Intellectual Capital On Firm Value Through Financial Performance

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Abstract

This study aims to analyze the effect of intellectual capital on firm value through financial performance. This research was conducted at National Foreign Exchange Private Commercial Banks listed on the Indonesia Stock Exchange during the observation period from 2019 to 2021 and involved ten banks using a purposive sampling method. Data were analyzed using panel data regression and path analysis. The results show that human capital efficiency has a significant negative effect on financial performance; structural capital efficiency, capital employed efficiency, and financial performance have a significant positive effect on firm value; structural capital efficiency has a significant negative effect on firm value; structural capital efficiency has a significant positive effect on firm value through financial performance; structural capital efficiency has a significant positive effect on firm value through financial performance.  

Keywords: Intellectual Capital, Firm Value, Financial Performance  

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Introductions

Current economic conditions are one of the triggers for the increase in the number of banks in Indonesia. The logical consequence of this condition is that the creation of intense competition between banking companies will certainly make banks continue to strive to improve their performance so that their goals can still be achieved. The main objective of companies that have gone public is to increase the prosperity of owners or shareholders through increasing company value (Wardani and Hermuningsih, 2018). Increasing the firm Value is very important for company owners because the high corporate value will be followed by high shareholder prosperity (Tahu and Susilo 2017). High company value is also significant for investors because this information reflects good company performance that
influences their perceptions of investing.

Various changes at this time have resulted in companies being increasingly motivated to improve and increase their performance so they can compete and be a going concern (Irsyahma, 2016). (Sudiyatmoko, 2018) argues that the prosperity of a company will depend on the creation of transformation and capitalization of the knowledge itself. It explains that companies must quickly change their strategy from a business based on labour to a knowledge-based business so that the company's main characteristic is to become a knowledge-based company.

Intellectual Capital is an intangible asset, including information and knowledge possessed by business entities, that must be managed properly to give a competitive advantage to the company. The human element capital, structural capital and working capital that can provide value more or profit for the company, as well as the knowledge managed by a good company, will give you a competitive advantage. Intellectual Capital includes all employee knowledge, organization, and capabilities to create added value and lead to competitive advantage. Intellectual capital has helped as an infinite series of tangible (resources, capabilities, and competencies) that drive organizational performance and value creation (Pokrovskaia et al., 2021). Several companies invest in employee training, research and development, customer relations, computer systems and administration, and others. Investment This is often referred to as growing and competing for intellectual capital and physical and financial capital investment (Xu and Li, 2020).

One of the approaches used in assessing and measuring knowledge assets is Intellectual Capital (IC), which has become the focus of attention in various fields, including management, information technology, sociology, and accounting (Sunarsih and Mendra, 2016). Intellectual capital is a force capable of driving economic growth. Intellectual capital has an essential role in today's business world. It is urgently needed to make financial reports more informative so that all company values are fully reported by companies whose assets are intellectual capital (Pelu, 2019). This condition will create new challenges for accountants to identify, measure and disclose it in financial statements. However, this also makes it difficult to estimate the value of a company. Because not only physical assets but also have to estimate a company's intellectual capital (IC) value. The emergence of this difficulty is caused by the nature of intellectual capital (IC), which is an intangible asset (Kogut et al., 2020). According to PSAK No. 19 of 2012, intangible assets are identifiable non-monetary assets without a physical form. Entities often incur resources or liabilities in acquiring, developing, and maintaining enhanced intangible resources, such as science or technology, design and implementation of new systems or processes, licenses, intellectual property rights, market knowledge, and trademarks (including trademarks). Product and publicity titles).

Intellectual capital in Indonesia began to develop after PSAK No. 19 (revised 2012) regarding intangible assets. However, even though PSAK No. 19 (revised 2012) and intellectual capital in Indonesia are starting to develop, disclosure of intellectual capital still needs to be improved. This is because companies need to realize the importance of disclosing intellectual capital in maintaining the company's competitive advantage. Disclosure of intellectual capital in this financial report is an essential requirement to do. The practical and efficient disclosure and management of intellectual capital can help improve the company's financial performance and foster trust from stakeholders. When stakeholders begin to trust the
company's financial performance, the going concern will also increase and can affect the company's stock return. Therefore, disclosure of intellectual capital can provide a positive signal for investors and attract them to invest their shares in a company by considering the stock returns that will be obtained in the future concerning the company's financial performance (Ardila and Christiana, 2019).

Investors are not careless in investing in the funds they have; they must first consider various information, including the condition of the company, which is reflected through the company's performance, including conditions of similar industries, fluctuations, exchange rates, transaction volumes, exchange conditions, economic conditions, social, political and national stability of a country (Nafiroh and Nahumury, 2017). Based on this information, one of the essential things before investors invest their capital is assessing the company's performance by looking at its financial statements. Capital funds for HR needs, especially in the form of salary expenses and incentives for employees who can not afford it, generate value added (value added) following the company's expectations of the results obtained so that the resulting company's financial performance has not yet reached an optimal level. It also indicates that the overall work capability of the employees produced is still felt unable to provide a significant increase in company performance, especially financial performance. The explanation also means that the employee budget burden is given companies have not budgeted more efficiently, regarding the provision of salaries and employee incentives, so that the level of employee performance as a whole can be said not appropriate with the company's expectation of a sizable amount of funds budgeted for employee expenses so that productivity levels and the resulting financial performance becomes less than optimal.

