

## Mengaktifkan Potensi Modal Intelektual: Akankah Meningkatkan Nilai Entitas?

### *Unlocking the Power of Intellectual Capital: Will it Increase the Entity Value?*

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#### **Abstrak**

Penelitian ini menguji hubungan antara Intellectual Capital, Human Capital, Structural Capital, dan Relationship Capital terhadap Nilai Perusahaan pada perusahaan properti dan real estate di Indonesia. Tujuannya adalah untuk menganalisis kekuatan modal intelektual dalam meningkatkan kinerja bisnis. Populasi sasaran penelitian ini adalah seluruh perusahaan sektor properti dan real estate di Indonesia sejumlah 215 observasi dari tahun 2018-2022. Data diolah menggunakan pendekatan kuadrat terkecil biasa untuk mendapatkan nilai t dari hubungan tersebut. Penelitian ini mengukur variabel modal intelektual bukan dari sudut pandang finansial atau nilai tambah tetapi dari sisi deskriptif dengan menggunakan indikator pengkodean empat arah. Kami menemukan bahwa modal relasional memiliki hubungan positif yang signifikan terhadap nilai perusahaan. Studi ini menekankan perlunya mengubah proksi nilai perusahaan atau menambahkan jembatan antara modal intelektual dan kinerja keuangan untuk menciptakan pemahaman yang jelas.

**Kata kunci:** Modal Intelektual, Modal Manusia, Modal Struktural, Modal Relasional, Nilai Perusahaan

#### **Abstract**

*This research examines the relationships between Intellectual Capital, Human Capital, Structural Capital, and Relationship Capital toward Firm Value in Indonesia's property and real estate companies. The aim is to analyse the power of intellectual capital in leveraging business performance. The target population for the study constituted all property and real estate sector companies in Indonesia total 215 observations within 2018-2022. The data was processed using an ordinary least square approach to gain the t-value of this relationship. This research measures the intellectual capital variable not from a financial or value-added perspective but from a descriptive side using for-way coding indicator. We found that relational capital has a significant positive relationship toward firm value. The study emphasized the need to change the proxy for firm value or to add some bridge between intellectual capital and financial performance to create a clear understanding.*

**Keywords:** Intellectual Capital, Human Capital, Structural Capital, Relational Capital, Firm Value

## **INTRODUCTION**

Measuring a company's financial performance is essential to understanding the company's potential future growth (Yendrawati et al., 2023). A potential future growth measurement is a crucial base for property and real estate companies (Almagribi et al., 2022). Property and real estate companies rely on agile, innovative movement when pursuing their profit (Ichsani et al., 2019). This research enriches the researches regarding intellectual capital and firm value from developing countries within the property and real estate sector. Intellectual capital is urgent to be studied under this sector since it has the most significant asset classes worldwide, and tend to have an asset-light strategy (Gholipour et al., 2023; Kim et al., 2019). This characteristic should make them prone to specific risks such as market fluctuations, property damage, and regulatory changes (Sari et al., 2023). Thus, understanding its potential future growth will be a helpful hand in achieving an agile movement that will direct it to a more significant profit for the business entity.

Property and real estate businesses tend to focus more on tangible than intangible assets (Daryanto et al., 2018). This fact is due to their income generation characteristic, which relies on a steady stream, and tangible assets are less susceptible to market fluctuations (Waluyo, 2017). Tangible assets are also in this kind of business and can hedge against inflation (Endri et al., 2021). The presence of intangible assets in the property and real estate business is seen only as a diversification basket that will reduce their risk on asset investment (Almurni, 2015). From the explanation, we can conclude that a property and real estate business tends to see a solid asset as a better investment than a mere unseen asset.

The tendency to value tangible assets more than intangible assets is a loss for an innovative base industry like this. Intangible assets, especially those that are part of intellectual capital, play a prominent role in strengthening a business's innovation movement (Salangka & Kameo, 2024). Intellectual capital consists of human, structural, and relational capital (Ulum, 2015). A skillful human capital will create a competitive advantage that maximizes long-term profit and leverages business performance (Lewaherilla et al., 2024). This is because the innovative culture needs knowledge, skills, and expertise from the human capital as part of intellectual capital (Lewaherilla et al., 2024).

Structural capital is crucial for property and real estate companies because it encompasses the physical and organizational structures that support human capital (Ardiansari et al., 2021). When human capital as part of intellectual capital can leave the entity, structural capital stays with all the knowledge that previous human capital developed so that the following human capital will not start everything from zero (Dalkir, 2011). Thus, companies will only have their best practice and efficient way of doing their business (Masmuddin et al., 2024).

