International Journal of
Economics Development Research, Volume 4(4), 2023
pp. 2117-2135

The Influence of Intellectual Capital and Firm Size on Financial Performance of Manufacturing Companies in Indonesia

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Abstract:

Intellectual Capital is a part of intangible assets that companies can leverage to create a competitive advantage. This research aims to examine the influence of IC (capital employed, human capital, structural capital efficiency) on financial performance with firm size as a controlling variable in manufacturing companies. The research employs an associative quantitative research method. The sample in this study consists of manufacturing companies listed on the IDX during the period 2020-2022, with a total sample of 51 companies. The sampling technique used is purposive sampling. This research utilizes secondary data from the website www.idx.com. The analysis technique involves multiple linear regression analysis using SPSS 25 software. The results of this research indicate that VACA and VAHU have a positive and significant effect on Financial Performance (ROE). Meanwhile, STVA and firm size as control variables do not exhibit a significant effect on financial performance (ROE). Previous research has identified relationships between these factors; however, this study strengthens understanding by exploring deeper complexities within them. Thus, this research makes a significant contribution to enriching the literature on company financialperformance and IC.

Keywords: *Financial Performance; Intellectual Capital; Firm Size*

1. Introduction

The manufacturing sector plays a crucial role in the Indonesian economy and significantly contributes to the country's GDP. Over the past five consecutive years, the manufacturing sector has been the largest contributor to the country's GDP, averaging 19.40% (www.bps.go.id). In today's dynamic business environment, maintaining financial performance is crucial for companies, especially in the manufacturing sector. Financial performance is a key indicator often considered by investors when deciding to invest in a company. Investors assess a company's financial performance before injecting their capital, and financial performance also serves as a benchmark for a company's success in generating profits (Bunea et al., 2019).

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Therefore, it is essential for company management to uphold the quality of financial performance to fulfill obligations to stakeholders and achieve organizational goals. Financial performance can be measured using various financial ratios, one of which is the return on equity. ROE is frequently used as a benchmark by investors as it is believed to reflect the efficiency of capital utilization and the potential for high returns on investment.

Currently, rapid developments in the modern business world have brought significant changes to the way companies operate and compete. Companies find themselves in an increasingly competitive and complex environment, especially in the face of global dynamics, information technology, and rapidly changing economic conditions. Additionally, in the year 2020, the emergence of the COVID-19 pandemic added difficulties for several companies, particularly in the manufacturing sector, due to restrictions and operational disruptions. Therefore, this phenomenon has prompted companies to change their habits. Previously, many companies relied on labor and tangible assets as the foundation of their business. However, over time, business practitioners began to realize that they should not only depend on tangible assets but also focus on developing knowledge assets, which are considered a crucialform of intangible assets. Knowledge assets are often seen as one of the critical elements in gaining and maintaining a competitive advantage for a company (Novyarni et al., 2022).

Intellectual capital is a part of intangible assets that companies can leverage to create a competitive advantage. Rochmadhona et al., (2018) state that intellectual capital is a key resource and driver of performance and value creation, thus playing a crucial role in creating or sustaining a competitive advantage. Additionally, according to various academics, intellectual capital is considered hidden value in financial reports and a determinant of competitive advantage. Ravi (2020) suggests that companies with a comparative advantage tend to have better financial performance than those without. The effective utilization of intellectual capital can provide added value for the company. The resource-based theory also asserts that companies with superior resources can achieve long-term good performance. Awareness of the importance of intellectual capital serves as the foundation to attain excellence and enhance competitiveness. This advantage naturally adds value to the company. Despite various definitions of intellectual capital, most experts, such as Habibah & Riharjo (2016), Artati (2018), Maditinos et al., (2019), Hadli et.al (2022), and Vidia et al., (2023) acknowledge three main components of Intellectual Capital proposed by Professor Michael Pulic in 1998, namely capital employed, human capital, andstructural capital. These components are considered to influence the financial performance of the company.

Value added capital employed is closely related to the concept of capital employed, which represents the total amount of physical capital used by a company (Marr & Gupta 2018). Vidia et al., (2023) explain VACA as an indicator used to measure how effectively a company can generate added value from the utilization of one unit of its physical capital. In this context, VACA focuses on how well a company can generate added value from each unit of physical capital used. With effective

management of physical capital, a company can enhance its financial performance. Therefore, companies need to pay special attention to VACA because a high level of returns indicates the company's ability to manage corporate funds more efficiently.