Research (Ichmawan and Raharja, 2016) shows that intellectual capital has no significant effect on the financial performance of Islamic commercial banks and cannot be used to predict the financial performance of Islamic commercial banks in the future. In addition, the average growth of intellectual capital (ROGIC) also has no significant effect on the financial performance of Islamic Commercial Banks in the future. In this study, the object to be tested is banking companies listed on the Indonesia Stock Exchange for three years, namely 2019 to 2021. Banking companies were chosen as objects in this research because banking companies require a level of expertise and skill in carrying out activities in banking company operations. This expertise and skills include the company's intangible assets and intellectual capital.

There are many understandings of signal theory. This signal theory explains that existing information will provide an exciting signal for a positive reaction (Annisa et al., 2019). Financial report information will provide a signal to investors and other interested parties in deciding. Financial report information becomes essential information in the process of making the right decision. Voluntary disclosure of intellectual capital allows investors and other stakeholders better to assess the company's capabilities in the future, make an appropriate assessment of the company, and reduce the perception of company risk (Salvi et al, 2020). Disclosure of intellectual capital in financial statements is a way for companies to meet the information needs of investors and increase company value. This is a positive signal given by the company. This positive signal will get a positive response from the market to provide a competitive advantage and higher value for the company.

Assessment of the achievement or performance of a company is measured because it
can be used as a basis for decision-making by both internal and external parties. (Roscoe et al., 2019) suggests that company performance results from many individual decisions made continuously by management. From this opinion, performance indicates good or bad management decisions in decision-making. Management can interact with the internal and external environment through information. This information is further stated or summarised in the company's financial statements. The benefits of evaluating company performance, according to (Sudiyatmoko, 2018), are to measure company performance in a certain period, look at overall organizational performance, the basis for determining company strategy for the future, as a guide in the making and as a basis for determining investment policy in order to improve company efficiency and productivity. The purpose of evaluating company performance, according to (Siregar, 2020) is to determine the level of liquidity, level of solvency, level of profitability or profitability, and level of business stability (Harahap, 2018).

According to (Solikhah, 2016), intellectual capital is information and knowledge that can provide opportunities to create value for every company. According to (Asiaei, 2018), intellectual capital can be viewed as knowledge in formation, intellectual property, and experience that can be used to create wealth. Meanwhile, according to (Clarke, 2017) intellectual capital includes all employees' and organizations' knowledge and ability to create added value and lead to sustainable competitive advantage. Intellectual capital has been identified as a set of intangibles (resources, capabilities, and competencies) that drive organizational performance and value creation. Human Capital Efficiency (HCE) can show how much value Added (VA) a company can generate with funds spent on labor (Welly et al., 2021). Human Capital Efficiency (HCE) is obtained if the salary and benefits provided can generate targeted sales or with higher salaries and benefits can be accompanied by increasing sales. It is hoped that the higher salaries and benefits given to employees will motivate them to increase their performance productivity to produce increased sales. Earning Per Share (EPS) or income per share is a form of profit sharing given to shareholders from each share owned. Research (Rahmah and Nanda, 2019) found that HCE had a positive and significant effect on financial performance (EPS).

\[ H_1: \text{Human Capital Efficiency (HCE) has a positive and significant effect on financial performance (Earning Per Share/EPS)} \]

Structural Capital Efficiency (SCE) includes all knowledge within the company besides the knowledge that exists in human capital, which includes databases, organizational charts, manual processes, strategies, routines, and something that has a higher value than material value (Artika, 2019; Tan et al., 2017). Structural Capital can be measured from Value Added (VA) minus Human Capital (HC). Value Added (VA) is the result of sales (total revenue) minus total expenses (except employee expenses). Structural Capital Efficiency (SCE) shows how much Structural Capital is needed to produce Value Added (VA) efficiently. The research results (Xu and Wang, 2019; Tarigan and Septiani, 2017) found that Structural Capital Efficiency (SCE) positively affects financial performance.

\[ H_2: \text{Structural Capital Efficiency (SCE) has a positive and significant effect on financial performance (Earning Per Share/EPS)} \]
The capital used (Capital Employed Efficiency) is the total capital utilized in each fixed and current asset of a company. Capital Employed is measured by the book value of net assets, namely the difference between total assets and total liabilities in a company. Capital Employed Efficiency (CEE) is obtained if the capital used can generate targeted sales or, with more significant capital, it can be accompanied by increasing sales. The higher the Capital Employed Efficiency (CEE), the higher the company's financial performance. Research (Rahmah and Nanda, 2019; Simarmata and Subowo, 2016) found that Capital Employed Efficiency (CEE) positively affects financial performance.

