

The Effect of Intellectual Capital on Stock Return Through Financial Performance

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ABSTRACT

In the era of globalization and increasingly fierce competition, companies are required to increase their competitiveness by optimally utilizing the assets they own, one of the assets that is increasingly important for companies is intellectual capital. The purpose of this study is to examine whether intellectual capital affects stock returns through financial performance, which has the aim of knowing the influence of intellectual capital on financial performance, the influence of intellectual capital on stock returns, the effect of stock returns on financial performance, and whether or not financial performance mediates the relationship between intellectual capital and stock returns. A multiple linear regression analysis model with path analysis is an analysis method used in this study that aims to test whether there is a direct or indirect influence between independent, dependent, and intervening variables. Data testing tool using SPSS24 software. The population object in this study is companies listed on the IDX Indexes LQ45 for the 2018-2022 period; with the purposive sampling method, the samples collected are 33 companies with a total of 45 companies' observation data. The results showed that intellectual capital affects financial performance. These results show that the effect of financial performance on stock returns is statistically significant. The indirect influence of the statistical analysis results is greater than the direct influence of intellectual capital on stock returns. Thus, financial performance mediates the influence of intellectual capital on stock returns. This result explains that the company must utilize and maintain intellectual capital, and sound financial performance affects the stock returns received by investors, which later show good company value. Companies must utilize and maintain their intellectual capital because good financial performance, which results from the utilization of intellectual capital, will increase stock returns and reflect good company value in the eyes of investors.

Keywords: intellectual capital, stock return, financial performance

INTRODUCTION

The capital market plays a vital role in Indonesia's economic growth. Then, the capital market becomes an alternative funding source for companies that want to expand their business scale (Kadiman Pakpahan, 2003). According to the Financial Services Authority (OJK) (2023), in 2022, the performance of the Indonesian capital market is recorded as stable and continues to show positive performance. This can be seen from several indicators: market stability, trading activity, the number of fund pools, and the number of investors who continue to break high records. In the capital market, three parties are involved in securities trading: companies (and governments), stock exchanges, and investors (Tandelilin, 2010).

The stock exchange acts as a capital market, where information is conveyed about

changes in the share prices of various companies. Each company will strive to optimize stock prices in various ways, applying optimal intellectual capital to influence endurance and advantage in competition (Sihombing, J., & Pangaribuan, 2017). The Indonesia Stock Exchange (IDX) is a party that organizes and provides systems and facilities to bring together offers to buy and sell Securities from parties who want to trade these Securities. On the IDX, nearly 903 companies have registered their shares. Of the many companies listed, 45 companies fall into the LQ45 Index category (idx.co.id, 2023).

Return on fixed income investment products (bonds) in the Over Counter (OTC) market, on average of 6% (Muhammad, Permana, & Nugraheni, 2019). Meanwhile, conditions in the stock market expected to generate greater returns provide lower returns than investment products in debt securities. The average return on shares of companies listed on the LQ45 index is -9.4% (Basarda, Moeljadi, & Indrawati, 2018). This situation is one of the reasons for this research. In addition, the results of previous studies that have not provided consistent evidence also strengthen the sustainability of conducting studies on this topic. Research conducted by Melia, Elva, and Nur (2021) found that intellectual capital positively affects Stock returns. However, research conducted by Elvira, Riki, Nadhira, and Eriza (2022) found different results, such as intellectual capital not influencing stock return. Therefore, researchers are interested in conducting this study to determine the influence of intellectual capital on companies listed in the LQ45 index.

One factor that motivates investors to invest is return (Tandelilin, 2010). When investing, the main goal is to benefit from the capital handed over to the company so that the capital grows and can be used in the future. The rate of return on shares obtained by investors is determined based on fluctuations in market stock prices. The company's performance can be seen from the company's fundamental condition, which is reflected in the company's financial performance and human resource conditions. Intellectual capital is one of the assets that human resources must own if they want to increase the value and competitiveness of a company. Stock returns can attract investors who want to invest their funds. This is because high returns on a company reflect the company's ability to generate profits. The benefits in question are the benefits that the company can use to develop in the future (Beylin, 2010).

