The Influence Of Intellectual Capital On The Perfomance Of Food And Beverage Manufacturing Companies In IDX

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Abstract: *The decline in the performance of companies in the food and beverage subsector in 2018-2020, based on PMI-BI data, forced companies to take new steps to improve and create the latest innovations. There is a phenomenon regarding intellectual capital that is useful for providing added value for companies in the form of science and technology that aims to improve company performance. This study aims to analyze the effect of intellectual capital on company performance. This research was conducted on food and beverage subsector manufacturing companies listed on the Indonesia Stock Exchange for the 2019- 2021 period. The company sample amounted to 22 companies with purposive sampling method. The data used is secondary data. The data analysis technique used is multiple linear regression model. The results of the study show that: (1) human capital efficient (HCE) has no significant positive effect on return on assets (ROA); (2) structural capital efficient (SCE) has a significant positive effect on return on assets (ROA); (3) capital employed efficient (CEE) has a significant positive effect on return on assets (ROA).*

Keywords: *intellectual capital, ROA, VAIC*

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Introduction

The main purpose of the company in opening its business is to get the highest profit or profit. Company performance which is the result of work that can be achieved and reflects the success of company managers. If the company can achieve its targets or objectives, it can be concluded that the management has a good performance in the company's operations (Santoso, 2022). Based on Prompt Manufacturing Index (2021) data for the food and beverage processing industry sector, in the fourth quarter of 2018 it recorded an index of 62.74%, for the fourth quarter of 2019 it recorded an index of 52.47% and in the fourth quarter of 2020 recorded an index of 48.83%. From the results of the index, it is known that from 2018 to 2020, manufacturing companies, especially the food and beverage processing industry sector, experienced a decline. The decline in performance makes companies have to take new steps to improve and create the latest innovations. The company is expected to make progress in its operations in order to improve the company's performance. To maintain the sustainability of the company, the management must be able to compete with other companies by providing innovation for the company's development in the future. These changes make the company have to rethink how to improve and improve the company's performance in order to survive in the current situation. Knowledge management is a provision to continue to be able to innovate so that the company experiences business success. The company is expected to be able to formulate and manage various strategies in order to utilize the maximum potential of the knowledge it has.

The application of knowledge management in the company can be seen from the human resources owned, mastery of knowledge is a plus for the company. There is a phenomenon regarding intellectual capital (IC) which is an intangible asset that will provide added value to the company, IC or intellectual capital such as knowledge and technology can create innovation for companies in their operations. Intellectual capital (IC) has three main components, namely Human Capital (HC), Structural Capital (SC), and Customer Capital (CC), these three components have their respective roles in realizing IC in the company. The application of IC in Indonesia is still relatively small because intellectual capital is still not widely known. In many cases, until now companies in Indonesia are still using the conventional economic basis.

Several previous studies conducted by Wijayani (2017), Pohan and others (2018) and Yulandari & Gunawan (2019) stated that intellectual capital (IC) has a positive effect on company performance. This explains that companies that have superior human resources tend to be able to provide more value for the company and produce good company performance, while research conducted by Lestari (2017) proves that intellectual capital (IC) does not

have a significant effect on company performance. This shows that there are still companies in Indonesia that do not use IC properly to create innovation and competitive advantage and only focus on managing company assets.

Method

1. Research Location

   The location of this research was carried out in food and beverage sub-sector manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2019-2021 period. The time of this research was carried out in March until the end of the preparation.

2. Method of collecting data

   The data collection method used in this study uses documentation by collecting information in the form of financial statement records that have been published on the IDX website.

3. Population and Sample

   In this study, the population used is food and beverage sub-sector manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2019-2021 period. Sampling using predetermined criteria, the samples obtained are as follows:

Table 1. Sampling

No	Pengambilan Sampel	Jumlah
	Population of Food and Beverage Sub-Sector Manufacturing Companies listed on the Indonesia Stock Exchange for the period 2019-2021	32
1	Companies that do not publish Annual Financial Reports for the 2019-2021 period	(1)
2	Companies that do not earn profits in the 2019-2021 period	(9)
	Samples used	22
	Research period (years)	3
	Amount of data	**66**
	Outlier	**(11)**
	Amount of research data	**55**

Source: Data processed, 2022

4. Research Variables

   The dependent variable used in this study is the company's performance which is measured using return on assets (ROA) in its measurement. ROA is the rate of return on assets. ROA measures the company's ability to generate profits using the assets used by the company. The formula for calculating ROA is as follows:

$$ROA = \frac{\text{Net profit after tax}}{\text{Total assets}} \quad (1)$$

The independent variable used in this study uses the component variable

intellectual capital using the VAIC (value added intellectual coefficient) method, which consists of human capital efficiency (HCE), structural capital efficiency (SCE) and capital employed efficiency (CEE). The formula and steps for calculating VAIC are as follows:

The first step is to calculate the Value Added (VA) VA can be calculated as follows:

$$VA = OUT - IN \quad (2)$$

VA : Value Added
OUT : Total sales and other income
IN : Expenses and other expenses (other than employee expenses)