**H3:** Capital Employed Efficiency (CEE) has a positive and significant effect on financial performance (Earning Per Share/EPS)

The company's value is significant because the high prosperity of shareholders will follow a high value of the company. The higher the stock price, the higher the firm value. Value Added Human Capital (VAHU) shows how much value Added is generated from monetary units issued to employees or labor. This ratio shows the contribution each company invested in human capital made to the company's value added. (Asror, 2016) said that Value Added Human Capital (VAHU) affects company value proxied by Tobin's-Q.

**H4:** Human Capital Efficiency (CEE) has a positive and significant effect on Company Value

Structural Capital Efficiency (SCE) is the ability of an organization or company to fulfill the company's routine processes and structures that support employee efforts to produce optimal intellectual performance and overall business performance. This shows that without Structural Capital Efficiency (SCE), the company will not produce employees with intellectual capital optimally so the company will experience losses in the future. Increasing company performance will increase stakeholder confidence in the company, which will cause company profits to increase. Research conducted (Juwita and Angela, 2016) states that structural capital efficiency significantly affects firm value.

**H5:** Structural Capital Efficiency (SCE) positively affects firm value.

Capital Employed Efficiency (CEE) describes how much value added is generated from the physical capital used. According to (Ramadhan and Kurnia, 2017), Capital Employed Efficiency (CEE) is obtained if less capital is used, which can result in increased sales or if more outstanding capital is used accompanied by increasing sales. This shows that good capital management will increase revenue, increasing a company's profits. The increase in profits will also increase the value of the company. The study's results (Juwita and Angela, 2016) show that CEE positively affects firm value.

**H6:** Capital Employed Efficiency (CEE) has a positive effect on firm value

Earning Per Share can be a tool for measuring the level of income per share, which is a form of giving benefits to shareholders from each share owned by a company that affects
increasing the value of the company. The high or low value of the company is a benchmark for investing investors, which illustrates a company's market value in increasing investors' attractiveness. Tobin's Q formula can measure firm value. Rising stock prices indicate an increase in firm value. When the stock price increases, the shareholder's prosperity increases. The study results (Rutin et al., 2019) show that financial performance positively affects firm value.

**H7:** Financial performance has a positive effect on firm value

Capital funds for HR needs, especially in the form of salary expenses and incentives for employees who can not afford it, generate value added (value added) following the company's expectations of the results obtained so that the resulting company's financial performance has not yet reached an optimal level. It also indicates that the overall work capability of the employees produced is still felt unable to provide a significant increase in company performance, especially financial performance. The explanation also means that the employee budget burden is given companies have not budgeted more efficiently, in particular regarding the provision of salaries and employee incentives, so that the level of employee performance as a whole can be said not appropriate with the company's expectation of a sizable amount of funds budgeted for employee expenses so that productivity levels and the resulting financial performance becomes less than optimal.

Existing information will provide an exciting signal to give a positive reaction. Financial report information will provide a signal to investors and other interested parties in deciding. Financial report information becomes essential information in the process of making the right decision. Companies that have human capital efficiency will create sources of innovation and company progress. Human capital efficiency is the ability of companies collectively to produce the best solutions based on mastery of knowledge and technology from their human resources. Increasing human capital will create optimal company intellectual performance and overall business performance. So that it gives a good signal to investors, which will make the company's value increase. The results of the study (Sari, 2018) show that human capital efficiency (HCE) has a positive and significant effect on financial performance and firm value.

**H8:** Human Capital Efficiency (HCE) has a significant positive effect on company value through financial performance (Earning Per Share/EPS)

The efficiency level of use of structural capital by the company in improving capabilities and capabilities employee work that is implemented through investment in facilities and infrastructure supported by increased use of the system company information by employees has an impact on improving productive employee behaviour. So that added value obtained by the company is getting higher, which indicates increasing HR productivity from using various means and infrastructure provided by the company to improve employee competency. It increases productivity as well as the impact on increasing the value of the company because of the added value, and the profitability of the company has increased so, encouraging many investors to invest in the company, which then resulted in an increase in the value of the company in the capital market.
Structural capital efficiency is the ability of an organization or company to fulfil the company's routine processes and structures that support employee efforts to produce optimal intellectual performance and overall business performance. Increasing structural capital efficiency will create optimal company intellectual performance and overall business performance, giving a good signal to investors who will increase the company's value. The study's results (Sardo and Serrasqueiro, 2017) show that SCE has no significant positive effect on financial performance. Moreover, research (Prima, 2018) shows that Structural Capital Efficiency (SCE) significantly affects financial performance.