Disclosure of intellectual Capital is closely related to the problem of relations between companies and stakeholders. The results of intellectual capital disclosure play a role in the assessment of company performance. For management, it can be interpreted as an assessment of achievements that can be achieved on company goals. Companies that can manage physical Capital, Financial Capital and Intellectual Capital are believed to be able to create added value and can create competitive advantages by innovating research and development that will lead to improving company performance (Kiki, 2012). In their research, Boone and Raman (2001) and (Brüggen, Vergauwen, & Dao, 2009) stated that the market will increase its liquidity if firms can disclose intellectual capital widely. (Abdolmohammadi, 2005) and (Sihotang & Winata, 2008) found a positive correlation between IC disclosure and the company's market capitalization value. Several previous studies have shown the increasing importance of intellectual capital information for internal and external parties of the company.

Intellectual capital is an overarching dimension of a company that includes customer relations, innovation, workforce, and current knowledge development. All the above elements will impact the stock return increase through good company performance (Gozali, A., & Hatane, 2014). The higher the intellectual capital of a company, this can indicate that the company's ability to generate profits will increase and affect financial

performance and stock prices (Kurniawan, 2014). In Indonesia, intellectual capital has begun to develop with the emergence of statements from Financial Accounting Standards (PSAK) No. 19 about intangible assets. This proves that intellectual capital has received attention even though it is not explicitly stated as intellectual capital. Financial performance is one of the main benchmarks used in measuring whether or not a company's performance is reviewed through financial statements (Sarafina & Saifi, 2017).

The novelty of this research comes from the research object, namely companies listed on the BEI LQ45 Index for the 2018-2022 period which have never been studied before. Researchers aim to test whether intellectual capital affects stock returns through financial performance, which has the aim of knowing the influence of intellectual capital on financial performance, the influence of intellectual capital on stock returns, the effect of stock returns on financial performance, and whether or not financial performance mediates the relationship between intellectual capital and stock returns.

Literature Review

Resources Based Theory

Meek and Gray (1988, in (Ulum, I., & Novianty, 2012) explain that in stakeholder theory accounting, profit is a measure of return for shareholders (shareholders), while value added is a more accurate measure created by stakeholders and distributed to the same stakeholders. Thus, both can explain the strength of stakeholder theory in measuring company performance (Ulum, I., & Novianty, 2012).

RBT serves as an essential framework for explaining and predicting what underlies the competitive advantage and corporate performance of an enterprise (Barney et al., 2011)

Various views are related to the definition of their resources (Barrat & Oke, 2007). For this reason, resources, according to resource-based theory, have the potential to create prima capability advantages that will encourage the formation of competitive finance, which is a strategy for companies to win a business competition (Grant, 1991). For this reason, using intellectual capital in companies is inseparable from applying resource-based theory because these resources are also included in one of the scope of resources mentioned in resource-based theory (Galbreath, 2005).

Intellectual capital has two main components (Pulic, 2000; Maditinos et al., 2011): human capital and structural capital. Human Capital is a lever that has the potential to bring spectacular innovations and strategic renewals through various operational activities carried out by humans to improve their skills (Bontis and Fitz-enz, 2002) that can create value for companies by renting, developing and maintaining them, while structural capital consists of various kinds of unsustainable infrastructure that exists within the company (Knight, 1999).

VAHU (Value Added Human Capital)

VAHU describes the ability of human capital to create added value for the company. *Human Capital is the lifeblood of Intellectual Capital. Human Capital is a complex component to measure. Human Capital is defined as knowledge assets owned by human resources in the form of skills and competencies in the company.*

VACA (Value Added Capital Employed)

This ratio shows the significant role of *physical assets* in creating *added value* in the organization (Ulum, Harviana, Zubaidah, & Jati, 2019). *Capital employed* is also referred to as *customer capital*, which is how the company maintains good relations with its stakeholders to increase company sales. VACA is calculated by comparing the added

value created by the company with the amount of physical capital in the form of total assets owned.

