INTELLECTUAL CAPITAL OF INDONESIAN STATE-OWNED ENTERPRISES AND PROFITABILITY AND COMPANY AGE AS MODERATING VARIABLES

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Abstract

This purpose of this study is to answer phenomenon declining financial performance in State-Owned Enterprises (SOEs) due to low awareness of managing intellectual capital, as well as the age of the company as a moderating variable that can strengthen the correlation between the two. Intellectual capital is measured using Pulic's concept with the term Value Added Intellectual Capital (VAIC). Meanwhile, financial performance measured based on the return on assets. Research design: quantitative research method was employed to answer the hypothesis by using an explanatory method approach, on 51 SOEs. Findings: The results of the study found no evidence its intellectual capital might affect the financial performance of SOEs in 2019. Even when the age of the company acted as a moderating variable, there was still no evidence. Originality. This study has a novelty value in terms of including the moderator variable, namely the age of the company, which has never been studied before.

Keywords: value added intellectual capital, VAIC, profitability, company age, financial performance.

Introduction

The decline in the financial performance of State-Owned Enterprises (SOEs) is the trigger for the researchers to conduct this study. According to the SOE minister, SOEs play a major role in building the national economy. The national development in question is not only ammunition for government income but becomes an ecosystem that always maintains the national economy, in the sense of keeping it stable or even increasing [1].

SOEs play a role in maintaining the investment climate and outlook on economic growth in Indonesia. SOEs have a role as a forum for the younger generation to contribute directly to the generation driving the progress of transformation in SOEs. Furthermore, economic growth is also realized by absorbing tens of thousands of workers by attracting foreign investment and realizing an eco-lifestyle in collaboration with global players whose investment value is estimated at around USD 14 billion. He also explained the strategic SOE projects that were carried out by collecting funding and investors in collaboration with the Indonesia Investment Authority [2]. Thus, SOEs are required to always give their best in each of their performance.

A company's performance can be evaluated from many factors. One of the factors that will be discussed in this research is how bad the financial performance of SOEs is seen from the lack of intellectual capital is not in line with expectations. [3] understands that intellectual capital is an intangible asset (information and knowledge) which can be a competitive advantage. Intellectual capital can be used to generate wealth and become an important resource aspect in realizing company success in economics.[4-6] also explains that intellectual capital is a determining instrument for the value and performance of the company that triggers the emergence of the value of know-how.

However, in reality, several SOEs are experiencing a slump in their financial management. Some of the SOEs in question include the Tourism and Supporting services industry sector, namely Angkasa Pura Coorporation. Angkasa Pura's net profit in 2019 of IDR 719.27 billion had to fall in losses to IDR 1.16 trillion[7]. Angkasa Pura's financial decline was caused by a 47.27% decrease in operating income (from IDR 11.08 trillion to IDR 5.84trillion) coupled with a decrease in equity from IDR 24.44 trillion to IDR 21.31 trillion.

Garuda Indonesia experienced a similar situation, during 2020, it experienced a decrease in operating income from USD 4.57 billion to USD 1.4 billion, to be more precise, it decreased by 67.40%. This decreased operating income was followed by a net loss of USD 2.44 billion and negative equity, which was minus USD 1.94 billion compared to 2019 which recorded positive equity [8]. Losses in 2020 are higher than losses in 2019 which only reached USD 38.94 million [9, 10]. To save this situation, Garuda Indonesia is also preparing a business plan for restructuring, delaying debt repayment obligations, and restoring company performance which will be brought to shareholders and stakeholders for consideration by creditors, lessors, as well as Angkasa Pura I and Angkasa Pura II [2, 11, 12]. Both State-Owned Electricity Company and State-Owned Gas Company have low Return on Asset (ROA). The low 2020 ROA of these state-owned companies indicates the companies' poor financial performance. At State-Owned Electricity Company, this less-than-optimal financial performance was marked by losses in early 2020 of up to IDR 38.88 trillion. One of the factors that triggered the loss was the strengthening of the US Dollar against the Indonesian currency in March 2020. The overall large loss caused by foreign exchange rates was IDR 51.97 trillion [13-15]. In the same way, at the end of 2020, State-Owned Gas Company also recorded a 23.5% drop in revenue and a net profit of 58.75% [16-18].

Furthermore, in the SOE Infrastructure Services Industry, issuers of Waskita Karya's SOE balance sheet are currently being highlighted. In this industry, several SOEs experienced a striking decline in financial performance, such as Waskita Karya's financial performance during 2020 experienced a drastic decline. This can be seen from the financial balance with an income of IDR 16.19 T, which is smaller than in 2019 which reached IDR 31.39 Trillion [7, 19-21]. Waskita Karya's experienced massive losses during 2020.