Value added human capital is closely related to the concept of human capital. Vidia et al., (2023) explain VAHU as an indicator used to measure how effectively spending on the development of human resources can generate added value in their business. This includes investments in training, education, recruitment, and employee skill development. By implementing an effective VAHU strategy, a company can create a competitive advantage. The ability to generate significant added value through a quality workforce can help a company win in a competitive market, ultimately impacting the company's financial performance.

Furthermore, Structural capital value added is closely related to the concept of structural capital. Vidia et al., (2023) explain structural capital value added as an indicator used to measure the role played by structural capital in creating added value within an organization. In measuring STVA, structural capital includes various elements such as databases, organizational structures, process guidelines, strategies, routines, and all elements that support the creation of organizational value beyond its material or physical worth. Additionally, STVA also serves as an indicator to measure the extent to which structural capital succeeds in creating added value (Handayani & Agustono 2020). The more efficiently structural capital generates added value, the better an organization performs in utilizing these resources. By managing structural capital effectively, organizations can improve their performance, create significant added value, and enhance their competitiveness inthe market, ultimately impacting the company's financial performance.

In previous research, it was indicated that VACA and VAHU partially have a significant positive effect, whereas STVA does not affect financial performance (ROE) (Hadli et.al, 2022). Additionally, other studies suggest that VACA and STVA partially have a significant positive impact, but VAHU does not influence financial performance (ROE) (Artati, 2018; Fariana, 2015).

Additionally, this research also considers the presence of a control variable, which is firm size, that can influence financial performance through economies of scale, production costs, and competitiveness. Firm size is measured based on total assets owned by the company. Firm size is an indicator of a company's magnitude, in this context, referring to the company's size in terms of its assets. The larger the firm size, the company is considered stable and capable of facing business challenges due to its size, whether large or small, as seen from the total assets owned by the company. Based on previous research findings, it is evident that firm size caninfluence the financial performance of a company. The larger the total assets, the greater the company's ability to generate profits (Oyelade, 2019; Akram et al., 2021).Therefore, understanding and managing intellectual capital while considering firm size become crucial factors in improving the financial performance of companies in an increasingly complex business era.

This study will be empirically examined to establish evidence of the influence of

intellectual capital (VACA, VAHU, and STVA) and firm size on financial performance in manufacturing companies in Indonesia, with firm size as a control variable. The novelty of this research lies in the addition of the firm size variable as a control variable with the measurement indicator being total assets, the use of return on equity as the indicator for measuring financial performance variables, the inclusion of manufacturing companies across all sectors as the research objects, and the use of financial data from the Indonesia Stock Exchange (IDX) for the years 2020-2022. This aims to identify differences in research outcomes compared to the study conducted by Habibah & Riharjo (2016). The use of ROE as an indicator for measuring financial performance variables in this research is conducted because the researcher wants to focus on the investor's perspective, where from the investor's point of view, a high ROE offers significant opportunities for the company to attract capital or generate income for investors.

2. Theoretical Background

Resource-Based Theory

The resource-based theory, introduced by Penrose suggests that to achieve competitive advantage, a company must possess superior resources. Resources are considered superior when they are characterized as rare, difficult to imitate by competitors, and lack equivalent alternatives (Gerhart, 2021). The main concept of this theory is that superior resources can serve as a strong foundation for a company to compete in the market. These resources can include various things such as technology, employee expertise, a strong brand, or close relationships with customers or suppliers. When a company has exclusive access or strong control over these resources, they can use them to create unbeatable value that competitors find challenging to match (Ydesen et al., 2019).

Hadli et.al (2022) emphasizes the importance of superior, difficult-to-imitate, and non-substitutable resources, within the context of the RBT, as it helps companies create sustainable advantages. Competitors find it challenging to imitate resources that are rare and have no substitutes, so companies that effectively manage andutilize them well will have a sustainable advantage in the market. Thus, RBT encourages companies, especially manufacturing companies, to identify, develop, and maintain superior resources as the foundation of their strategies to achieve and sustain a competitive advantage. By possessing superior resources, manufacturing companies have the ability to effectively implement various business strategies. In managing these resources, especially in the form of intellectual such as human capital, structural capital, and capital employed, companies have the potential to create a competitive advantage. This advantage can generate added value beneficial for the company, which, in turn, can have a positive impact on financial performance.

