THE EFFECT OF INTELLECTUAL CAPITAL ON COMPANY PERFORMANCE AND COMPANY VALUE BEFORE AND DURING COVID-19 PANDEMIC

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Abstract

This study aims to examine the effect of Value added Intellectual capital (VAIC) consist of Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE), Capital Employed Efficiency (CEE) on company performance and company value before and during the Covid-19 pandemic. The sample of this research is companies listed on the Indonesia Stock Exchange for the Mining Industry period 2017-2021. The results of this study before covid HCE, SCE and Size had a negative and significant effect on company performance, CEE and VAIC had a significant positive effect on company performance. VAIC has a positive and significant effect on company value. Meanwhile, when the Covid-19 pandemic CEE had a positive and significant impact on company performance, VAIC had a positive and significant impact on company value.

Keywords: Intellectual Capital, Company Performance, Company Value

Introduction

The development of information and technology (IT) is currently increasingly rapid, which requires companies to face all-digital challenges in order to survive in a sustainability, the main goal of a company is to survive and develop today and in the future (Yusliza et al. , 2020). Economic globalization is no longer a new problem but has become a common topic discussed by economists, one sign that the development of technology is increasingly massive is the number of companies implementing knowledge-based systems (Mustapha & Abdelheq, 2018). Companies requires to improve performance and fix the performance of companies that are still using the old system so that the company can be sustainable (Sumedrea, 2013). The company's performance can be improved if the company implements a knowledge based business.

Successful company is a company that has different resources with other companies or competitors, by innovating that are difficult for other companies to imitate. Resource Based Theory (RBT) theory that used as the basis for the importance of assets in the form of knowledge owned by companies to continue grow and always innovate in order to achieve competitive advantage (Samson & Bhanugopan, 2022; Yusliza et al., 2020). Companies that have a competitive advantage are in line with the financial performance of the company in carrying out operations. Utilization of resources properly and wisely is expected to improve the company's financial performance.

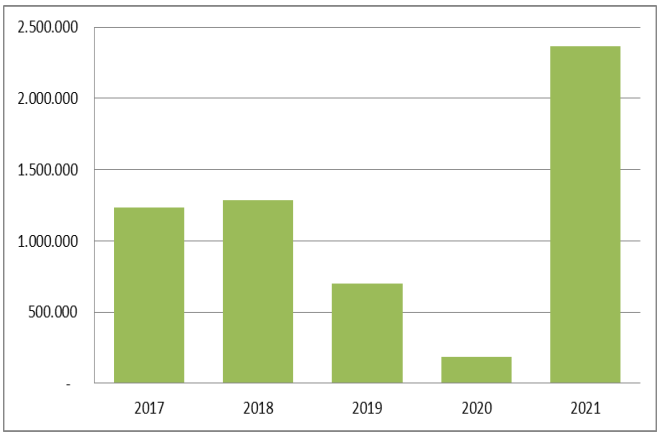
In general, the resources owned by the company are divided into tangible resources (tangible assets) and intangible resources (intangible assets). Intangible assets are usually also known as intellectual capital. The source of the company's wealth will not always be in a fulfilled condition because every tangible asset will definitely experience a decrease in economic value and function except for land, this is what requires companies look for sources of assets that can replace the role of tangible assets, one of which is by maximizing the utilization of the company's intellectual property. which is based on knowledge systems (Andreeva et al., 2021). Intellectual capital will affect the company's performance because intellectual capital will contribute to the development of knowledge, competence, brand, reputation and relationships with consumers.

Intellectual Capital is defined as the key to utilizing resources to drive companies to create value (García Castro et al., 2021). Intellectual Capital has encouraged companies to achieve competitive advantage (Yaseen et al., 2016), intellectual capital can replace physical assets and as the main basis for creating corporate value (Andreeva et al., 2021; Asiaei & Jusoh, 2017; Farooq et al., 2022). Intellectual Capital plays very important role in improving the company's performance with the awareness of managers to take advantage of the potential possessed by company employees to increase the intellectual capacity of employees (Nuryaman, 2015). According to Pulic (2004), all value creation processes in a business are measured and documented to manage the value creation within the company, optimize potential, and maximize value in the market.