If confirmed to the concept of the company's financial performance, some experts state that one of the factors that affect the good or bad of the company's financial performance is the disclosure of intellectual capital. According to [22-24], the correlation between intellectual capital and financial performance in the South Africa development community's general insurance has a positive correlation where intellectual capital greatly influences financial performance and increases company wealth. According to [5, 25, 26] in his research conducted on seven banks in Colombia during 2010-2016 there was a correlation between the variables of value added intellectual capital, firm value, and financial performance. Continuous increase in financial income is obtained from value creation and value creation itself begins with optimal intellectual capital management[9, 10]

Thus, similar trends cannot be identified. Furthermore, research conducted (Berzkalne & Zelgalve, 2014) regarding intellectual capital and firm value shows that increasing intellectual capital can increase firm value. Experts[7], have a positive relationship between innovation, intellectual capital, corporate strategy on organizational performance. According to [24], the innovative performance behavior of intellectual capital management is one of the key factors for business. In addition, it can be seen that intellectual capital and business performance have a positive correlation. According to[27], intellectual capital and profitability have a relationship with company performance. The company's performance in times of crisis is highly dependent on the human ability to adapt to improve the company's development. Based on the concept that is used as a reference to answer this phenomenon, the problem in this study is that the financial performance of SOEs in Indonesia is influenced by the management of intellectual capital and the moderating variable of the age of SOEs

Theoretical Framework

According to [11] profitability describes how smart the company is in profiting from its activities that are developed to ensure its survival. The increase in company profits was accompanied by an increase in investor confidence to invest their capital. So it can be said that profitability affects the capital structure[28-30]

Profitability is one of the key factors in assessing performance. Improving profitability is one of the key tasks of a company. It can therefore attract attention and investment from domestic and foreign investors, as only a profitable and stable economy can provide sufficient funding for sustainable development [15, 21, 31]. It reveals the company's ability and capacity to generate revenue at the sales level, asset level, and capital stock within a certain period [32-35]. Profitability is defined as the company's income generated from revenue after deducting all costs incurred during a certain period[19]. Profitability has an important meaning in the survival of the company in the long term. Thus, the company might always try to increase its profitability. Because the higher the level of profitability, the company's survival will be more guaranteed[32].

Profitability is the extent to which a company is able to gain profits within a certain period of time by using its resources, such as human resources, assets, and capital. These small entrepreneurs continue to strive to increase their profitability because it can affect the number of entrepreneurs, their assets, and their capital. The greater the profitability of a company, the more guaranteed the sustainability of the company [36-38].

[25] explain that in gaining a sustainable competitive advantage in the era of intellectual capital knowledge, the average value of a product and intellectual capital are key factors for organizational efficiency in the market. [38, 39] have made the same statement, playing a very important role because intellectual skills are the key to innovation, productivity, performance and competitiveness. Therefore, intellectual capital can be regarded as an intangible asset, and expenditures related to the development and formation of intellectual capital should be viewed in terms of long-term value [40, 41],.

Intellectual capital disclosure is the disclosure or reporting of a company's intellectual capital. Disclosure of intellectual capital is voluntary (Rachmawati, Kurniawan, & Chandra, 2020). Therefore, not all companies disclose their state intellectual capital [42, 43].

A study related to intellectual capital with organizational performance proves that there is a positive correlation intellectual capital and organizational performance (Gogan et al., 2016). (Hejase, Hejase, Tabsh, & Chalak, 2016) define intellectual capital as the knowledge that can be converted into value.[38] found evidence of a relationship between intellectual models, namely relational capital, organizational capital and human capital.

The International Federation of Accountants explained that intellectual capital consists of three main elements: Human Capital, Organizational Capital, and Relational Capital (Zehri et al., 2013). Intellectual capital disclosure by proxy VAIC™ adopts a previous study (Rahajeng & Hasibuan, 2020) using the Value Added and Intellectual Capital Efficiency (Pulić, 2008) García Castro et al., 2021). The Value Added Intellectual Coefficient (VAIC) method was used as a measure of intellectual capital (IC) [7, 20, 36, 37, 44, 45],

According to a study by [24], efficient use of structural and human capital stocks has the greatest impact on farm profitability among the IC measures used (Salehi & Mohammadi, 2014). The banking sector uses two control variables: bank size and financial leverage. The results of that study indicate that intellectual capital has a significant relationship on the bank performance (Salehi & Mohammadi, 2014). Capital Employed Efficiency (CEE) and Human Capital Efficiency (HCE) were found to have a significant positive impact on bank's profitability under the three components of the value-added intellectual coefficient (VAIC), while structural capital efficiency (SCE) was found to have a significant negative impact. CEE has a major positive impact on financial performance, SCE has a significant positive impact on financial performance, and HCE has a negative impact on financial performance, according to a study by[3, 4, 32, 33].