Relational capital is the glue for human and structural capital since good relational capital creates a sense of belonging, thus creating efficient knowledge sharing within an entity (Nonaka & Peltokorpi, 2006). Also, it will create vital networking so the companies can increase their ability to develop strategies, innovation, and better product development, thereby increasing organizational capacity (Lee et al., 2023). Relational capital will also be helpful when a significant movement in the market occurs since many relations increase the probability of having a resource (Singla, 2020).

From the description above, we can highlight how important it is for property and real estate companies to give the same amount of attention to intellectual capital as it will increase the tendency for innovation in culture (Liu et al., 2021). Once a company has innovative culture, it will create a competitive advantage, leading to better performance (Abdelfattah et al., 2024). That's why, this research aim to find the relationship between Intellectual capital, human capital, structural capital and relational capital to firm value on real estate and property sector in Indonesia. So, the research question will be "Does intellectual capital, human capital, structural capital and relational capital influence the firm value?".

## **LITERATURE REVIEW**

Research on intellectual capital has been started since the 1900s, starting from the awareness of the importance of intangible assets being defined into various types of assets and their importance in increasing the value of the company (Itami & Roehl (1987); Keong Choong (2008)). Intellectual capital is valuable because there is a knowledge management process, which is vital in improving organizational performance (Wiig, 1997). Knowledge management is the deliberate and systematic coordination of an organization's people, technologies, processes, and structure to add value through reuse and innovation (Dalkir, 2005). This is achieved through the promotion of knowledge creation, sharing, and application and through imparting valuable lessons and best practices into the company's memory to encourage continuous organizational learning (Dalkir, 2011)

The importance of managing the knowledge asset in a company bring some awareness regarding that intangible asset matter (Nonaka & Takeuchi, 1996). Furthermore, intellectual capital then being divide as human capital, structural capital and social capital or some scholars called it as relational capital (Pulić (2008); Ulum (2015); Wiig (1997); De Long & Fahey (2000); Dalkir (2005); Al-Tit et al. (2022)). Sistem klasifikasi ini penting karena memberikan manajer dan akademisi suatu kerangka untuk mengidentifikasi pengukuran, pengelolaan, dan pelaporan (Dumay & Guthrie, 2019).

Numerous previous studies have proven that both intellectual capital as a whole and each intellectual component can affect a company's performance and value (Barak & Sharma (2024); Akgün & Türkoğlu (2024); Ahmed & Hussin (2024); Hasanudin et al. (2024); Bravo Martinez & Sánchez Gómez (2024); Aslam et al. (2024); Zafar & Jafar (2024); Shah et al. (2024)). Barak and Sharma (2024) found that combined intellectual capital positively affects the financial performance of Indian public sector banks, and human capital is the most impacting resource.

Intellectual capital in specific religious-based industries, such as Islamic banks, has an impact on mediating good corporate governance practice and financial performance (Aslam et al. (2024); Zafar & Jafar (2024)). This is because they still need good human resources with a high sense of belonging to the company to create good corporate governance work (Shah et al., 2024). Only then is the purpose of boosting financial performance achieved. Research regarding intellectual capital and financial performance also gets a similar result on other types of entities such as football clubs, Fintech companies, SME organizations, agribusiness industries, and both financial and non-financial companies (Dimitropoulos & Koumanakos (2015); Baig et al. (2024); Cohen et al. (2014); Rey et al. (2023)).

The robustness of intellectual capital's influence on a business entity's value and performance can be seen from previous research that used various organization types as the

sample. This gives an abundance of perspectives from various directions to make a reasonable conclusion regarding the impact of intellectual capital on performance. One organization that still needs more research on this subject is a property and real estate company in a developing country (Suciati et al., 2024). This research contributes to this lack by using Indonesia's property and real estate sector. Indonesia is a developing country with a unique characteristic since it has no mandatory rule to disclose intellectual capital. Therefore, using this country as a sample in intellectual capital disclosure research would be appropriate because the IC disclosure measurement should be based on the company's awareness of the importance of intellectual capital and not because of forceful regulation.

Resource Based View (RBV) Theory is the most used theory throughout this research (Suciati et al., 2024). This theory is about a strategic management framework that emphasizes the importance of a firm's internal resources and capabilities in determining its competitive advantage and long-term success (Barney & Arkan, 2005). According to that definition, a firm's resources and capabilities are the foundation of its competitive advantage, and these resources and capabilities are the primary drivers of its performance. Due to the settlement of this theory, this research also employed the RBV Theory. We use a non-financial disclosure of IC from Ulum (2015), called the four-way coding system for the intellectual capital disclosure. We do the content analysis by checking the presence of Ulum (2015) indicator in the company's annual report.