**H9:** Structural Capital Efficiency (SCE) has a significant positive effect on firm value through financial performance (Earning Per Share/EPS)

The added value of companies from the results of business capital management in the form of physical capital (financial) and financial assets is quite high. It also indicates that the value of capital financing for human resource development can provide a competitive advantage in employees work so that the productivity and superiority of HR work are owned company to be superior compared to the level of HR work productivity from competing companies. Capital management is not limited to the intended budget for HR competency training and improvement activities but also budgeted for increasing the value of HR incentives to improve the value of competitive advantage work done to achieve higher company profitability. Excellence level competitive advantage that employees have as a result of these activities, training and learning within a certain period and carried out consistently able to provide superior value to employees in work so that efficiency and work results are carried out employees in carrying out their duties to be better then these aspects have an impact on increasing value business productivity that has a direct impact on improvement company return or profit where this indicates improving the company's financial performance. Capital employed efficiency indicates the added Value of Capital Employed or capital used in Indonesian. Capital Employed Efficiency (CEE) provides an overview of the company's added value based on the capital used. Increasing capital employed efficiency will create optimal company intellectual performance and overall business performance, giving a good signal to investors who will increase the company's value. The study's results (Sari, 2018) show that capital employed efficiency (CEE) has a negative effect on financial performance but a significant positive effect on firm value.

**H10:** Capital Employed Efficiency (CEE) has a significant positive effect on firm value through financial performance (Earning Per Share/EPS)

**Research Design and Method**

This research was conducted at all Foreign Exchange National Private Commercial Banks (BUSN) listed on the Indonesia Stock Exchange (IDX) during the observation period from 2019 to 2021, comprising 35 banks. The sample for this research was 10 National Private Commercial Banks (BUSN) Foreign Exchange selected from the population using a purposive sampling method with the criterion that the bank has been listed on the Indonesia Stock Exchange (IDX). Has consecutive financial report data for the reporting year from...
2019-2021 and is a Foreign Exchange National Public Private Bank (BUSN) company listed on the Indonesia Stock Exchange (IDX). We use secondary data from company financial reports such as balance sheets, income statements, equity reports, cash flow statements, and notes to financial statements. The data that has been collected will be analyzed through three stages of testing. The first stage is to perform descriptive statistical tests. The second stage selects the panel data regression model (Chow test, Hausman test, Lagrange Multiplier test). The third stage is to test all the hypotheses proposed in this study and will be proven through panel data regression and path analysis.

### Table 1. Operational Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicator</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Capital</td>
<td>HCE = VA/HC</td>
<td>(Welly et al., 2021)</td>
</tr>
<tr>
<td>Efficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structural Capital</td>
<td>SCE = SC/VA</td>
<td>(Juwita and Angela, 2016)</td>
</tr>
<tr>
<td>Efficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Employed</td>
<td>CEE = VA/CE</td>
<td>(Welly et al., 2021)</td>
</tr>
<tr>
<td>Efficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earning Per Share</td>
<td>EPS = (Net Profit after Tax − Dividend) / Number of Outstanding Shares</td>
<td>(Ambarsari and Sidiq, 2018)</td>
</tr>
<tr>
<td>Firm Value</td>
<td>Q = (Total Market Value + Total Book Value of Liabilities) / (Total Book Value of Assets)</td>
<td>(Dang et al., 2020)</td>
</tr>
</tbody>
</table>

### Results and Discussion

#### Statistical Result & Discussion

The analysis is divided into analysis for the Financial Statements of Regional Apparatus Organizations (OPD) and Local Government Financial Statements (LKPD). Both financial statements use accrual-based articulation analysis. The 2021 OPD and LKPD financial statements present comparative financial information for 2021 and 2020 so that the analysis includes financial information for 2021 and 2020. The level of articulation achievement is indicated in the form of a percentage (%).

The first stage is descriptive statistical analysis. The purpose of the descriptive statistical analysis is to get an overview of the data used in the research seen from the average value, standard deviation, variance, maximum and minimum.

### Table 2. Descriptive Statistical Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>HCE</th>
<th>SCE</th>
<th>CEE</th>
<th>Financial Performance</th>
<th>Tobin’s Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.495</td>
<td>0.833</td>
<td>0.619</td>
<td>403.532</td>
<td>1.1198</td>
</tr>
<tr>
<td>Maximum</td>
<td>8.313</td>
<td>1.879</td>
<td>1.911</td>
<td>1662.900</td>
<td>0.812</td>
</tr>
<tr>
<td>Minimum</td>
<td>1.142</td>
<td>0.159</td>
<td>0.186</td>
<td>16.810</td>
<td>0.812</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>2.269</td>
<td>0.527</td>
<td>0.467</td>
<td>419.827</td>
<td>0.418</td>
</tr>
</tbody>
</table>

**Source:** Processed data (2022)

The second stage is testing the suitability of the model with three different tests, namely the Chow test, the Hausman test, and the Lagrange Multiplier test, where each test helps to choose which, best model should be used. The first test is the Chow test which is seen from the p-value of the F-statistic. If the probability value is less than 0.050, then H0 is rejected,
meaning that the effect in the panel regression estimation model that is appropriate to use is the Fixed effect model.