documented the positive impact of intellectual capital on organizational performance and value in Pakistan's Oil & Gas Sector. The findings of a previous study (Nassar, 2018) shows that SCE plays an important role in the value creation of real estate firms which has a significant positive correlation with ROA, and that HCE shows a significant positive correlation with ROA, while CEE shows the opposite result. Another study (Yaseen & Al-Amarneh, 2021) suggested that there is a significant and positive correlation between VAIC and bank profitability as indicated by return on assets (ROA). (Al Momani, Nour, Jamaludin, & Abdullah, 2021) found that VAIC™ had a significant positive effect on EPS and ROA, and that there was a significant positive association between HCE and SCE and EPS and ROA. Meanwhile, a correlation between the capital employed efficiency (CEE) and EPS and ROA was not found. [1, 25, 40, 46, 47] stated that HCE shows a favorable impact on both financial performance measures, ROA and ROE. However, SCE shows detrimental and beneficial implications on ROA and ROE, respectively.

A study by [4] found that human capital and social capital are a correlation between HRD practices (i.e. HRD collaborative and development practices) and increased organizational performance in terms of asset return growth. According to the findings of a prior study, overall intellectual and financial capital have a substantial impact on

financial performance (Gupta & Raman, 2021). The results showed a positive correlation between ROA and IC (Xu & Liu, 2021). The individual components of IC show that financial performance is strongly influenced by tangible and human capital [20, 21].

Empirical results show that ICs and their components can increase a company's PFP (Lu et al., 2021). There is an important and direct relationship between the return on lagging assets, intellectual capital, and the financial performance of insurance companies (Olarewaju & Msomi, 2021). Intellectual capital factors affect the performance of Portuguese banks and must be involved in future strategic decisions (Neves & Proença, 2021). Intellectual capital affects financial performance (Ardiansari, Ridloah, Pangestuti, & Indriyani, 2021), the positive impact on companies value with financial performance (Robiyanto, Putra, & Lako, 2021), the correlation between VAIC™, and financial performance (García Castro et al., 2021). There is an impact of IC on financial performance in the information communication technology sector (Dženopoljac, Janoševic, & Bontis, 2016). Disclosure of intellectual capital, either directly or indirectly through financial performance, will have a significant impact on the value of automobile companies listed on the Indonesia Stock Exchange between 2016 and 2019 (Saifi, 2021). VAIC™ is an important factor in a company's financial performance (Acuña-Opazo & González, 2021). [16, 22, 28, 31, 36, 37, 44, 45] found that ICs have a significant impact on profitability. All elements of the intellectual capital index have a positive impact on the profitability indicators of Indian banks

Research hypotheses

$H0_1$	Disclosure of intellectual capital does not affect the profitability of state-owned terprises in Indonesia
$H0_2$	The age of the company does not affect the profitability of Indonesian state-wned enterprises
$H0_3$	Intellectual capital disclosure is moderated by the age of the company, but does t affect the profitability of Indonesian state-owned enterprises
$H0_4$	Disclosure of intellectual capital and company age as the moderating variable nultaneously does not affect profitability

Research Method

This study employed a causal associative research method. The subjects of the survey consisted of companies listed on the Indonesia Stock Exchange in all sectors in 2020. The data contained in this survey is secondary, that is, financial reports published on their websites. The research variable consisted of an independent variable, a dependent variable, and a moderator variable. The independent variable was the disclosure of intellectual capital, the dependent variable was financial performance, and the moderator variable was the age of the company.

Intellectual capital disclosure was measured using the VAIC Pulic's model of the following equation.

VAIC™ = VACA + VAHU + STVA

Financial performance using profitability indicators and this study used return on assets (ROA). ROA is a tool used to measure profitability by assessing a company's ability to generate profits based on the assets used. Return on investment (ROA) is calculated by dividing net income by total assets. The age of the company as a coordinating variable is the length of time it took to set up the company before the survey was conducted. The age of the company was measured by the difference between the year of the survey and the year the company was founded.

The data analysis technique used in this study was moderating regression analysis. The following figure visualizes the research model on the influence of intellectual capital on profitability moderated by company age.

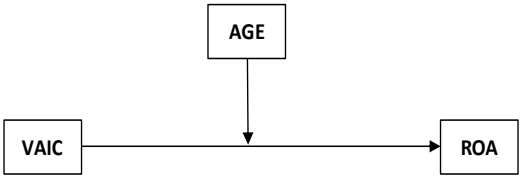

Figure 1.Research Model Diagram

Mathematically the functional correlation between intellectual capital on profitability with company age as a moderating variable can be formulated as follows.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_{1*} X_2 + \varepsilon$

Description:

Y = Profitability

X_1 = Intellectual Capital

X_2 = Company Age

Research Findings

Finding evidence that there is a significant influence of intellectual capital on the financial performance of SOEs and moderated by the age of the company is the purpose of this study.