Intellectual capital consists of several indicators, Human capital, structural capital and Capital Employed Efficiency are the components contained in increasing the company's value added. Human capital is based on various forms of knowledge that are dominated in general and specific such as skills, training or innovation. This is in line with the idea that organizational excellence is derived from the knowledge that exists within employees and is the most valuable asset in a company. Structural capital refers to the culture owned by the company, the flow of information, and the database owned by the company. The last indicator is Capital Employed Efficiency (CEE) which is an indicator related to customer, stakeholder and community relationships, as well as brand-consumer relationships.

Indonesia and the world have difficult condition in recent years starting in 2020 until now, the world has been hit by an epidemic that has claimed millions of lives, known as the covid-19 pandemic. This pandemic is not only dangerous for health which resulted in many victims losing their lives but has an impact on the economy in the world, especially in Indonesia. Companies, especially those in Indonesia, must be able to adapt to be able to survive during the pandemic, by using their resources efficiently and effectively. Several studies that have been conducted state that a small number of companies in Indonesia care about intellectual capital.

Indonesia has abundant natural resources, both renewable and non-renewable natural resources. Non-renewable natural resources such as coal and oil are managed by companies as a contributor to state revenue for the welfare of the Indonesian people, so that companies whose main business is in extracting coal and oil are grouped into the mining industry on the Indonesia Stock Exchange..



Source: Company Financial Report 2017-2021 data processed

Figure 1. Average Net Profit of Mining Industry (in million Rupiah)

Figure 1 describes the graph of the average net profit of the mining industry from 2017 to 2021, significant decline occurred in 2020 where the company's average net profit was below 500 billion rupiah, this was due to world economic conditions affected by the Covid 19 pandemic, in addition there was decline from 2018 to 2019 this is due to the demand and world price of coal and oil. The interesting thing is that in 2021 the mining industry's net profit will increase significantly, one of the reasons is the increasing coal price and high demand by companies that need coal and oil in their operations. This is an interesting phenomenon for researchers to choose the mining industry as the object of research.

This research is interesting to do because it provides updates regarding the influence of intellectual capital for mining companies, because the mining industry's income rose significantly during Covid 19 whether there is an influence of intellectual capital on company performance and company value, the difference with previous research is by comparing the effect of intellectual capital on company performance and company value before and during the Covid-19 pandemic.

The Influence of Human Capital Efficiency (HCE) on Company Performance and Company Value

Human Capital Efficiency is the ability of the workforce to generate value for the company from the funds spent on the workforce. (Welly et al., 2021) The greater the value added generated from each rupiah issued by the company indicates that the company has managed its human resources optimally which will produce quality products that will increase company performance and company value. Human Capital Efficiency can be found by the formula

Value added(VA) = Operating profit + Depreciation + Amortization + Cost of Salaries and Employee Benefits

HCE = Value Added / Cost of Salaries and Employee Benefits

Effect of Structural Capital Efficiency (SCE) on Financial Performance and Company Value

Structural Capital relates to the knowledge or value of a person not being lost if one day leaves the company because the knowledge possessed by workers has been summarized in the database, so the company will not lose its value. The higher the structural capital, the company's performance will increase because the company is able to manage its assets optimally because with a good system, structure and procedure, the company can reduce fraud that occurs and increase customer satisfaction and maximize profits. Structural Capital Efficiency can be found using the formula:

SCE = (Value Added – employee salary and benefits expense) / Value Added

The Effect of Capital Employed Efficiency on Company Performance and Company Value

Capital Employed Efficiency is an indicator related to customer, stakeholder and community relationships, and brand-consumer relationships. The higher the capital employed, the company's performance will increase because good social relations between companies and outside parties will affect the level of trust from outsiders in the company so that the company can get many benefits such as: client loyalty, good name and the power to negotiate so that profit can be maximized. Capital Employed Efficiency can be found by the formula:

CEE = Value Added / Capital Employed (Total assets – intangible assets)

Framework

Based on the previous explanation, it can be described the framework of thinking as follows:

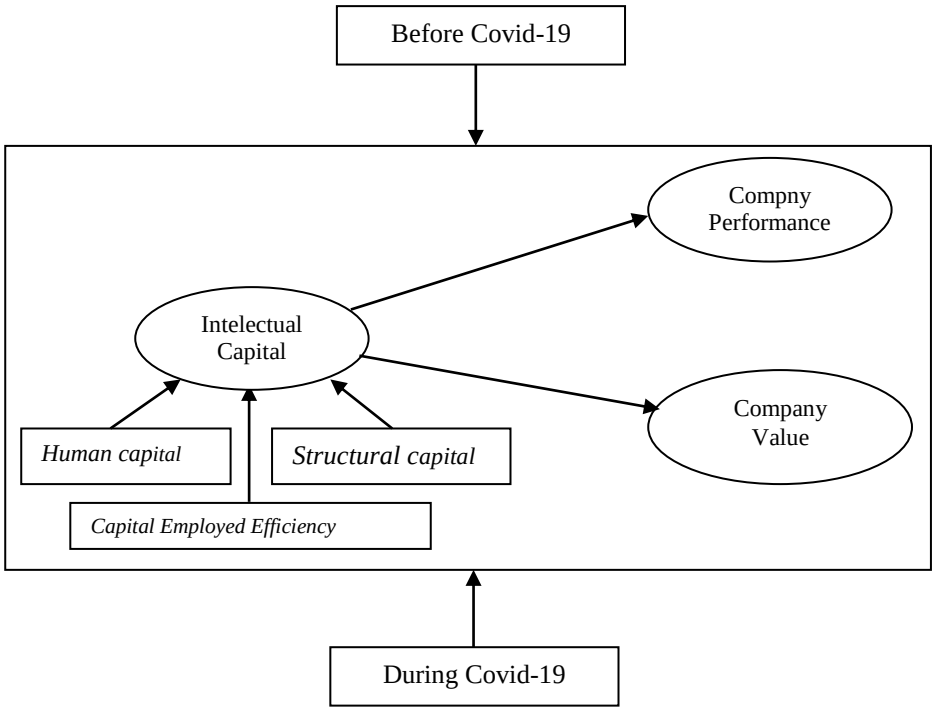


Figure 2. Framework

Methods

The data in this study uses secondary data obtained from the financial statements of companies listed on the Indonesia Stock Exchange for the mining industry in 2017 to 2021. The dependent variable in this study is the company's performance as proxied by Return on Assets (ROA), namely the probability ratio that knows how well the company's management in managing company assets to obtain company profits, the higher the ROA value the better the company's performance, the second dependent variable, namely the value of the company proxied by Tobins Q, is the company's market ratio, the greater this constellation the better the value of the company is appreciated by investors. While the independent variables in this study are Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE, Capital Employed Efficiency (CEE) and Value Added Intelctual Capital (VAIC) is the sum of HCE, SCE and CEE.

Result and Discussion

Table 1. Deskriptif Statistik Before Covid

	ROA	HCE	SCE	CEE	VAIC	SIZE
Mean	0.072885	1.618898	-0.753383	0.130595	6.356234	29.18402
Median	0.045809	1.616226	-0.820644	0.113764	4.137410	29.66414
Maximum	0.514110	3.768074	2.331957	0.618237	42.93792	32.25106
Minimum	-0.190063	-1.203560	-1.394738	-0.197179	-14.17523	0.000000
Std. Dev.	0.110793	0.905543	0.443430	0.120547	8.572633	4.085828

Source: Author's data processing results

Table 1 shows descriptive statistics before Covid, ROA has the smallest value -0.190063, the largest value is 0.514110, the average value is 0.072885 and the standard deviation is 0.032238. From these results, it can be explained that the company's ability to generate profits by using the assets owned by the company is

7.8%. HCE has the smallest value of -1.203560 and the largest value of 3.768074. The average value is 1.618898 with a standard deviation of 0.905543. SCE shows the smallest value of -1.394738 and the largest value of 2.331957 with an average value of -0.753383 and a standard deviation of 0.443430. The average result of a negative SCE indicates that the lack of intellectual capital management in the structural capital section will of course have a negative impact on company performance and value. CEE has the smallest value of -0.197179 and the largest value of 0.618237 with an average value of 0.130595 and a standard deviation of 0.120547. This means that the company's net assets are able to provide 0.130595 times the added value of the net asset value. VAIC has the smallest value of -14.17523 and the largest value of 42.93792 with an average value of 6.356234 and a standard deviation of 8.572633. This means that the company's net assets are able to provide 6.356234 times the added value of the net asset value.