Second Stage: Calculating HCE (Human Capital Efficienct)

Human capital efficient explains how much value added (VA) can be generated for the costs incurred for labor. The relationship between VA and HCE shows HCE's ability to create added value for the company. The formula for human capital efficient (HCE) is as follows:

$$HCE = \frac{VA}{HC} \quad (3)$$

HCE : Human Capital Efficient
VA : Value Added (out-in)

HC : Human Capital (total employee salary expense)

Third Stage: Calculating SCE (Structural Capital Efficienct)

In measuring SCE, the first thing to do is to find the SC value obtained from the difference between VA and HC. The SC formula can be as follows:

$$SC = VA\text{-}HC \quad (4)$$

SC : Structural Capital
VA : Value Added (out-in)
HC : Human Capital (total employee salary expense)

Structural capital efficient is assumed to measure the amount of SC needed to get 1 rupiah from VA and is also an indication of how successful SC is in creating value. After the SC value is obtained, it is continued by looking for the SCE calculation by dividing the SC value by the VA value. The SCE formula is as follows:

$$SCE = \frac{SC}{VA} \quad (5)$$

SCE : Structural Capital Efficient
SC : Structural Capital (VA-HC)
VA : Value Added (out-in)

Fourth Stage: Calculating CEE (Capital Employed Efficienct)

customer capital is assumed if 1 unit of CE produces a greater return than other companies, then the company can be said to be better at utilizing its CE. The CEE formula is as follows:

$$CEE = \frac{VA}{CE} \quad (6)$$

CEE : Capital Employed Efficient
VA : Value Added (out-in)
CE : Capital Employed (total equity)

5. Data Analysis Techniques

The data analysis technique used in this research is multiple linear regression analysis. The equation model in this study is as follows:

$$Y = \alpha + \beta1.X1 + \beta2.X2 + \beta3.X3 + \varepsilon \quad (7)$$

Y : Company Performance Disclosure
A : Constant
β1-3 : Regression Coefficient
X1 : *Human Capital Efficient*
X2 : *Structural Capital Efficient*
X3 : *Capital Employed Efficient*
ε : *error*

Result and Discussion

Descriptive Statistics

Descriptive statistical test provides an overview of the number of samples, minimum value, maximum value, average and standard deviation of the sample. The table below shows the descriptive statistics of the research conducted.

Table 2. Descriptive Statistics

	N	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
Human Capital Efficient	55	1,022	4,256	2,043	0,814
Structural Capital Efficient	55	0,022	0,765	0,440	0,195
Capital Employed Efficient	55	0,100	0,737	0,374	0,157
Kinerja Perusahaan	55	0,001	0,204	0,080	0,054
Valid N (listwise)	55				

Source: Data processed on IBM SPSS 25, 2022

The results of the descriptive statistical test show that the total sample used in this study was 55 samples. Intellectual capital is an independent variable measured using HCE, SCE, and CEE. The results of the descriptive analysis show that HCE has a minimum value of 1.022 and a maximum of 4.256, SCE has a minimum value of 0.022 and a maximum of 0.765, CEE has a minimum value of 0.100 and a maximum of 0.374. Company performance is the dependent variable measured using ROA. The lowest ROA value is 0.001 (0.1%) and the highest value is 0.204 (20.4%), the average ROA is 0.080 (8%).

Classic assumption test

1. Normality Test

Table 3. Data normality test

		Unstandardized Residual
N		55
Normal Parameters[a,b]	*Mean*	0,0000000
	Std. Deviation	0,02624931
Most Extreme Differences	*Absolute*	0,095
	Positive	0,035
	Negative	-0,095
Test Statistic		0,095
Asymp. Sig. (2-tailed)		,200[c,d]

Source: Data processed on IBM SPSS 25, 2022

Based on the table above, it shows that the significance value of the unstandardized residual is 0.200. This proves that the significance value is greater than 0.05, so it can be concluded that the data in this study are normally distributed.

2. Multicollinearity Test

Tabel 4. Multicollinearity Test

Model		***Collinearity Statistics***	
		Tolerance	**VIF**
1	(*Constant*)		
	HCE	0,146	6,842
	SCE	0,146	6,830
	CEE	0,987	1,013

Source: Data processed on IBM SPSS 25, 2022

Table 4 shows that the VIF value of the independent variables HCE, SCE, and CEE each has a VIF value < 10 and a tolerance value > 0.10. So it can be concluded that there is no multicollinearity in the data.

3. Autokorelasi Test

Table 5. Autokorelasi Test

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*Durbin-Watson*
1	0,870[a]	0,756	0,742	0,02432	1,769

Source: Data processed on IBM SPSS 25, 2022

Based on Table 5 Du < d < 4-dU or 1.6815 < 1.769 < 2.3185, it can be concluded that Ho is accepted, which means there is no correlation.

