the efficiency of intellectual capital investment is *Value Added Intellectual Capital* (VAIC), which was developed by Pulic. The VAIC method is used to measure the efficiency of the use of *intangible resources, (*Andriessen (2004: 364); Wall *et.al.*, (2004); Muhammad & Ismail (2009); and Zeghal & Maaloul (2010).

VAIC is a method of financial valuation ( Luthi: 2005) Andriessen (2004: 364) developed by Professor Pulic of the University of Zagreb To measure the efficient use of these resources, Pulic developed the VAIC TM model which is the sum of: efficient use of physical / financial capital (with VACA notation); efficient use of human capital (denoted by VAHU), and contribution of structural capital to value creation (with STVA notation) The less resources are used to achieve certain results, or the greater the results achieved by using a certain number of resources, means the more efficient use of resources by company
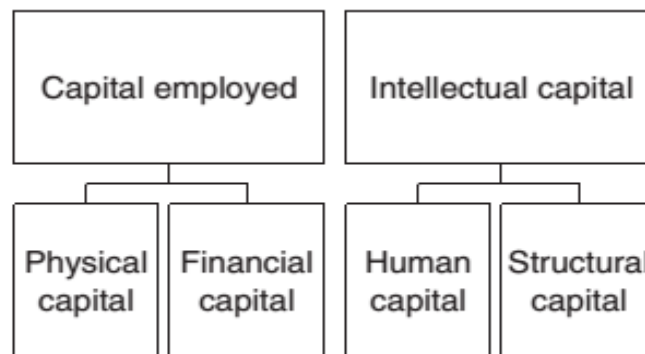


**Figure 2.3**

Pulic, determines two key resources as a creator of added value in a company: *capital empl oed* and *intellectual capital*. Employed capital consists of physical and financial capital, while intellectual capital consists of human and structure capital.
The data needed to calculate Intellectual Capital Efficiency is a standard financial number that is generally available from company financial statements.

This model starts by calculating the company's ability to create *value added* (VA). Value added (VA) is the most objective indicator to assess business success and shows the company's ability in creating Ulum value (2009: 87). **VA is** calculated as the difference between output and input.

Output (OUT) represents *revenue* and covers all products and services that have been successfully distributed, while input (IN) covers all expenses used in obtaining revenue. The important thing in this model is that labor costs are not included in the IN, because their active role in the *labor expense process is* not included in the IN. Due to his active role in the process of value creation, intellectual potential (which

direpresentasikan with labor expense) is not counted as an expense *(cost)* and are not included in the component IN. Therefore, a key aspect in the Pulic model is treating the workforce as a *value creating entity* Ulum (2009: 87).

## RESEARCH METHODS

The research method used in this study, will be explained as follows: Judging from the research objectives, this research is descriptive, which is a study that aims to explain the characteristics of the research variables (Sekaran and Bogie, 2010: 105) .

### Population
Population Population refers to the whole group of people, events or things of interest that researchers want to observe (Sekaran & Bougie 2010: 262).

| No | Bank Name |
|----|-----------|
| 1 | Bank Muamalat Indonesia 2018 |
| 2 | Bank BRI Syariah 2018 |
| 3 | Bank BNI Syariah 2018 |
| 4 | Bank Syariah Mandiri 2018 |
| 5 | Bank Syariah Mega Indonesia 2018 |
| 6 | Bank Victoria Syariah 2018 |
| 7 | PD West Java Banten Syariah 2018 |
| 8 | Bank Panin Syariah 2018 |
| 9 | Bank Syariah Bukopin 2018 |
| 10 | BCA Syariah 2018 |
| 11 | Maybank Syariah Indonesia 2018 |

### Measurement of Variables
More concisely, the formulation and calculation stages of VAIC, Javornic, Tekavcic and Marc Efficiency (2012) are as follows:step
**First** : Calculating Value Added (VA). VA is calculated as the difference between output and input (Pulic, 1999)

$$\textbf{Value Added = OUT - INPUT}$$

Where:
OUT = Output: Total operational and non-operating income.
IN = Input: Total operational and non-operational costs (other than labor costs)

**Second Stage:** Calculate Value Added Capital Employed (VACA).
VACA is an indicator for VA created by a unit of physical capital. This ratio shows the contribution made by each unit of CE to the organization's added value.

$$VACA = VA / CE$$

Where:
VACA = Value Added Capital Employed: The ratio of VA to CE.
VA = Value Added
CE = Capital Employed: Available funds (Shareholder capital)

**Third STAGE:** Calculate Value Added Human Capital (VAHU).

VAHU shows how much VA can be generated with funds spent on labor. This ratio shows the contribution made by each rupiah invested in HC to the organization's added Value.

$$VAHU = VA / HC$$

Where:
VAHU = Value Added Human Capital: The ratio of VA to HC.
VA = Value Added
HU = Human Capital: Burden of Employees

**Fourth Stage:** Calculate Structural Capital Value Added (STVA).
This ratio measures the amount of SC needed to produce 1 rupiah from VA and is an indication of how successful the SC is in value creation.