Tabel 2. Deskriptif Statistik During Pandemic Covid-19

	ROA	HCE	SCE	CEE	VAIC	SIZE
Mean	0.072695	1.547229	-0.747038	0.135976	7.528162	29.68236
Median	0.034467	1.531232	-0.841596	0.092148	4.207108	29.69522
Maximum	0.624634	4.367829	9.250074	0.701078	78.50050	32.31421
Minimum	-0.217331	-2.327285	-6.173357	-0.171857	-48.37027	26.92631
Std. Dev.	0.154679	1.181891	1.547169	0.170316	16.29749	1.465291

Source: Author's data processing results

Table 2 shows Descriptive Statistics during Covid, ROA has the smallest value -0.217331, the largest value is 0.624634, the average value is 0.072695 and the standard deviation is 0.154679. From these results, the company generates a net profit generated by using the assets owned by the company amounting to 7.29%. HCE has the smallest value of -2.327285 and the largest value of 4.367829. The average value is 1.547229 with a standard deviation of 1.181891. SCE shows the smallest value of -6.173357 and the largest value of 9.250074 with an average value of -0.747038 and a standard deviation of 1.547169. The result of SCE explains that structural capital provides -74.70% value added. CEE has the smallest value of -0.171857 and the largest value of 0.701078 with an average value of 0.135976 and a standard deviation of 0.170316. This means that the company's net assets are able to provide 0.135976 times the added value of the net asset value. VAIC has the smallest value of -48.37027 and the largest value of 78.50050 with an average value of 7.528162 and a standard deviation of 16.29749. This means that the company's net assets are able to provide 7,528162 times the added value of the net asset value.

Tabel 3. Before Covid-19

	Company Performance			Company Value (Tobins Q)		
Variable	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
C	0.049735	1.287.646	0.2034	1.038.617*	1.862.030	0.0680
HCE	-0.033585**	-2.654.138	0.0104	-0.325593*	-1.758.799	0.0843
SCE	-0.022375*	-1.841.273	0.0711	-0.182000	-1.315.733	0.1938
CEE	0.545461***	6.934.695	0.0000	0.408758	0.316793	0.7526
VAIC	0.008045***	5.975.276	0.0000	0.041306**	2.009.999	0.0494
SIZE	-0.002114*	-1.800.943	0.0773	-0.011015	-0.691733	0.4921
R-squared	0.902314			0.883935		
Adjusted R-squared	0.893269			0.86521		
Prob(F-statistic)	0.000000			0.000723		

Source: Author's data processing results

Table 3 shows the regression results of the influence of intellectual capital on the performance and value of mining companies listed on the Indonesia Stock Exchange before the Covid-19 pandemic. The variables of human capital efficiency, Structural Capital Efficiency and Size have a negative and significant influence on the company's performance, this can be seen from the negative value of the HCE and SCE coefficients and the p-value below 0.05. While Capital Employed Efficiency and Value Added Intellectual Capital have a significant positive effect on company performance, this can be seen from the CEE and VAIC coefficient values which have positive values and p-values below 0.05. Meanwhile, judging from the value of the company's human capital efficiency, Structural Capital Efficiency and Size have a negative and insignificant effect on company value seen from the coefficient values of HCE, SCE and Size which are negative and p-value above 0.05. Capital Employed Efficiency has a positive and insignificant effect on company value seen

from the positive CEE coefficient and p-value above 0.05. While Value Added Intellectual Capital has a significant positive effect on company performance, this can be seen from the VAIC coefficient value which has a positive value and p-value below 0.05. Partially all variables have a significant effect on company performance and company value seen from the p-value F-statistic below 0.05. The ability of intellectual capital to explain variations in the company's performance variables is 89.32%, for the company value of 86.52% seen from the Adjusted R-squared value.