The classical assumption test is carried out first before analyzing the data and answering the hypothesis.The regression equation model was used to estimate how much change in profitability was caused by changes in intellectual capital and company age. Estimation of multiple linear regression model equations was done using IBM SPSS Statistics 22 software which obtained the following results

Table1

Estimation Results of the Regression Equation

Variable	Model 1		Model 2	
	Coeff.	Sig.	Coeff.	Sig.
Constant	4.227	0.004	3.188	0.347
VAIC	-0.558	0.218	0.608	0.609
AGE			0.021	0.730
VAIC*AGE			-0.024	0.278
R^2	0.036		0.093	
Adj. R^2	0.013		0.025	
F	1.563(p = 0.218)		1.372 (p = 0.265)	

Based on the coefficients of model 2 as presented in table 1, the moderating regression:

$Y = 3{,}188 + 0{,}608\ X_1 + 0{,}021\ X_2 - 0.024\ X_1 * X_2$

Description:

Y = Profitability

X_1 = Intellectual Capital

X_2 = Company Age

The coefficients mentioned in the equation might be interpreted as follows: (1) a constant was 3.188 indicating that the average profitability if there is no disclosure of intellectual capital and newly established company; (2) Disclosure of intellectual capital had a positive coefficient of 0.608, meaning disclosure of intellectual capital in the report one point is predicted to increase profitability by 0.608%. This means that companies that have a higher intellectual capital rating tend to have greater profitability; (3) The age of the company had a positive coefficient of 0.021 indicating that the age of the company will increase is predicted to increase profitability by 0.021%. This means that older companies tend to have greater profitability; (4) The interaction between intellectual capital ratings and general companies had a negative coefficient of 0.024, indicating that companies with higher intellectual capital ratings and older ages tend to have lower profitability.

Table 1 in model 1, coefficient of determination (R Square) of 0.036 shows its intellectual capital rating (without moderating variables) is only able to explain the profitability of 3.6%. Furthermore, model 2 with the inclusion of company age as a moderating variable showed the coefficient determination (R Square) of 0.093, indicating that the inclusion of company age as a moderating variable on the intellectual capital rating was only able to explain the profitability of 9.3%.

Table 1 model 2 showed the significant value of the effect of intellectual capital on profitability of 0.609, greater than 0.05. This is the disclosure of intellectual capital did not affect the profitability of Indonesia state-owned enterprises. The same thing without moderating variables, disclosure of intellectual capital also did not affect profitability. In short, the disclosure of intellectual capital independently (individually) did not affect profitability, even after being moderated. The age of the company also did not affect profitability.

Furthermore, the significance value of the influence of company age on profitability is 0.730, greater than 0.05, indicating that the age of the company affected the profitability of SOEs in Indonesia. The test of the significance value of intellectual capital disclosure moderated by company age on profitability was 0.378, greater than 0.05. This means the disclosure of intellectual capital moderated by the age of the company does not affect the profitability of state-owned enterprises in Indonesia.

A simultaneous test was done to prove whether disclosure of intellectual capital and company age as moderating variables simultaneously affect profitability. F_{count} was 1.372, greater than 0.05, indicating simultaneous disclosure of intellectual capital and company age does not affect the profitability of Indonesian state-owned enterprises.

The results of this study support a previous study that VAIC^{TM} disclosure of intellectual capital did not affect Islamic banks' profitability (Rahajeng & Hasibuan, 2020), and on firm size (Rusgowanto & Panggabean, 2021). IC efficiency does not correlate with risk-taking and bank stability (Dalwai et al., 2021). (Dalwai & Salehi, 2021) suggest that there is no effect of A-VAIC on company performance, while (Ren, Ting, & Kweh, 2021) did not find a dynamic correlation between IC and financial performance.

Conclusion and Suggestions

Based on the phenomenon, framework, and research findings, it was concluded that there was no evidence of a decline in financial performance in State-Owned Enterprises in 2019 not caused by non-optimal disclosure of intellectual capital, while including company age as a moderating variable resulted in the same conclusion. Although the results of this study do not prove the theory, they can be used as a reference for future researchers. The results of this study can also be used as the basis for SOEs managers to make decisions in planning the management of intellectual capital in each SOE sector. Following the demands of the information technology era, intellectual capital must be more focused on investment for research and innovation. Researchers suggest that further study can add other independent variables such as top management support, organizational culture, and others until the dominant factor is found. The dominant factor is to answer the problem of the decline in the current financial performance of SOEs.

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