### Tabel 3. Chow Test Result

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Equation I</th>
<th>Equation II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>41.425</td>
<td>6.733</td>
</tr>
<tr>
<td>Prob.</td>
<td>0.000</td>
<td>0.001</td>
</tr>
</tbody>
</table>

**Source:** Processed data (2022)

Table 3 shows, the empirical results in the equation I state that H0 is accepted because judging from its significance value, the probability of cross-section F is less than 0.050, or 0.000 is less than 0.050. While the empirical results in equation II state that H0 is accepted because, as seen from its significance value, the probability of cross-section F is less than 0.050 or 0.001 is less than 0.050. As for the So equation, with a confidence level of 95 per cent, it can be concluded that from the two equations in this study, the Fixed Effect Model is better used than the Common Effect Model.

Next is to do the Haushman test to determine whether the proper panel data regression technique uses random or fixed effects. The criterion for this test is that if the probability value is less than 0.050, then H0 is rejected, meaning that the effect in the panel regression estimation model that is appropriate to use is the Fixed effect mode.

### Table 4. Haushman Test Result

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Equation I</th>
<th>Equation II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>7.729</td>
<td>0.101</td>
</tr>
<tr>
<td>Prob.</td>
<td>0.051</td>
<td>0.950</td>
</tr>
</tbody>
</table>

**Source:** Processed data (2022)

Table 4 shows, the empirical results in equation I state that H0 is rejected because seen from its significance value, the probability is greater than 0.050, or 0.051 is greater than 0.050. While the empirical results in equation II state that H0 is rejected because, as seen from its significance value, the probability is greater than 0.050 or 0.950 is greater than 0.050. So, with a confidence level of 95 per cent, it can be concluded that the Random Effect Model is better to use than the Fixed-Effect Model.

Furthermore, the Lagrange Multiplier (LM) test was needed because the results of the Chow and Hausman tests obtained results that were different from the LM test. Lagrange multiplier testing is carried out to determine the most appropriate common effect or random effect model to use in estimating panel data.

### Table 5. Lagrange Multiplier Test Result

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Equation I</th>
<th>Equation II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breusch-Pagan</td>
<td>17.406</td>
<td>14.701</td>
</tr>
<tr>
<td>Prob.</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**Source:** Processed data (2022)

Table 5 shows, the empirical results in the equation I state that H0 is rejected because, judging from its significance value, the probability is less than 0.050 or 0.000 is less than 0.050. While the empirical results in equation II state that H0 is rejected, as seen from its
significance value, namely, the probability is less than 0.050 or 0.000 is less than 0.050. So, the Random Effect Model is better than the Common Effect Model.

The third stage is testing the hypothesis through path analysis. Path analysis in this study is divided into two models; where the first model analyses the effect of HCE, SCE, and CEE on financial performance as a proxy for EPS. The following table will present the results of the Random Effect Model sub-model I calculation.

Table 6. Path Analysis of Sub Model I (Random effect Model)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>128.242</td>
<td>0.367</td>
<td>2.735</td>
<td>0.003</td>
</tr>
<tr>
<td>HCE</td>
<td>-1.244</td>
<td>0.414</td>
<td>2.319</td>
<td>3.007</td>
</tr>
<tr>
<td>SCE</td>
<td>0.860</td>
<td>0.343</td>
<td>2.003</td>
<td>2.475</td>
</tr>
<tr>
<td>CEE</td>
<td>0.586</td>
<td>0.183</td>
<td>4.330</td>
<td>3.232</td>
</tr>
</tbody>
</table>

Source: Processed data (2022)

Table 6 shows that the Human Capital Efficiency variable has a significant level of 0.001, less than 0.050, and the t-statistic value of 1.960 is less than 3.007. The parameter coefficient value is -1.244 indicating a negative influence on the dependent variable. This means the first hypothesis (H1) is rejected. The Structural Capital Efficiency variable has a significant level of 0.007, less than 0.050, and the t-statistic value of 1.96 is less than 2.475. The parameter coefficient value is 0.860 indicating a positive influence on the dependent variable. This means that the second hypothesis (H2) is accepted. The third hypothesis shows that the Capital Employed Efficiency variable has a significant level of 0.001, less than 0.050, and the t-statistic value of 1.960 is less than 3.232. The parameter coefficient value is 0.586 indicating a positive influence on the dependent variable. This means the third hypothesis (H3) is accepted.