STVA (Structural et al. Added)

STVA is used to determine the extent to which the company's operational structure or system's success generates added value for the company. *Structural capital* is not an independent measure measured by *human capital* because structural capital is independent of *value creation* (Pulic, 2000). That is, the amount of human capital contribution will contribute to structural capital being smaller.

Relational Capital Efficiency

CEE is an organization's relationship with a company's internal and external counterparties, including customers, employees, suppliers, strategic alliance partners, stakeholders, and industry associations (Ordonez de Pablos, 2003).

In addition, Ulum (2012) also includes another component, Relational Capital Efficiency (RCE), which explains the level of efficiency of the company in managing relationships with customers or customers. RCE, in its calculation, uses advertising/promotion expenses or marketing costs (Nazari & Herremans, 2007).

Value Added Intellectual Coefficient (VAIC)

Value Added Intellectual Coefficient (VAIC) is one measurement with an indirect method to measure how the efficiency of electoral capital and employee capital creates value based on the relationship between three main components: employed Capital, Human Capital, and structural Capital. VAIC is one of the ROA measurement categories because this method presents all the information readily available in the annual report and can be compared with the average of similar companies.

Stock Return

Stocks are investment instruments that provide benefits through capital gains and dividends. The higher the rate of return on shares obtained by investors indicates, the better the value of the company in the eyes of investors, which is reflected by the increase in stock prices in each period.

According to Jogiyanto (2000: 107), there are two types of return realization measurements, namely:

- a. Capital gain (loss) is the difference in the investment price now relative to the price of the previous period. If the investment price is now higher than the investment price of the previous period, capital gains occur, and vice versa.
- b. Yield the percentage of periodic cash receipts against the investment price of a certain period of an investment. Guinan (2009) explains capital gains as an increase in the value of assets or capital assets (investments) above the purchase price.

Profits are earned once the asset is sold. Capital gains may occur in a short period (less than a year) or a long time (more than a year). In addition, Guinan (2009) also explained that capital gains could result from an increase in the price of securities in mutual funds above the initial purchase price when the securities were sold (realized).

Financial Performance

Company performance is potential information that explains the fact or natural state of the company as a financial whole to the level of output and market return (Firer & William, 2003). According to Pramelasari (2010), the company's achievements, as shown by its financial statements, display its state during a specific period: its financial performance. Financial performance measurement is calculated using residual income analysis (RI), obtained after calculating ROI and capital costs. In some management accounting and financial management books, RI is often called Economic Value Added

(EVA), but researchers will refer to RI consistently, except for direct quotations. EVA reflects residual income remaining after all capital costs, including share capital, have been deducted, while accounting profit is calculated without deducting the cost of Capital (Sartono, 2011, p. 104).

The Effect of Intellectual Coefficient (VAIC) on Financial Performance

In a resource-based view of the firm (RBV), *resource-based theory* states that companies will excel in business competition and achieve good financial performance by owning, controlling, and utilizing critical strategic assets (tangible and intangible). This is also in line with *stakeholder theory*, which states that company management is expected to carry out activities considered necessary by stakeholders and report these activities back to stakeholders because all stakeholders have the right to obtain information about organizational activities. One of the pieces of information that stakeholders must obtain is *intellectual capital*.

Cheng, Lin, Hsiao, and Lin (2010) argue that Intellectual Capital contributes to increased competitive advantage. According to Firer and Williams (2003), companies that manage intellectual capital efficiently will quickly create a competitive advantage. According to Akbarian and Mazinani (2019), companies today need to identify, measure, and evaluate their Intellectual Capital level. In today's knowledge-based business environment, Intellectual Capital is not limited to the capital owned by the company. However, it is also a resource capable of generating a competitive advantage for the company.

IC is essential in creating value and sustainable growth for the company. This aligns with the Resource-Based Theory (RBT), which explains that IC is the core of firms' value creation and competitive advantage (Barney, 1991).