Financial Performance

Financial performance is one of the indicators considered by investors when making an investment in a company (Kyere, 2020). Investors invest their capital by

assessing the financial performance of the company. Financial performance determines the benchmarks for a company's success in generating profits. Therefore, it is crucial for company management to fulfill the company's obligations to stakeholders and achieve predetermined goals (Bartolacci et al., 2020). Financial performance can be measured using various financial ratios, including return on equity (Bunea et al., 2019). This study focuses on ROE as an indicator of financial performance from an investor's perspective, where a high ROE provides significant opportunities for capital acquisition or returns for investors

Intellectual Capital

Intellectual capital constitutes a component of intangible assets that companies can exploit to establish a competitive edge. According to various academics, intellectual capital is considered the hidden value in financial reports and a factor that enables companies to gain a competitive advantage. Companies with a comparative advantage in intellectual capital tend to have better financial performance than those without a comparative advantage (Rochmadhona et al., 2018; Maditinos et al., 2019; Faraji et al., 2022).

In this research, the measurement of intellectual capital utilizes the VAIC method established by Pulic, a widely adopted approach among researchers for evaluating Intellectual Capital (Habibah & Riharjo, 2016; Artati, 2018; Chowdhury et al., 2018; Maditinos et al., 2019; Hadli et.al, 2022; Vidia et al., 2023). Pulic states that compared to various other methods of measuring intellectual capital, the VAIC method is the most suitable for coverage and comparison. It is relatively easy to perform and can be carried out very feasibly because the method is built on information found in company financial statements, such as balance sheets and income statements. Pulic identifies three main components: human capital, structural capital, and capital employed, perceived to influence the financial performance ofthe company

Value Added Capital Employed (VACA)

Value added capital employed as an indicator used to measure how efficiently a company can generate added value from the utilization of one unit of its physical capital (Vidia et al., 2023). This concept, proposed by Professor Michael Pulic, is used to assess a company's performance in optimizing the use of its physical capital. In other words, the company wants to know how efficient it is in utilizing each unit of capital employed. If each unit of CE yields greater profits than other companies, the company is assumed to be better at leveraging its CE. Efficient management of physical capital enables a company to improve its performance and market value. Therefore, special attention needs to be given to VACA because a high yield indicates that the company has the ability to manage its funds more efficiently.

Value Added Human Capital (VAHU)

Value added human capital is an indicator used to measure the extent to which a company's investment in the development and enhancement of human resources (human capital) can create added value for the company (Ravi, 2020). VAHUindicates that human resources in a company are not just costs but also resources

capable of creating value (Vidia et al., 2023). This includes the improvement of skills, knowledge, and productivity of employees.

Structural Capital Value Added (STVA)
Structural capital value added as an indicator used to measure the role played by structural capital in creating added value within an organization (Vidia et al., 2023). To measure STVA, a detailed calculation is needed to determine how much structural capital is required to produce one unit of added value. This measurement involves a detailed analysis of various elements of structural capital involved in creating added value. In the measurement of STVA, structural capital includesvarious elements such as databases, organizational structure, process guides, strategies, routines, and all elements that support the creation of organizational value beyond its material or physical value.

Firm Size

In this study, firm size serves as a control variable measured using the natural logarithm of the total assets of the company. In this context, firm size is categorized based on the total assets owned by the company, with total assets used as anindicator to describe the financial stability of the company. This indicates that the larger the total assets owned by a company, the larger its size. If a company has significant total assets, it may indicate that the company has reached a high level of maturity (Husna & Ibnu Satria, 2019). Therefore, the company is likely to have positive cash flow that can be sustained over a relatively long period, potentially providing beneficial returns.