Table 7. Coefficient of Determination of Sub Model I

<table>
<thead>
<tr>
<th></th>
<th>R-squared</th>
<th>Adjusted R-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.274</td>
<td>0.229</td>
</tr>
</tbody>
</table>

Source: Processed data (2022)

Table 7 shows, it is known that the R Square value is 0.274, or in other words, financial performance can be explained by the HCE, SCE, and CEE variables of 27.400 per cent. The remaining 72.600 per cent of financial performance is influenced by other variables not included in this study; these amounts are used to find the coefficients of sub-model I (e1) with the formula e1 = √1 – 0.726 = 0.523. Thus, a path diagram of the Path Analysis Model (Path Diagram) Sub Model I.
Furthermore, path analysis in the second part of the model analyses the influence of HCE, SCE, CEE and EPS on firm Value. The following table will present the regression calculation results and the sub-model II's significance.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1.283</td>
<td>0.367</td>
<td>2.735</td>
<td>0.003</td>
</tr>
<tr>
<td>HCE</td>
<td>0.619</td>
<td>0.267</td>
<td>2.319</td>
<td>0.010</td>
</tr>
<tr>
<td>SCE</td>
<td>-0.393</td>
<td>0.196</td>
<td>2.003</td>
<td>0.023</td>
</tr>
<tr>
<td>CEE</td>
<td>0.537</td>
<td>0.124</td>
<td>4.330</td>
<td>0.000</td>
</tr>
<tr>
<td>EPS</td>
<td>0.382</td>
<td>0.108</td>
<td>3.552</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Source: Processed data (2022)

Table 9 shows that the Human Capital Efficiency Variable has a significant level of 0.010, less than 0.050, and the t-statistic value of 1.960 is less than 2.319. The parameter coefficient value is 0.619 indicating a positive influence on the dependent variable. This means the fourth hypothesis (H4) is accepted. The fifth hypothesis shows that the Structural Capital Efficiency variable has a significant level of 0.023, less than 0.050, and the t-statistic value of 1.960 is less than 2.003. The parameter coefficient value is -0.393 indicating a negative effect on the dependent variable. This means the fifth hypothesis (H5) is rejected. The sixth hypothesis shows that the Capital Employed Efficiency variable has a significant level of 0.000 which is less than 0.050, and the t-statistic value of 1.960 is less than 4.330. The parameter coefficient value is 0.537 indicating a positive influence on the dependent variable. This means the sixth hypothesis (H6) is rejected. The seventh hypothesis shows that the financial performance variable has a significant level of 0.000, less than 0.05, and a t-statistic value of 1.96, which is less than 3.552. The parameter coefficient value is 0.382 indicating a positive influence on the dependent variable. This means the seventh hypothesis (H7) is accepted.

| R-squared | 0.786 |
| Adjusted R-squared | 0.599 |

Source: Processed data (2022)
Table 10 shows, it is known that the R-Square Value is 0.786; in other words, the company value can be explained by the HCE, SCE, CEE, and EPS variables of 78.600 per cent. The remaining 21.400 of the company's value is influenced by other variables not included in this study. Moreover, these amounts are used to find the coefficients of sub-model I (e2) with the formula $e2 = \sqrt{1 - 0.214} = 0.886$. Thus, the path diagram of the Sub Model II Analysis Model (Path Diagram) is obtained as presented in Figure 2.

![Figure 2. Path Analysis Model (Path Diagram) Sub Model II](image)

**Table 11. Sobel Test Result**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCE -&gt; EPS -&gt; NP</td>
<td>-0.475</td>
<td>0.207</td>
<td>-2.290</td>
<td>0.022</td>
</tr>
<tr>
<td>SCE -&gt; EPS -&gt; NP</td>
<td>0.328</td>
<td>0.160</td>
<td>2.045</td>
<td>0.040</td>
</tr>
<tr>
<td>CEE -&gt; EPS -&gt; NP</td>
<td>0.224</td>
<td>0.094</td>
<td>2.373</td>
<td>0.017</td>
</tr>
</tbody>
</table>

**Source:** Processed data (2022)

Table 11 shows that the Human Capital Efficiency variable has a significant level of 0.022, less than 0.050, and the t-statistic value of -1.960 is less than -2.290. The parameter coefficient value is -0.475 indicating a negative effect on the dependent variable. This means that the eighth hypothesis (H8) is rejected. The Structural Capital Efficiency variable has a significant level of 0.040, smaller than 0.050, and the t-statistic value of 1.960 is less than 2.045. The parameter coefficient value is 0.328 indicating a positive influence on the dependent variable. This means the ninth hypothesis (H9) is accepted. The Capital Employed Efficiency variable has a significant level of 0.017, which is less than 0.050, and the t-statistic value of 1.960 is less than 2.373. The parameter coefficient value is 0.224 indicating a positive influence on the dependent variable. This means the tenth hypothesis (H10) is accepted.

**Discussion**

The results of the first hypothesis test show that Human Capital Efficiency has a negative effect on financial performance. This means that the greater the Human Capital
Efficiency (HCE), the lower the company's financial performance. These results illustrate that if the costs incurred by the company to finance employee salaries and for research and technology development increase, it will make the company's net profit decrease, which will have an impact on decreasing financial performance. Capital funds for HR needs, especially in the form of salary expenses and incentives for employees who can not afford it, generate value added (value added) following the company's expectations of the results obtained so that the resulting company's financial performance has not yet reached an optimal level. It also indicates that the overall work capability of the employees produced is still felt unable to provide a significant increase in company performance, especially financial performance. The explanation also means that the employee budget burden is given companies have not budgeted more efficiently, in particular regarding the provision of salaries and employee incentives, so that the level of employee performance as a whole can be said not appropriate with the company's expectation of a sizable amount of funds budgeted for employee expenses so that productivity levels and the resulting financial performance becomes less than optimal.