H1: The existence of an Intellectual Coefficient affects Company Performance **The Effect of Financial Performance on Stock Return**

The effect of financial performance on stock returns is related to resource-based theory. Research conducted by Alwathainani (2009) shows that investors assume that companies with good financial performance will also have good prospects for the company. As a result, investors are fearless in buying shares of such companies at high prices. Rising stock prices increase stock returns from capital gains. Research by Khan et al. (2013), Chandra et al. (2019), and Suhadak et al. (2020) shows that financial performance positively affects stock returns. The prospect of a company that is considered good invites investor interest to buy company shares. As a result, the company's stock increased, so the stock price increased.

Based on resource-based theory, the value created by VAHU will impact the company's capabilities. One of the company's profitability can be measured by Residual Income.

Based on resources-based theory, companies that manage their physical assets well will be able to improve the sustainability of the company's business in the future. Proper capital management will improve the company's performance, as shown through the profitability ratio that the company can achieve. Increasing market demand will impact the company's stock price so that the return investors will get will increase.

Based on the resource-based theory, with the advantages of good structural capital, it will support the sustainability of the company's business in the future and improve company performance.

H2: The Company's Performance Affects Stock Return

The Effect of Intellectual Coefficient (VAIC) on Stock Return

Accurate stock valuation can minimize risk while helping investors get fair profits, considering that stock investment in the capital market is a type of investment that is high risk but promises relatively large profits. However, these investors need to be made aware of other things that can influence the company's stock price, namely *intellectual capital*, by looking at the *company's intellectual capital statement (ICS)* section. Intellectual capital is divided into three parts: human capital, structure capital, and customer capital. These three parts of intellectual capital significantly affect the company's financial performance. If the company's financial performance is good, it will have a good impact on its stock price.

According to Liu (2009), human capital is embedded in a company's human resources and can be developed through training and education. This knowledge cannot be separated from the individual, so the capital does not own this capital.

Bernadette (2000) states that structural CapCapitalcludes all assets and values that would remain in the company if all employees left the company, so it is essential as the only asset owned by the company.

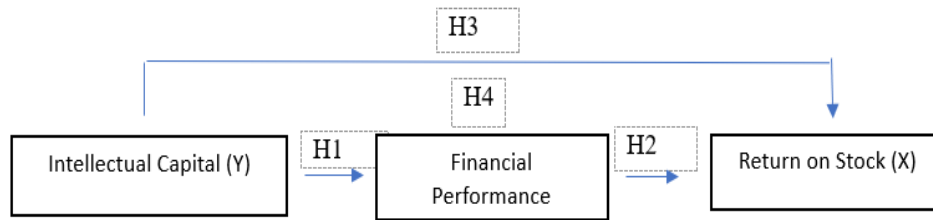
Structural CapCapitalcludes all knowledge in a company besides existing knowledge in human CapCapitalincluding databases, organizational charts, manual processes, strategies, routines and anything of higher value than material value (Bontis et al., 2000). Thus, with the existence of a good structure, the company can operate well as well.

Relational CapCapitalcludes all relationships between firms and customers, suppliers, intermediaries, representatives, partners, owners and lenders Roos, Pike & Fernstrom (2005). Building relational capCapitalrough loyalty programs for customers, sales rewards for intermediaries, and quick payments to suppliers will contribute significantly to the company's value as it increases third-party loyalty. Loyalty that turns into additional promotions or brand image attached to the company. Capital employed is one of the intellectual capitals that describes how much-added value the company generates from the capCapital.

H3: The existence of Intellectual Coefficient affects Stock Return Strengthening Financial Performance as Intellectual Capital Mediating for Stock Retreat

The effect of financial performance on stock returns is related to resource-based theory. Research conducted by Alwathainani (2009) shows that investors assume that companies with good financial performance will also have good prospects for the company. As a result, investors are fearless in buying shares of such companies at high prices. Rising stock prices increase stock returns from capital gains. Research by Khan et al. (2013), Chandra et al. (2019), and Suhadak et al. (2020) shows that financial performance positively affects stock returns. The prospect of a company that is considered good invites investor interest to buy company shares. As a result, the company's stock increased, so the stock price increased, and the profit or loss received by investors affected the company's value.