$$STVA = SC / VA$$

Where:
STVA = Structural Capital Value Added: The ratio of SC to Value Added
SC = Structural Capital: VA - HC
VA = Value Added

**STAGE Fifth** : Calculate Value Added Intellectual Coefficient (VAIC). VAIC is the sum of the 3 previous components, namely: VACA, VAHU, and STVA.
According to Indeed, Firer & Williams (2000) *in ORGMASZ* explained the benefits of measurement (VAIC) are as follows:
1. Is a standard measurement basis (Pulic & Borneman, 1999).
2. Other intangible measurements based on specific samples. broader and varied are inadequate / adequate

3. Besides the source of VAIC calculation data can be verified and this is possible because the data is defined from financial statements.4

## RESULTS AND DISCUSSION

Research Results
Overview of Human Capital

**Table 4.2: Human Capital Efficiency (HCE)**

|  | Human Capital Efficiency (HCE) | | |
|---|---|---|---|
|  | **2016** | **2017** | **2018** |
| Mean | -0.37 | -0.05 | 0.25 |
| Std. Deviation | 1.53 | 1.14 | 1.55 |
| Maximum | 1.78 | -1.59 | -1.85 |
| Minimum | -2.89 | 1.99 | 3.53 |
| N | 33 | 33 | 33.00 |

In the above table it can be seen that the average *Human Capital The* 2016 licenses are -0.37 with the highest value of 1.78 and the lowest value of -2.89. the average *Human Capital Efficiency* in 2017 is -0.05 with the highest value of 4.16 and the lowest value of -13.79. the average *Human Capital Efficiency* in 2018 is 0.25 with the highest value of 3.53 and the lowest value of -1

**Overview of Capital Structure (SCE)**

**Table 4.3: Efficiency of Capital Structure (SCE)**

|  | Efficiency Intellectual Capital Structure Capital (SCE) | | |
|---|---|---|---|
|  | **2016** | **2017** | **2018** |
| Mean | 1.18 | -0.22 | 0.01 |
| Std. Deviation | 2.40 | 5.23 | 3.69 |
| Minimum | -5.05 | -13.88 | -10.36 |
| Maximum | 3.95 | 4.47 | 2.73 |
| N | 33 | 33 | 33 |

In the table above it can be seen that the average *Capital Structure of Licensed* in in 2016 amounted to -1.18 with the highest value of 3.95 and the lowest value of -5.05. The average *Capital Efficiency Structure* in 2017 is -0.22 with the highest value of 4.47 and the lowest value of -13.88. the average *Capital Structure Efficiency* in 2018 is 0.01 with the highest value of 2.73 and the lowest value of -10.36.

## Capital Employee (CEE) Overview

### Table 4.4: Capital Employee Efficiency (CEE)

| | Employee Capital Efficiency (CEE) | | |
|---|---|---|---|
| | **2016** | **2017** | **2018** |
| Mean | -0.18 | -0.01 | 0.22 |
| Std. Deviation | 0.48 | 0.17 | 0.75 |
| Minimum | -1.30 | -0.28 | -0.30 |
| Maximum | 0.39 | 0.41 | 2.51 |
| N | 33 | 33 | 33 |

In the table above it can be seen that the average *Capital Employee Efficiency* at in 2016 amounted to -0.18 with the highest value of 0.39 and the lowest value of -1.30. The average *Capital Employee Efficiency* in 2017 is -0.01 with the highest value of 0.41 and the lowest value of -0.28. the average *Capital Employee Efficiency* in 2018 is 0.22 with a value of 2.51 and the lowest value of -0.30.

## Overview of Value Added Intellectual Capital (VAIC) in Islamic Banking

### Table 4.1: Value Added Intellectual Capital of Islamic Banks

| | VAIC | | |
|---|---|---|---|
| | **2016** | **2017** | **2018** |
| Mean | 0.63 | -0.26 | 0.16 |
| Std. Deviation | 2.40 | 5.14 | 4.16 |
| Maximum | 2.62 | 4.16 | 6.76 |
| Minimum | -4.86 | -13.79 | -10.26 |
| N | 33 | 33 | 33 |

In the table above it can be seen that the value *maximum VAIC* in 2016 with the highest value is 2.62 and the lowest value is -4.86. The average *VAIC* in 2017 was -0.26 with the highest value of 4.16 and the lowest value of -13.79. the average *VAIC* in 2018 was 0.16 with the highest value of 6.76 and the lowest value of -10.26.

## DISCUSSION

### Human Capital Efficiency
Human Capital Efficiency shows the funds spent on labor. This Human Capital Efficiency Ratio shows how much the contribution of human resources from each

rupiah invested to the organization's added value. Referring to the results of these calculations, during 2016 and 2017, it seems that Islamic banking has not been able to encourage the investment of human resources in creating added value. This can be seen from the negative value of Human Capital. This negative result is one measure that shows that the productivity of human resources and investments made during 2016 and 2017 are not efficient. Efficiency can be said as a measure of success that is assessed in terms of the amount of sources / costs / inputs to achieve the results of the activities carried out.