According to (Annisa et al., 2019) existing information will provide a signal that can be attractive to give an adverse reaction. The large number of costs incurred for knowledge and technology, besides the salaries and benefits given to employees, is greater, and the burden will be more significant, which will decrease net profit, resulting in a decrease in financial performance. This research is different from research (Kwarbai and Akinpelu 2016; Simarmata and Subowo, 2016; Baroroh, 2018) which states that Human Capital Efficiency (HCE) has a positive and significant effect on financial performance.

The results of testing the second hypothesis indicate that structural capital efficiency positively affects financial performance. This means that the higher Structural Capital Efficiency (SCE) will increase the company's financial performance; Structural Capital Efficiency (management systems and policies) will provide the company with the ability to fulfill the company's routine processes and structures because that supports employee efforts to produce intellectual performance effectively optimal. Structural Capital Efficiency (SCE) management is carried out by building a database that connects company employees to learn and work with one another. The knowledge of employees is summarised in a database so that this knowledge can remain in the company even if the employee leaves the company. With this database, operational activities can be carried out optimally to achieve company goals. This shows that Structural Capital Efficiency (SCE) positively and significantly affects financial performance. When the company's Structural Capital Efficiency (SCE) is high, it will provide a good signal (good news) for investors so that there is a change in the volume of stock trading in a positive direction. This research is not in line with research (Simarmata and Subowo, 2016; Hamidah, 2018) which states that Structural Capital efficiency (SCE) has a negative and insignificant effect on financial performance. This research is in line with research (Baroroh, 2018) which states that Structural Capital Efficiency (SCE) has a positive and significant effect on financial performance.

The results of testing the third hypothesis show that the higher the Capital Employed Efficiency (CEE), the company's financial performance will increase. These results illustrate that if the management uses the capital in the company's fixed or current assets for its operational activities as efficiently as possible, it will increase production and sales. In the end, it will increase the company's net profit. When the capital used can generate targeted sales, or
with more significant capital, it can be accompanied by increasing sales as well; it will provide a good signal (good news) for investors so that there is a change in the stock trading volume in a positive direction. This shows that Capital Employed Efficiency (CEE) positively and significantly affects financial performance. This study's results align with research (Welly et al., 2021; Simarmata and Subowo, 2016), which states that Capital Employed Efficiency (CEE) has a positive and significant effect on financial performance.

The results of testing the fourth hypothesis indicate that companies with good Human Capital Efficiency will create optimal sources of innovation, company progress, and overall business performance. When the Human Capital Efficiency (HCE) owned by a company is high, it will provide a good signal (good news) for investors so that there is a change in the volume of stock trading in a positive direction. This research is in line with research (Welly et al., 2021; Sari, 2018; Simarmata and Subowo, 2016) which states that Human Capital Efficiency (HCE) has a significant positive effect on firm value. This means that investors consider the aspect of human resources, which is a source of company comparative advantage when making investment decisions in banking companies.

The results of testing the fifth hypothesis show that the higher the Structural Capital Efficiency (SCE), the lower the firm Value. Management policies oriented towards earnings management, which are intended for the benefit of management only, will make investors reluctant to invest in the company, reducing the company's value. This research is in line with research conducted by (Welly et al., 2021; Simarmata and Subowo, 2016), which states that Structural Capital Efficiency (SCE) has a negative and significant effect on firm value. This means that investors do not place their assessment of organizational capital as a strategic asset in making investment decisions. This research is not in line with research conducted by (Welly et al., 2021) which states that Structural Capital Efficiency (SCE) has a positive and significant effect on firm value.

The results of testing the sixth hypothesis show that the higher the Capital Employed Efficiency (CEE), the firm Value will increase. If the capital used can generate targeted sales or with more significant capital, it can be accompanied by increasing sales as well, which has an impact on increasing profits; then investors will respond and be interested in investing in the company so that the company's value increases. This shows that good capital management will increase revenue, increasing a company's profits. The increase in profits will increase the value of the company as well as be a good signal (good news) for investors so that there is a change in the volume of stock trading in a positive direction. This study's results align with research (Kadim et al., 2020; Juwita and Angela, 2016) which states that Capital Employed Efficiency (CEE) has a significant positive effect on firm value, meaning that companies with high Capital Employed Efficiency can increase firm value. However, this is different from research (Simarmata and Subowo, 2016) which states that Capital Employed Efficiency (CEE) has a negative and significant effect on firm value. This means that Capital Employed Efficiency needs to receive market attention.