The Effect of Value Added Capital Employed (VACA) on Financial Performance
Companies with higher levels of physical capital have the potential to achieve higher financial performance (ROE) (Hadli et.al, 2022). This improved financial performance is linked to a larger equity value resulting from substantial investments in physical assets, providing greater access to financial resources for operations and growth. The positive impact of increased equity value is noteworthy, enabling companies to have financial flexibility for investments in research and development, thereby enhancing competitiveness and innovation. Additionally, an increase in equity value instills confidence in investors and creditors, facilitating better access to capital at lower costs (Zilnie & Agung, 2023). With an enhanced capacity to generate income, companies can optimize return on equity, a ratio that measures how efficiently a company uses its equity to generate profits. Therefore, this statement reflects the relationship between the level of physical capital, equity value, the ability to generate income, and ultimately, a company's capacity to achieve higher profits (Deniswara et al., 2019; Hadli et.al, 2022; Zilnie & Agung, 2023). The hypotesis proposed in this research is:
H1: Value added capital employed influences financial performance (ROE) in manufacturing companies listed on the Indonesia Stock Exchange (IDX).

The Effect of Value Added Human Capital (VAHU) on Financial Performance
Value added human capital reflects the extent of value generated from investing funds in the workforce. In the modern economy, companies consider employees as

valuable assets and allocate resources for employee training, especially in skill development. This is seen as beneficial for companies because intellectually enriched employees can enhance the company's competitiveness and design more effective operational strategies (Ravi, 2020). Furthermore, in this context, job knowledge, previous work experience, the ability to collaborate among employees, creativity, innovation, motivation, and employee flexibility are integral parts of the efficiency of human capital. When employee knowledge is applied and utilized effectively, it enhances human capital efficiency. The financial performance of a company (ROE) is significantly influenced by how well human resources, or human capital, are utilized. Employees with in-depth knowledge of their work, relevant experience, the ability to collaborate with a team, creativity, innovation, high motivation, and flexibility in dealing with changes are more likely to contribute significantly to achieving the company's financial goals (Marr & Gupta 2018). The hypotesis proposed in this research is:

H2: Value added human capital influences financial performance (ROE) in manufacturing companies listed on the Indonesia Stock Exchange (IDX).

The Effect of Structural Capital Value Added (STVA) on Financial Performance

Structural capital value added reflects the industrial sector's ability to enhance its financial outcomes by leveraging technology, whether through software development or hardware utilization. Its primary function is as infrastructure supporting employee productivity within the company. In other words, STVA plays a crucial role in providing technological support that improves the efficiency and effectiveness of company operations (Suripto & Gunawan, 2019). When a company successfully implements structural capital effectively, it tends to enhance its performance. Effective implementation may involve leveraging technology to improve business processes, innovating in products, and utilizing intellectual assets. The result is an improvement in financial performance, especially in terms of return on equity, which reflects the efficiency of capital utilization by the company (Murti et al., 2023). The hypotesis proposed in this research is:

H3: Structural capital value added influences financial performance (ROE) in manufacturing companies listed on the Indonesia Stock Exchange (IDX).

The Effect of Firm Size on Financial Performance

This study also considers a control variable, namely firm size, measured based on the total assets of the company. The larger the total assets, the larger the size of the company, and the likelihood of having positive cash flow in the long term. The control variable here is Company Size, measured based on the total assets of the company. The larger the total assets, the larger the size of the company, and the likelihood of having positive cash flow in the long term.

A control variable is intentionally manipulated and managed by the researcher. Its purpose is to reduce or eliminate the influence of factors other than the independent variable that may affect the dependent variable. In this study, company size is used as a control variable. Company size is used to assess the magnitude of a company, based on the total assets owned by the company (Chongyu et al., 2018). Therefore, company size here is related to the financial strength of the company. The larger the

amount of assets owned by the company, the greater the opportunities for the company to grow. Larger companies are more likely to receive financial supportfrom investors if the company has a positive performance record. With many investors investing in the company, it becomes easier for the company to expand its business, which, in turn, can lead to company growth and increased company value.

3. Methodology

This research adopts a quantitative methodology, analyzing secondary data. The population under study comprises all 193 manufacturing companies listed on the Indonesia Stock Exchange (IDX). The sampling in this research is conducted using the purposive sampling method, which involves selecting samples based on criteria predetermined by the researcher. The data source for this study was obtained from the annual reports of manufacturing companies listed on the Indonesia Stock Exchange for the period 2020-2022. The number of companies included in thesample for this study is 51, with an observation period of 3 (three) years, resulting in a total of 153 data points. The sample selection procedure is presented in Table 1 as follows:

Table 1. Concise Sample Selection Procedure

No.	Criteria for Sample Selection	Amount
Research Population:		
Manufacturing companies listed on the Indonesia Stock Exchange (IDX).		193
Research sample:		
1	Manufacturing companies that went public and are listed on the Indonesia Stock Exchange (IDX) from 2020 onwards.	(11)
2	Companies with negative profits during the period 2020-2022, is likely indicative of financial instability. Consequently, businesses with negative earnings tend to reflect a less stable financial health, making their results less capable of providing an accurate portrayal of the impact of intellectual capital on a healthy and sustainable financial performance.	(85)
3	Companies whose financial reports do not use the Indonesian Rupiah unit, aims to avoid exchange rate fluctuations that could impact the analysis results.	(16)
4	Companies that do not report the values of director and commissioner salaries, direct and indirect wages, sales department salary expenses, general and administrative department salary expenses, as well as pension costs, as these will be required for Intellectual Capital calculations.	(30)
Amount of Sample		51
Research Period (years)		3
Amount of Observations		153

Source: Processed Data, 2024

In this research, three variables are established: The Independent variable, the control variable, and the dependent variable.

a) Dependent variable
The dependent variable in this study is financial performance (Y) in manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the years 2020-2022. Financial Performance in this research is proxied by ROE. This variable has a measurement scale in percentage units. The ROE formula is as follows:

$$\text{ROE} = \frac{\textit{Net Profit}}{\textit{Capital Stock}}$$

b) Independent variable
The independent variables in this study is value added capital employed (X1), value added human capital (X2), and structural capital value added

1) Value added capital employed (X1) is an indicator used to measure the extent to which a company can generate added value from the utilization of one unit of its physical capital (Vidia et al., 2023). This variable has a measurement scale in ratio units. The calculation formula for VACA is as follows:

$$\text{VACA} = \frac{\textit{VA}}{\textit{CE}}$$

2) Value added human capital is an indicator used to measures how effective the expenditure on human resource development is in generating added value in their business (Vidia et al., 2023). This variable has a ratio scale measurement with unit multiplication. The calculation formula for VAHU is as follows:

$$\text{VAHU} = \frac{\textit{VA}}{\textit{HC}}$$

3) Structural capital value added is an indicator used to measure the extent to which structural capital contributes to the process of creating added value (Vidia et al., 2023). This variable has a measurement scale in ratio units. The calculation formula for STVA is as follows:

$$\text{STVA} = \frac{\textit{SC}}{\textit{VA}}$$

c) Control Variable
This study also considers the presence of a control variable, which is firm size (total assets). Firm size (X4) is a measure of the company's size, in this context referring to the size of the company in terms of its total assets. This variable has a measurement scale in million rupiah units. The calculation formula for firm size is as follows (Husna & Ibnu Satria, 2019):

Firm Size = Log Natural (Total Aset)

The data collection method in this research is based on the documentation method, focusing on quantitative data. The data source for this study is secondary data in the form of annual financial reports. Secondary data related to manufacturing companies

listed on the Indonesia Stock Exchange (BEI) was obtained from the official BEI website (www.idx.co.id) for the years 2020-2022.

The method employed in this research utilizes SPSS version 25, while the data analysis involves associative data analysis through classical assumption tests, hypothesis tests, and coefficient of determination (R2) tests. The multiple linear regression analysis in this study is as follows:

$$Y = \alpha + \beta1.X1 + \beta2.X2 + \beta3.X3 + \beta4.X4 + e$$

Explanation:

Y	= Financial Performance
α	= Constant
β1-β4	= Regression Coefficients
X1	= Value Added Capital Employed (VACA)
X2	= Value Added Human Capital (VAHU)
X3	= Structural Capital Value Added (STVA)
X4	= Firm Size
e	= Error

4. Empirical Findings/Result

Classical Assumption Test

This study conducted classical assumption tests, including normality tests, multicollinearity tests, heteroscedasticity tests, and autocorrelation tests**.**

Normality Test

Normality testing assesses whether variables in a regression model have a normal distribution. P-P plots are employed to analyze normality, and if data points align with the diagonal line, the data distribution is considered normal.