According to Lipunga 2015, the distribution of human capital in the banking sector includes employee knowledge, employee education and training, the ability to work together, the number of staff, enthusiasm for business, safety and health at work, employee loyalty, communication and joint activities, qualifications of employees, employee productivity, Value added reports, Career Development and Team work that have not yet achieved success. In an effort to

**Capital**
Structure Structural capital is the ability of an organization or company to meet the company's routine processes and structures that support the efforts of employees to produce optimal intellectual performance and overall business performance (Sawarjuwono and Kadir, 2003). Structural capital includes all non-human resources in the organization, which includes databases, organizational structures, manual processes, strategies, routine activities, and other values of the organization that are higher than material value (Bontis, 2000; Pike et al., 2001 ; Wong and Gardner, 2004). The structure within a company can be created by employees, and its value is very important to remain there until the workday ends (Wong and Gardner, 2004). Bontis (2000), when an organization has weak systems and procedures, then all intellectual capital in it will not reach its maximum potential. Meanwhile, according to Sawarjuwono and Kadir (2003), an individual can have a high intellectual level, but if the organization does not have good systems and procedures, intellectual capital cannot achieve optimal performance and the existing potential cannot be utilized maximally. Organizations with a structure that is strong will have a cultural condition that is conducive for individuals to try something new, whether it will succeed or fail (Bontis, 2000).

Based on a descriptive picture of the existing capital structure in Islamic banks during 2016 and 2017 gave negative results of -5.05 and -0.22. whereas in 2018 it gave a positive result of 0.01. Negative results show that the capital structure created which includes, corporate culture, leadership, information systems, network systems, innovation and research and development have not been able to create corporate value.

## Relational Capital

Relational capital is related to external relations with customers, suppliers, partners, networks, and regulators (Pike et al., 2001). Relational capital is a harmonious relationship that is owned by the company with its partners (Sawarjuwono and Kadir, 2003) and represents intangible assets outside the organization that can increase company competence broadly (Bontis, 2000). This element is a component of intellectual capital that gives real value (Sawarjuwono and Kadir, 2003)

Some of the components of relational capital can be owned, but their nature is temporal (Wong and Gardner, 2004). According to Wong and Gardner (2004) this is because the reputation and relationships that exist with external parties can change at any time and the company cannot control the behavior of customers or suppliers if their desires are not fulfilled. Relational capital is a supporting pillar of the existence of an organization. Its existence needs to be disclosed to provide confidence to the *stakeholders*.

Thus, better utilization of Capital Employees is part of Intellectual Capital. Based on descriptive description the average value of Islamic banking employee capital for 2016 and 2017 amounted to -0.18 and -1.30, while for 2018 it reached a positive value of 0.22.

## Intellectual Capital Value Added (VAIC).

Calculating the Value Added Intellectual Capital is the last stage in knowing the contribution of Intangible Utilization of resources to the company's added value. VAIC is a sum of the 3 previous components namely Human Capital Efficiency, Capital Structure Efficiency and Relational Efficiency.

According to Indeed, Firer & Williams (2000) *in ORGMASZ* explained the benefits of measurement (VAIC) are as follows:

1. Is a standard measurement basis (Pulic & Borneman, 1999).
2. Other intangible measurements based on specific samples. broader and varied is not enough / adequate
3. In addition, VAIC calculation data sources can be verified and this is possible because the data is defined from financial statements,

based on descriptive statistics, and after taking into account all three components of intellectual capital it turns out that on average the value of intellectual capital in in 2016 gave a result of 0.63, this meaning explains that during 2016, on average, it was able to utilize its intangible assets and increase value added by 63%, while different conditions occurred in 2017 amounting to a VAIC of -0.26. Where the VAIC value in 2017 it is negative, meaning that sec The average sharia bank in 2017 has not been able to utilize its Intangible Resources, which is shown by the Value Added Intellectual Capital resulting in a negative number of -0.26 or inefficiency of -26%, and in 2020 experienced a positive VAIC value

## CONCLUSION AND SUGGESTIONS
**Conclusions**

1. Human Capital in Sharia banking on average can be concluded inefficient happened in 2016 and 2017, while for 2018 efficient
2. Capital structure in Sharia Banking is on average efficient, the highest maximum value is reached in 2016 and 2018 while in 2017 Inefficient Efficient
3. *Relational Capital in Sharia Banking is on average which occurred in 2016 and 2017, while for 2018 Efficient*
4. Intellectual Capital as measured by VAIC is on average efficient for 2016 and 2018

**Suggestions**

Based on the results of research have shown that there is inefficiency in Human capital, Islamic Banking is expected to increase the expertise, training and education, as well as the HR experience needed to encourage innovation, create and realize beneficial relationships with customers and suppliers. In an effort to increase the utilization of Intellectual Capital, Intellectual Capital Creation, Intellectual Capital Maintenance and Intellectual Capital Development are needed.

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