The results of testing the seventh hypothesis indicate that the greater the financial performance, the greater the company's value. The number of outstanding shares caused this increase and a decrease. These results illustrate that investors like companies with high or increasing earnings per Share (EPS), which will make investors interested in buying these companies' shares, resulting in rising stock prices and increasing company value. When a
company generates high net profit, it will provide a good signal (good news) for investors to invest. The results of this study are not in line with research conducted by (Ambarsari and Sidiq, 2018) which states that financial performance proxied through Earning per Share (EPS) has a significant negative effect on company value.

The results of testing the eighth hypothesis show that the higher the Human Capital Efficiency (HCE), the lower the company's value through financial performance. This result illustrates that the many costs incurred for knowledge and technology will make net income decrease, resulting in a decrease in financial performance. With a decrease in financial performance, investors are not interested in investing their shares in companies that impact decreasing the company's value. This research is not in line with research conducted which states that Human Capital Efficiency (HCE) has a positive and significant effect on firm value through financial performance. This means that intellectual property that is managed efficiently by the company will increase market appreciation of the market value of the company so that it can increase value of the company.

The results of testing the ninth hypothesis show that the higher the Structural Capital Efficiency (SCE), the firm's value will increase through financial performance. These results indicate that with Structural Capital Efficiency, the company will produce employees with the optimal intellectual capital to experience gains in the future. The added value of companies from the results of business capital management in the form of physical capital (financial) and financial assets is quite high. It also indicates that the value of capital financing for human resource development can provide a competitive advantage in employees work so that the productivity and superiority of HR work are owned company to be superior compared to the level of HR work productivity from competing companies. Capital management is not limited to the intended budget for HR competency training and improvement activities but also budgeted for increasing the value of HR incentives to improve the value of competitive advantage work done to achieve higher company profitability. Excellence level competitive advantage that employees have as a result of these activities, training and learning within a certain period and carried out consistently able to provide superior value to employees in work so that efficiency and work results are carried out employees in carrying out their duties to be better then these aspects have an impact on increasing value business productivity that has a direct impact on improvement company return or profit where this indicates improving the company's financial performance. Increasing company performance will increase stakeholder confidence in the company, which will cause company profits to increase so that the market will respond positively by increasing the value of the company. This research is in line with research conducted which states that Structural Capital Efficiency (SCE) has a positive and significant effect on firm value through financial performance. This means that intellectual property that is managed efficiently by the company will increase market appreciation of the market value of the company so that it can increase value of the company.

The results of testing the tenth hypothesis show that the higher the Capital Employed Efficiency (CEE), the firm's value will increase through financial performance. Suppose the management uses the capital in the company's fixed or current assets for the company's operational activities as efficiently as possible. In that case, it will increase production and sales so that, in the end, it will increase the company's net profit. With this increase in profits, investors will be interested in investing in the company. The increase in Capital Employed
Efficiency will create optimal company intellectual and overall business performance so that it gives a good signal to investors, which will increase the company's value. The added value of companies from the results of business capital management in the form of physical capital (financial) and financial assets is quite high. It also indicates that the value of capital financing for human resource development can provide a competitive advantage in employees work so that the productivity and superiority of HR work are owned company to be superior compared to the level of HR work productivity from competing companies. Capital management is not limited to the intended budget for HR competency training and improvement activities but also budgeted for increasing the value of HR incentives to improve the value of competitive advantage work done to achieve higher company profitability. Excellence level competitive advantage that employees have as a result of these activities, training and learning within a certain period and carried out consistently able to provide superior value to employees in work so that efficiency and work results are carried out employees in carrying out their duties to be better then these aspects have an impact on increasing value business productivity that has a direct impact on improvement company return or profit where this indicates improving the company's financial performance. This research is in line with research conducted by (Nawaz and Ohlrogge, 2022) which states that Capital Employed Efficiency (CEE) has a positive and significant effect on firm value through financial performance. This means that intellectual property that is managed efficiently by the company will increase market appreciation of the market value of the company so that it can increase value of the company.

Conclusions

The conclusion from this study is that Human Capital efficiency (HCE) has a negative and significant effect on financial performance; Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CEE) have a positive and significant effect on financial performance; Human Capital Efficiency (HCE) and Capital Employed Efficiency (CEE) have a positive and significant effect on firm value; Structural Capital Efficiency (SCE) has a negative and significant effect on firm value; Financial performance has a positive and significant effect on firm value; Human Capital Efficiency (HCE) and Capital Employed Efficiency (CEE) have a negative and significant impact on firm value through financial performance; Structural Capital Efficiency (SCE) has a positive and significant effect on firm value through financial performance.

For investors who wish to invest, it is better to get information as early as possible so that asymmetric information does not occur in investment decisions. Companies should provide information disclosure about their financial statements so that investors can easily access the information needed and so as not to cause losses to investors and the company itself. Companies should not make Human Capital Efficiency (HCE) an employee burden because if it is used as an expense, the company's net profit will decrease. Human Capital Efficiency (HCE) is better recognized as a company asset to increase the company's net profit. Future researchers are expected to be able to use companies with different sectors.

Reference