H4: The indirect influence of financial performance on stock returns



RESEARCH METHOD

This research is explanatory research with a quantitative approach. The population object in this study is companies listed on the IDX Indexes LQ45 for the 2018-2022 period, with the purposive sampling method as a determination of the research sample. The samples collected were from 33 companies, with 45 companies' observation data. The criteria for taking samples were as follows:

1. Companies listed on IDX Index LQ45 for the period 2018-2022
2. The company publishes financial statements for 2018-2022
3. Have a positive profit for the last five years

This study used several formulas to determine each of the variables of this study. The independent variable in this study is Intellectual Capital. According to (Ulum et al., 2019), IC consists of intellectual material knowledge, intellectual property rights, information, and knowledge to generate wealth. The Intellectual Capital (IC) measurement formula in this study uses the Modified Value Added Intellectual Coefficient (M-VAICTM) proposed by Ulum, Ghazali, and Purwanto (2014). This study uses Stock Return as the dependent variable. This study's formula for stock returns is *Yield + Capital Gain (Loss)*. Financial Performance became a mediating variable in this study. Financial performance is calculated using the residual income formula (*Residual Income*). According to Sartono (2011: 104), the RI formula, namely:

$$RI = NOPAT - Biaya Modal = EBIT (1 - T) - (WACC \times Modal Operasi)$$

Information:

NOPAT: Net Operating Profit After Tax

EBIT: Earnings Before Interest and Tax

T: Corporate Tax

WACC: Weighted Average Cost of Capital

The analysis method of this study is multiple linear regression with path analysis. This analysis aims to test whether there is a direct or indirect influence between independent, dependent, and intervening variables. Data testing tool using SPSS24 software.

RESULT AND DISCUSSION

In the description of the data in this study, researchers provide an overview of the research results carried out by taking data on the financial statements of companies listed on the Indonesia Stock Exchange (IDX) LQ45 index in the 2018-2022 period. The results obtained from the data collection process on the research object can be processed by 33 companies with 45 observational data and are worthy of further testing to prove the truth of the hypothesis in this study.

Table 1. Descriptive Statistics

		Minimum	Maximum		
	Statistics	Statistics	Statistics	Statistics	Std. Deviation
Intellectual Capital	117	1,3176	4,5008	1,915222	0,3561053
Financial Performance	117	13063,9343	750967,3850	57006,161617	67389,3277677
Stock Return	117	22,9200	364,24000	1,03988138	40,1892524
Valid N	117				

Source: SPSS Management Results version 24, 2024 (Research data)

The results of the descriptive statistical test obtained show that the stock return has a minimum value of 22.9200 (22%). At the same time, the maximum value is 364.24000 (36.4%). The average value of the stock is 1.03988138, and the standard deviation is 40.1892524, which shows that the dispersion of stock returns carried out by all companies sampled is 10%. Intellectual CapCapitals have a minimum value of 1.3176, while the maximum is 4.5008. The average value is 1.915222, and the standard deviation is 0.3561053, which shows that the level of intellectual CapCapital in all companies sampled is 19%. Financial performance has a minimum value of 13063.9343, while the maximum value is 750967.3850. The average value is 57006.161617, and the standard deviation is 67389.3277677, which shows that the level of financial performance in all companies sampled is 57%.