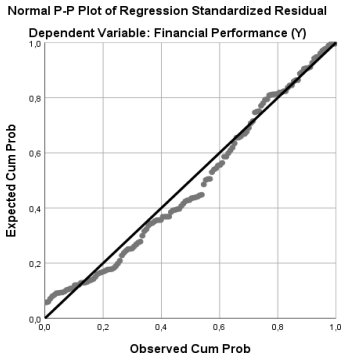

Figure 1. Results of Normality Test P-Plot
Source: SPSS Processed Data, 2024

Based on the above picture, it can be observed that the points are scattered around the diagonal and along the diagonal. A conclusion can be drawn that the values obtained in the research are normally distributed, so the model can be used in hypothesis testing.

Multicollinearity Test

An effective regression model should not exhibit correlation among independent variables. To statistically identify multicollinearity, use the Variance Inflation Factor (VIF). In regression equations, there is no multicollinearity issue if VIF < 10 and Tolerance > 10.

Table 2. Multicollinearity Test Results

Coefficients[a]			
		Collinearity Statistics	
	Model	Tolerance	VIF
1	(Constant)		
	VACA (X1)	,791	1,265
	VAHU (X2)	,269	3,711
	STVA (X3)	,253	3,957
	Firm Size (X4)	,962	1,040

Source: SPSS Processed Data, 2024

The results of the multicollinearity test through VIF show that the VIF values of the independent variables do not exceed 10. Therefore, it can be concluded that there is no multicollinearity in the regression model variables, so the model can be used in hypothesis testing.

Heteroscedasiticity Test

Heteroskedasticity testing assesses whether the variation of residuals in regression differs from one observation to another. In linear regression, it is crucial to ensure that residuals are not related to the independent variable. Detecting heteroskedasticity is done through a graph of predicted values against residuals. Specific patterns in the plot, like waves or systematic spreading, may indicate heteroskedasticity. If data points are randomly scattered above and below zero on the Y-axis, then heteroskedasticity is not present.

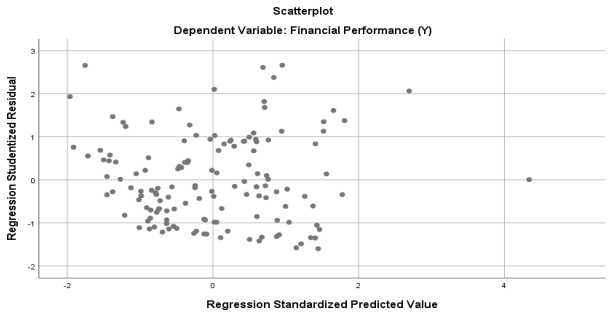

Figure 2. Heteroscedasticity Test Results
Source: SPSS Processed Data, 2024

Based on the above test results, it can be observed that the points are scatteredrandomly or do not create a regular pattern and are distributed above or below zero on the Y-axis. This means that there is no heteroskedasticity, so the model can be used in hypothesis testing.

Autoccorrelation Test

The autocorrelation test is conducted to determine whether there is a correlationbetween errors in the current period (t) and errors in the previous period (t-1) within a linear regression model. If there is a correlation, it indicates an autocorrelation issue. The identification of autocorrelation symptoms can be performed using the Durbin- Watson test. When the Durbin-Watson value falls within the range of -2 to +2, it canbe concluded that there is no autocorrelation in the regression for this research data (Kim, 2021).

Table 3. Results of Autocorrelation Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,218[a]	,147	,070	,51739	1,967

Source: SPSS Processed Data, 2024

Based on the table of test results above, it can be seen that the Durbin Watson statistic is 1.967. The Durbin-Watson test yields -2 < 1.967 < +2, so it can be concluded that there is no autocorrelation in the regression on survey data. so the model can be used in hypothesis testing.

Multiple Liniear Regression Analysis

To understand the influence of each variable on the dependent variable, multiple linear regression analysis is used, which can be examined in the following table:

Table 4. Results of Multiple Linear Regression Analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations	
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	-,701	,906		-,774	,440		
	VACA (X1)	,063	,050	,119	3,272	,035	,791	1,265
	VAHU (X2)	,448	,210	,329	2,105	,048	,269	3,711
	STVA (X3)	-,855	,134	-,192	-1,055	,250	,253	3,957
	Firm Size (X4)	1,079	,029	,082	,966	,336	,962	1,040

Source: SPSS Processed Data, 2024

Based on the test results above, the regression equation is explained as follows:

Y = α + β1.X1+ β2.X2+ β3.X3+ β4.X4+ e

Financial Performance = - 0.701+ 0.631 X_1 + 0.448 X_2 - 0.855 X_3 + 1.079 X_4 + e

Description:

1. The constant (β0) of -0.701 indicates that when the independent variables (X1 X2 X3 X4) are constant (no changes), the dependent variable (Y) is valued at -0.701 units.