Tabel 4. During Covid-19

	Company Performance			Company Value		
Variable	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
C	-3.464.9***	-3.057.239	0.0053	7.787.494***	4.140.939	0.0001
HCE	0.006815	0.709863	0.4844	-0.018391	-0.123046	0.9025
SCE	-0.003658	-0.721957	0.4770	-0.028332	-0.411020	0.6827
CEE	0.672041***	7.813.991	0.0000	-0.764711	-0.730927	0.4680
VAIC	0.000711	0.816448	0.4220	0.021487**	2.094.277	0.0409
SIZE	0.115477***	3.010.655	0.0059	-0.24086**	-3.733.942	0.0005
R-squared	0.983832			0.272263		
Adjusted R-squared	0.961843			0.204880		
Prob(F-statistic)	0.000000			0.003461		

Source: Author's data processing results

Table 4 shows the regression results of the influence of intellectual capital on the performance and value of mining companies listed on the Indonesia Stock Exchange during the Covid-19 pandemic. Capital Employed Efficiency and Size have a positive and significant effect on company performance, while human capital efficiency, Structural Capital Efficiency and VAIC have no significant effect on company performance during a pandemic. Value Added Intellectual Capital has a positive effect on company value while size has a negative effect on company value. human capital efficiency, Structural Capital Efficiency and Capital Employed Efficiency have no significant effect on company value. . The ability of intellectual capital in explaining the variation of the company's performance variables is 96.18%, for the company value of 20.48% seen from the Adjusted R-squared value.

Before the Capital Employed Efficiency (CEE) pandemic had a positive influence on the company's performance, this indicates that the relationship with employees, communities, stakeholders, government and customers carried out by the company improves the company's performance, increasing performance will certainly increase the value of the company so that CEE will also increase company value. In accordance with the results of research (Akmala & Rohman, 2021; Listianawati & Sampurno, 2021; Tarigan & Septiani, 2017; Welly et al., 2021) which found that CEE has a positive influence on company performance and value and is different from research found by (Okta Destania & Puspitasari, 2021; Trinita & Dewi, 2019) who found that CEE had no effect on company performance. Value Added Intellectual Capital (VAIC) has a positive influence on company performance, this indicates that intellectual capital consisting of HCE, SCE and CEE will improve company performance and company value because by having competent human resources supported by the use of technology and having a good relationship Good relations with outsiders will make the company's performance increase and increase the value of the company. The results of this study are in accordance with research found by (Companyasari et al., 2021; Nuryaman, 2015) that intellectual capital has a positive influence on company performance and company value.

During Covid-19 Capital Employed Efficiency (CEE) has positive influence on company performance, this indicates that during Covid-19 relationships with employees, communities, stakeholders, government and customers are carried out by companies to increase customer trust to improve company performance, during The economic sector pandemic is affected and even affects every policy taken by the government, so companies must be able to maintain good relations with outside parties so that companies can survive during the pandemic. The results of this study are in accordance with the results of research conducted by (Listianawati & Sampurno, 2021; Welly et al. ., 2021). Value Added Intellectual Capital (VAIC) has a positive influence on company value, this indicates that during a pandemic intellectual capital increases the value of the company because competent human resources are supported by the use of technology and have good relationships with outsiders will make the company's value increase. The results of the study are in accordance with the results of research conducted by (Nuryaman, 2015) that intellectual capital has a positive influence on company performance and value.

Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) before the pandemic had a negative effect on company performance and had an insignificant effect on company performance during the Covid-19 pandemic, this is because HCE and SCE have low scores in this study, on average The average

HCE and SCE are negative, this is what has a negative influence on the company's performance before and during the pandemic. The results of this study are in accordance with research results (Akmala & Rohman, 2021; Chandra & Agnes, 2021; Tarigan & Septiani, 2017).

Conclusion

Capital Employed Efficiency (CEE) and Value Added Intellectual Capital (VAIC) have a positive influence on company performance and company value in the mining industry, while human capital efficiency, Structural Capital Efficiency have a negative influence on company performance and company value before the Covid-19 pandemic. At the time of Covid-19 Capital Employed Efficiency had a positive influence on company performance and Value Added Intellectual Capital had a positive influence on company value. While human capital efficiency, Structural Capital Efficiency does not have a significant effect on company performance and value during the Covid-19 pandemic.

Suggestion

Company management must pay attention to the Human Capital Efficiency (HCE) component, Structural Capital Efficiency (SCE) which still has a low value in this study, the average HCE and SCE are negative, this is what has a negative effect on company performance before and during the pandemic, the need for improvement human resource management by providing benefits, salaries and competency development for employees as well as the latest technology to increase the value of HCE and SCE so as to improve company performance and company value. Suggestions for further research can add other industrial sectors besides the mining industry to see the consistency of the results obtained in this study.

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