The positive relationship between intellectual capital and financial performance is still being found during the global financial crisis (Akgün & Türkoğlu, 2024). A deeper analysis was conducted in a non-financial firm in Malaysia, and it was found that all components of IC have a significant positive impact on financial performance (Ahmed & Hussin, 2024). Intellectual capital also leverages the sustainability performance of Indonesia's energy and mining companies (Hasanudin et al., 2024). The positive impact also directly creates a superior financial performance for knowledge-based organizations such as Peruvian banking (Bravo Martinez & Sánchez Gómez, 2024). This research uses this same direction as the most previous research take, so the first hypothesis will be:

H1: There is a positive significant relationship between Intellectual Capital and the firm value.

The first component of Intellectual capital that seen as an important aspect is the human capital (Ulum, 2015). Veltri & Silvestri (2011) mentioned that investors provide greater value relevance to human capital efficiency (HCE) compared to structural capital efficiency (SCE), and that HCE plays an indirect role in the relationship between intellectual capital (IC) and market value. Other studies also mention consistent results, namely that human capital expansion significantly improves the firm's DVAR through the 'intermediate product substitution' channel and the 'markup' channel (Yue, 2024). Other research also mentions that investments in the general skills of workers can benefit both firms and workers by deepening the relationship between the firm and the workers, while also enhancing the value creation of the company. (Teodorovic et al., 2024). Based on these studies, our second hypothesis is aligned, namely:

H2: There is a positive significant relationship between Human Capital and the firm value.

Structural capital is the second component of intellectual capital. find that structural capital positively affects business performance (Hurtado-Palomino et al., 2024). The same result is found by (Appah et al., 2023) and (Salvi et al., 2020) that found all three component of intellectual capital has a positive significant relationship to the firm value.

H3: There is a positive significant relationship between Structural Capital and the firm value.

We used relational capital as the third component of Intellectual capital. High capital employed efficiency (CEE) is associated with more leverage for tourism firms (Dalwai & Sewpersadh, 2023). The result is align with (Salvi et al., 2020) that found all three Intellectual capital component has a significant positive relationship with firm value. Thus, following the previous result, the fourth hypothesis will be:

H4: There is a positive significant relationship between relational capital and the firm value.

## METHOD

In order to avoid similar results due to the use of similar methods, this study tries to use the non-financial intellectual capital disclosure method. Intellectual capital disclosure is usually seen regarding value-added efficiency (Pulić, 2008). This research will use non-financial indicators of a four-way coding system that was developed by IFAC (1998) and Guthrie et al. (1999) (Ulum, 2015). We try to understand how the level of non-financial intellectual capital disclosure will affect the value and financial performance of Indonesia's property and real estate sector. This is expected to provide additional intellectual capital perspective.

This study uses panel data with 215 observations from Indonesia's property and real estate sector from 2018-2023. The data analyzed is unbalanced, which means that the cross-sectional and time series units have different amounts of data. Series units have different amounts of data. Data processing is done using Stata software. The regression equation model is as follows:

$$FV = \alpha + \beta_1 IC_1 + \beta_2 HC_2 + \beta_3 SC_3 + \beta_4 RC_4 + \beta_5 Size_5 + \beta_6 DER_6 + e$$

### **Description:**

FV = Firm Value (Tobins Q); IC = Intellectual Capital; HC = Human capital; SC = Structural capital; RC = Relational Capital; SIZE = Company Size; DER = Debt to Equity Ratio.

Chancharat & Kumpamool (2022) mentioned that Tobin's Q indicates how the market values a company's shares relative to its value, thus showing firm value. The formula to calculate the company's value is:

$$Tobin's Q = \frac{MVE + PS + DEBT}{TA}$$

The disclosure variable of Intellectual capital and the disclosure variable of human capital, structural capital and relational capital in this study is measured using the ICD framework, which is based on the components of intellectual capital disclosure developed by Ulum et al. (2015), which is an extension of Guthrie et al. (1999). This intellectual capital disclosure consists of 36 items, which include: 8 items in the human capital category, 15 items in structural capital, and 13 items in relational capital. The focus of this research is on the disclosure items of intellectual capital that fall under the relational capital category, consisting of 13 disclosure items. Data analysis for the level of disclosure of the relational capital variable is conducted using a numerical coding system developed by Guthrie et al. (1999). So the formula for Human Capital, Structural Capital and Relational Capital is the amount of each indicator respectively divide by total disclosure amount, and for IC is total disclosure for each component divided by the total indicator, or as below:

$$IC = \frac{\text{Amount of HC + SC + RC's indicator disclosed}}{\text{Total Indicators}}$$

$$HC/SC/RC = \frac{\text{Amount of HC /SC /RC's indicator disclosed}}{\text{Total Indicators}}$$