4. Heteroscedasticity test

Table 6. Heteroscedasticity test

Model	*Unstandardized Coefficients*		*Standardized Coefficients*	t	*Sig.*
	B	*Std. Error*	*Beta*		
(*Constant*)	0,000	0,007		-0,059	0,954
HCE	0,001	0,007	0,039	0,118	0,906
SCE	0,028	0,027	0,341	1,027	0,309
CEE	0,019	0,013	0,191	1,497	0,141

Source: Data processed in IBM SPSS 25, 2022

Based on Table 6 shows that the significance value of the variables HCE, SCE, and CEE has a value greater than 0.05. So it can be concluded that there is no symptom of heteroscedasticity in the regression model

Multiple Linear Regression Test

Table 7. Multiple Linear Regression Test

Model		*Unstandardized Coefficients*		*Standardized Coefficients*	t	*Sig.*
		B	*Std. Error*	*Beta*		
1	(*Constant*)	-0,076	0,014		-5,607	0,000
	HCE	0,012	0,012	0,183	1,020	0,312
	SCE	0,141	0,049	0,514	2,870	0,006
	CEE	0,186	0,024	0,544	7,891	0,000

Source: Data processed on IBM SPSS 25, 2022

The HCE regression coefficient of 0.012 is the magnitude of the contribution of HCE affecting the company's performance. HCE variable t significance test with tcount (1.020) < ttable (2.007) and sig value 0.312 > 0.05 it can be concluded that HCE has no significant positive effect on company performance. The positive results of the research are not significant because the company is still not sufficient in distributing funds to manage human resources and company activities that prioritize fixed assets (machinery and technology) in their operational processes. The results of this study are not in line with the results of previous studies by Lestari (2017), Yulandari & Gunawan (2019) which stated that HCE had a significant positive effect on company performance. On the other hand, this research is in line with research conducted by Marbun & Saragih (2018) which shows that HCE has a positive and insignificant effect on company performance.

The SCE regression coefficient of 0.141 is the magnitude of the contribution of SCE affecting the company's performance. The significance test of the SCE variable t with a value of tcount (2.870) > ttable (2.007) and a sig value of 0.006 <0.05, it can be concluded that SCE has a significant positive effect on performance. Positive and significant research results indicate that the company can take advantage of the company's structure properly so

that it can achieve optimal profits for the company. The company's systems and procedures are able to reduce fraud so that employees can work optimally. The results of this study are in line with the results of previous studies by Saragih (2017), Yulandari & Gunawan (2019), and Astari (2020) which state that SCE has a significant positive effect on company performance. On the other hand, this study contradicts previous research conducted by Afandi & Riharjo (2017) and Marbun & Saragih (2018) which proved that SCE had no effect on company performance.

The CEE regression coefficient of 0.186 is the magnitude of the contribution of CEE affecting the company's performance. t significance test of the CEE variable with a value of tcount (7.891) > ttable (2.007) and a sig value of 0.000 <0.05, it can be concluded that CEE has a positive influence on company performance. The company has a good relationship with consumers so that it has a good image. The company's attitude in providing services to consumers, receiving and responding to criticism and suggestions from consumers will increase consumer confidence to continue to use the company's products. The results of this study are in line with the results of previous studies by Saragih (2017), Afandi & Riharjo (2017), Marbun & Saragih (2018), Yulandari & Gunawan (2019), and Astari (2020) which state that CEE has a significant positive effect on company performance. . On the other hand, this research is not in line with research conducted by Lestari (2017) which proves that CEE has no effect on company performance.

F Test

Table 8. F significance test

	Model	*Sum of Squares*	*Df*	*Mean Square*	F	*Sig.*
1	*Regression*	0,118	3	0,039	53,950	,000[b]
	Residual	0,037	51	0,001		
	Total	0,155	54			

Source: Data processed on IBM SPSS 25, 2022

Based on Table 8, the significance value is 0.000 and the Fcount value is 53.950. Because the value of sig 0.000 <0.05 and the value of F_{count} (53.950) > F_{table} (2.78), Ho is rejected and Ha is accepted, which means that the variables HCE, SCE, and CEE have a simultaneous effect on company performance..

Coefficient of Determination Test (R^2)

Table 9. Coefficient of determination test

Model	R	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	0,870a	0,756	0,742	0,02432

Source: Data processed on IBM SPSS 25, 2022

Based on Table 9 shows the Adjusted R Square value of 0.742 or 74.2% which is the magnitude of the influence of HCE, SCE, and CEE on company performance, while the remaining 25.8% can be explained by other variables not included in this study.

Conclusion

Based on the results of previous studies and discussions, the conclusion of this study is that human capital efficiency has no significant positive effect on the company's performance, this indicates that the company's performance may not be influenced by human capital.

Structural capital efficient has a significant positive effect on company performance, this means that if companies make good use of structural capital, company performance will increase.

Capital employed efficient has a significant positive effect on the company's performance, this means that if the company utilizes customer capital well, the company's performance will increase.

Human capital efficient, structural capital efficient, and capital employed efficient together have a significant effect on the company's performance, this means that if the company applies intellectual capital with these three components, it will improve the company's performance.

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