2. The regression coefficient value of 0.631 for the value added capital employed variable (X1) indicates that when VACA increases by one unit, financial performance (ROE) will increase by 0.631, assuming the other independent variables remain constant.
3. The regression coefficient value of 0.448 for the value added human capital variable (X2) indicates that when VAHU increases by one unit, financial performance (ROE) will increase by 0.448, assuming the other independent variables remain constant.
4. The regression coefficient value of -0.855 for the structural capital value added variable (X3) indicates that when STVA increases by one unit, financial performance (ROE) will decrease by -0.855, assuming the other independent variables remain constant.
5. The regression coefficient value of 1.079 for the firm size (total assets) variable (X4) indicates that when firm size (total assets) increases by one unit, financial performance (ROE) will increase by 1.079, assuming the other independent variables remain constant.

Hypothesis Testing

Partial Test (t Test)

If the obtained probability is <0.05, it indicates a significant impact of the independent variable on the dependent variable. Conversely, if the probability is > 0.05, it is asserted that there is no significant effect.

Tabel 5. Results of t-Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	-,701	,906		-,774	,440
	VACA (X1)	,063	,050	,119	3,272	,035
	VAHU (X2)	,448	,210	,329	2,105	,048
	STVA (X3)	-,855	,134	-,192	-1,055	,250
	Firm Size (X4)	1,079	,029	,082	,966	,336

Source: SPSS Processed Data, 2024

Referring to table 5, VACA (X1) has a significance value of 0.035 < 0.05. This indicates the acceptance of H1 and rejection of H0, impliying that value added capital employed has a significanct effect on the financial performance (ROE) of manufacturing companies listed on the Indonesia Stock Exchange (IDX).

VAHU (X2) has a significance value of 0.048 < 0.05. This indicates the acceptance of H1 and rejection of H0, implying that value added human capital has a significanct effect on the financial performance (ROE) of manufacturing companies listed on the Indonesia Stock Exchange (IDX).

STVA (X3) has a significance value of 0.250 > 0.050. This signifies the rejection of

H1 and acceptance of H0, impliying that structural capital value added has no significanct effect on the financial performance (ROE) of manufacturing companies listed on the Indonesia Stock Exchange (IDX).

Firm size (X4) has a significance value of 0.336 < 0.05, impliying that the firm size (total assets) as a control variable has no significanct effect on the financial performance (ROE) of manufacturing companies listed on the Indonesia Stock Exchange (IDX).

Determination Coefficient Test

he coefficient of determination (R2) ranges from 0 to 1. The independent variable can explain the dependent variable if the obtained determinant score (R2) is small. Conversely, all information is given to predict the dependent variable by the independent variable when the determinant score (R2) is large and approaches 1.

Tabel 6. Results of R Square Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,218[a]	,147	,070	,51739	1,967

Source: SPSS Processed Data, 2024

The regression analysis results show an R Square value of 0.147, indicating that 14.7% of Financial Performance can be influenced by the variables value addedcapital employed (x1), value added human capital (x2), structural capital value added (x3), and firm size (total assets) (X4). Meanwhile, the remaining 85.3% is influenced by other variables not included in this research model, which are still relevant to the study of financial performance.

5. Discussion

The Effect of Value Added Capital Employed (VACA) on Financial Performance

Based on the results of data analysis, there is a significant positive influence of value added capital employed on the company's financial performance (ROE), as indicated by the probability of 0.035 <0.05. This demonstrates that the performance of companies with higher levels of physical capital has the potential to achieve higher financial performance (ROE) as well. When a company makes significantinvestments in physical assets, it can enhance its equity value. With relatively larger equity, the company can have greater access to financial resources needed for operations and growth. The increase in equity value can positively impact the company's ability to generate income. This is because larger equity provides financial flexibility, enabling the company to invest in research and development, enhancing competitiveness and innovation. Moreover, an increase in equity valuecan boost investor and creditor confidence, providing better access to capital at lowercosts. Research conducted by Hadli et al., (2022) and Zilnie & Agung (2023) prove that there is a positive and significant implication on value added capital employed

on the financial performance (ROE) of the company.