For the control variables we use size and DER that is calculated as below:

$$SIZE = \ln (\text{Total Assets})$$

$$\text{Debt to Asset Ratio} = \frac{\text{Total Debt}}{\text{Total asset}}$$

## RESULT AND DISCUSSION

We found that the best model for this research equation is the Fixed Model, and the hypothesis result is stated in the table below:

Table 1. Hypothesis Testing Result

Tobins	Coefficient	t	P> t
IC	-.0011748	-0.91	0.365
HC	-.0036822	-2.82	0.005
SC	-.0052033	-4.12	0.000
RC	.0267752	20.89	0.000
SIZE	-.0023915	-0.48	0.633
DER	-.0074652	-2.31	0.022
R square	0.9451		
Prob>F	0.0000		

From the result above, we found that the R Square is 94.51%, meaning the determinant we set for the dependent variable is on point. The Prob>F shows a result of 0.0000 below 5%. This means our model is fit. The first research question, "Does intellectual capital influence financial performance?" result was shown on the t-test from the IC row. It shows that the t value is above the significant value of 5%, 0.365. Thus, for our first research question, the answer is that there is no significant influence of whole intellectual capital on firm value. Thus, our first hypothesis is rejected.

For the second research question, "Does human capital influence the firm value?" the result was shown on the t-test from the HC row. The t-value is significant on a 0.005 score and has a negative direction (-2.82). Thus, for our second research question, the answer is yes. Human capital has a significant influence on firm value. However, we set our hypothesis in a significant positive direction, which made our hypothesis unacceptable.

For the third research question, "Does structural capital influence financial performance?" the result was shown on the t-test from the SC row. The t-value is significant on a 0.000 score and has a negative direction (-4.12). Thus, for our third research question, the answer is yes. Structurally, capital has a significant influence on firm value. However, we set our hypothesis in a significant positive direction, which made our hypothesis unacceptable.

For the last research question, "Does relational capital influence financial performance?" the result was shown on the t-test from the RC row. The t-value is significant on the 0.000 score and has a positive direction (20.89). Thus, for our third research question, the answer is yes. Relational capital has a significant influence on firm value. As we set our hypothesis in the significant positive direction, our 4th hypothesis is accepted. We also found that one of our control variables, DER, is significantly harmful.

Our result shows a positive significant impact on relational capital and firm value. Several previous studies have shown a positive correlation between relational capital, as well as relational capital disclosure, and firm market value (Firer & Mitchell Williams (2003); Riahi-Belkaoui (2003)). Relational capital is the harmonious relationship between an organization and its partners, including suppliers, loyal customers, the government, and the surrounding community (Ulum, 2015). This capital is formed through establishing, maintaining, and developing relationships with various related parties and reflects the level of trust and interdependence between the company and its environment (Sari & Ovami, 2022). Companies that successfully build solid and harmonious relationships with their stakeholders have an advantage in obtaining resources critical to their operations and growth (Widiatmoko et al., 2020). These strong relationships provide better access to capital, information, support, and other resources to develop competitive products, services, and business strategies (Firer & Mitchell Williams, 2003).

We failed to prove the positive relationship between human capital and structural capital in this research since, from our statistical description, our sample did not reveal much about these two types of intellectual capital. This is because intellectual capital is not mandatory in Indonesia. Last, we found that the leverage ratio influences the firm value. This is because higher debt levels can increase the firm's leverage, allowing it to take on more projects and increase its returns (Harmon et al. (2023); Walujadi et al. (2023)).

## **CONCLUSIONS AND SUGGESTIONS**

### **Conclusion**

This study examines the relationship between Intellectual Capital disclosure and its components: human capital, structural capital, and relational capital with firm value. This study is conducted within property and real estate sector companies listed on the Indonesian Stock Exchange to create a new perspective regarding intellectual capital and firm value. This study also employed variable control company size and the leverage ratio. We found that relational capital significantly impacts the firm value in this kind of company sector in Indonesia. This is because a solid and harmonious build of sense bellowing within the employee will make them happy to share any knowledge regarding the entity's operation. This will create best practices and efficiency in the operation and add value to the firm. Thus, the property and real estate stakeholders must ensure that the relational capital is built strong before focusing on the other components.

### **Sugestion**

The following recommendations are provided in light of the research findings: 1. Try looking for another type of company to make a complete and more profound result; 2. A more extended period of research will also give a better result.

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