Table 2. T Test Results

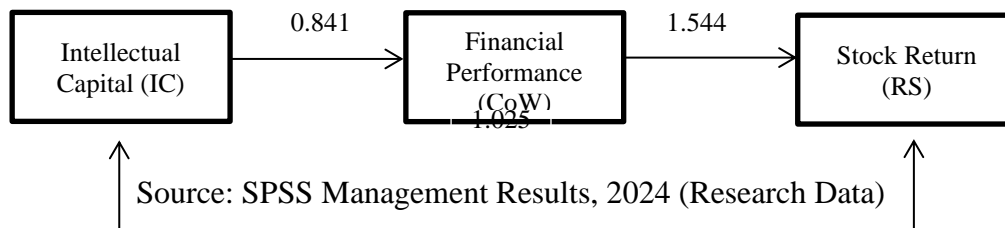
Variable	Std. Deviation	T	Information
Model 1 (Y=Competitive Adv.)			
IC ý KK (H1)	0,841	16,697	Supported
KK ý RS (H2)	1,544	3,059	Supported
IC ý RS (H3)	1.025	9,994	Supported
IC ý KK ý RS	1,298	6,267	Supported

The direct effect between IC and RS gives a regression coefficient of 1.025 with a significance level more minor than the alpha level (0.05), which is 0.000. So, statistically, IC has a direct influence on RS. Indirect influence is formed through direct influence between IC and KK and between KK and RS. The magnitude of the regression coefficient on the effect of IC on KK is 0.841, with a significance level of 0.000. That is, statistically, that IC affects KK. The second indirect influence is the direct influence between KK and RS. The resulting regression coefficient is 1.544, with a significance level of 0.000. Thus, this influence is statistically significant. The effect is not directly determined through multiplication between the regression coefficient of the influence of IC on KK and the influence of KK on RS, which are respectively 0.841 and 1.544. The result of the indirect influence of IC on RS through KK has a coefficient of 1.298. The indirect influence of the statistical analysis results is greater than the direct influence of IC on RS. Thus, it can be said that KK mediates the influence of IC on hospitals.

The results of this research are in line with previous research by (Aprilia & Isbanah, 2019) which found that financial performance failed to mediate the indirect influence of

the intellectual capital component on stock returns. In general, intellectual capital can increase company profits but cannot cause a reaction in the stock market. Similar research by (Ranani & Bijani, 2014) shows that structural capital has a negative effect on earnings per share, but because this effect is not significant enough, it can be ignored. The results of the panel data approach show that there is a significant influence of physical capital on earnings per share and asset effectiveness. Therefore, increasing physical capital results in improved financial performance of the study companies.

Other research by (Dženopoljac, Janošević, & Bontis, 2016) shows that when company size and leverage are used as control variables, only the efficiency of capital used has a significant influence on financial performance. Ultimately, this research confirms that there are no significant differences in financial performance between different ICT subsectors. Another study by (Ozkan, Cakan, & Kayacan, 2017) found that the intellectual capital performance of the Turkish banking sector is generally influenced by human resource efficiency (HCE). Based on bank type, development and investment banks have the highest average VAIC. If VAIC is divided into several components, it can be seen that capital efficiency (CEE) and human resource efficiency (HCE) have a positive effect on bank financial performance. However, CEE has a greater influence on banking financial performance than HCE. This can be produced as a path diagram of the structural model, which is as follows:



CONCLUSION

This study examines the positive impact of intellectual capital on the financial performance of companies listed on the IDX Indexes LQ45 for 2018-2022. Empirical results show that intellectual Capabilities have a positive effect on financial performance. This shows that using four components (human capital, capCapitalstructural and relational capital efficiency) that are efficient and effective will help the company achieve higher financial performance. This means that companies must be more aware of the efficient use of intellectual capital. According to statistics, financial performance indirectly influences stock returns, which has a significant influence. This study also examines the direct effect of intellectual CapCapital stock returns. Statistically, intellectual capital has a direct influence on stock returns. The indirect influence of the statistical analysis results is greater than the direct influence of intellectual capital stock returns. Thus, Financial Performance mediates the influence of Intellectual Capital on Stock Returns. Hypothesis 4 of this study aims to answer whether research and development carried out by companies can strengthen the influence of intellectual CapCapital companies. The study's results support the hypothesis and prove that this research will have a more optimal impact on company value in improving financial performance and stock returns investors receive.

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