The Effect of Value Added Human Capital (VAHU) on Financial Performance

Based on the results of data analysis, there is a significant positive influence of value added human capital on the financial performance (ROE) of the company, as indicated by the probability of 0.048 <0.05. This demonstrates that companies with higher levels of human capital investment or employee development have the potential to achieve higher financial performance (ROE) as well. When the knowledge possessed by employees is effectively applied and utilized, it enhances human capital efficiency. The financial performance of the company is greatly influenced by how well human resources, or human capital, are utilized. Employees with deep knowledge of their work, relevant experience, teamwork abilities, creativity, innovation, high motivation, and adaptability to change are more likely to contribute significantly to achieving the company's financial goals. Research conducted by Artati (2018) and Hadli et al.(2022) prove that there is a positive and significant implication of value added capital employed on the financial performance (ROE) of the company.

The Effect of Structural Capital Value Added (STVA) on Financial Performance

Based on the results of data analysis, there is no significant influence observed from structural capital value added on the financial performance (ROE) of the company, as indicated by the probability of 0.250 <0.05. This means that the level of utilization of structural capital does not affect the financial performance of thecompany. There is no significant implication of the magnitude of structural capital value added on the financial performance (ROE) level of the company. The lack of significant influence of structural capital value added on financial performance (ROE) may be due to the ineffectiveness of STVA in supporting human resources in developing ideas and products. Organizational structure, corporate culture, and suboptimal operational systems may be constraints. Even though knowledge in the company is high, it does not guarantee the company's ability to meet routine procedures and structures that support workforce efforts to improve business performance. The lack of significant influence of STVA may be due to limitations inthe integration of STVA with human resources and the company's infrastructure, ultimately not having a significant impact on financial performance in certain situations. Research conducted by Zilnie et al. (2023) and Hadli et al. (2022) prove that there is there is no significant influence of structural capital value added on the financial performance (ROE) of the company.

The Effect of of Firm Size (Total Assets) on Financial Performance

Based on the results of data analysis, there is no significant influence of firm size (total assets) on the financial performance of the company (ROE), as indicated bythe probability of 0.336 <0.05. This means that the size of firm size (total assets)does not affect the level of financial performance (ROE) in the company. The lack of significant influence of firm size (total assets) on financial performance (ROE) may be caused by several interconnected factors, including the notion that a large company size can reflect a larger operational scale, which in turn can bring about

efficiency and cost savings. However, despite the large company size, effective management implementation is also a crucial factor, and other elements such as operational efficiency, risk management, and adaptation to market changes also play a crucial role in determining financial performance. Therefore, it is important to holistically consider various aspects of company management and strategy in explaining financial performance that may not be statistically significant. Research conducted by Ponirah (2020) prove that there is no significant influence of firm size (total assets) on the financial performance (ROE) of the company.

6. Conclusion

Based on the analysis results, it was found that value added capital employed and value added human capital have a positive and significant impact on financial performance (ROE) in manufacturing companies listed on the Indonesia Stock Exchange (IDX), while structural capital value added and firm size as a control variable do not exhibit a significant effect on financial performance (ROE) in manufacturing companies listed on the Indonesia Stock Exchange (IDX).

The findings emphasize the importance of utilizing intellectual capital to enhance the financial performance of companies amidst the rapid changes in the business world. The theoretical implications confirm relationships described in the literature regarding the significant role of intellectual capital (capital employed, human capital, structural capital efficiency) and the total assets of the company (firm size) in improving the efficiency and profitability of the company in shaping perceptions and benefiting investors. On a practical level, this research provides valuable insights for companies, highlighting that they should not only rely on tangible assets but also consider intangible assets (intellectual capital) in the era of modern business competition. Additionally, for investors, the implications of this research can be a consideration in investment decision-making, aiming to maximize returns on investment, both in the form of capital gains and larger dividends. Thus, this study not only contributes academically to understanding the factors influencing financial performance but also offers practical insights that can be utilized to enhance overall company financial performance. Furthermore, the researchers suggest in this study to further investigate other factors that may have a greater impact on improving company financial performance.

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