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THE IMPACT OF INTELLECTUAL CAPITAL ON FIRM VALUE WITH CAPITAL STRUCTURE AS A MODERATING VARIABLE

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Abstract

Firm Value is an investor's perception of a company's success, which can be reflected through stock prices. The wealth of shareholders and the company itself can be represented by the market price of the stock, which reflects decisions on investment, financing, and asset management. The aim of this study is to empirically examine the effect of intellectual capital on firm value and the moderating role of capital structure in influencing the relationship between intellectual capital and firm value. This study was conducted on all technology sector companies listed on the Indonesia Stock Exchange during the period of 2021-2023. The sample size was determined using a saturated sampling method, resulting in a total of 90 observations. Data analysis was performed using Moderated Regression Analysis (MRA). The results indicate that intellectual capital has a positive impact on firm value. Meanwhile, capital structure weakens the positive effect of intellectual capital on firm value. The theoretical implications of this study suggest that the findings support signaling theory and contingency theory.

Keywords: Firm Value, Intellectual Capital, Capital Structure.

INTRODUCTION

The growing business world has triggered increasingly intense competition, compelling companies to improve their performance in order to achieve their objectives (Cahya & Riwoe, 2020). Companies typically have both short-term and long-term goals. The short-term goal is to maximize profits by utilizing resources effectively, while the long-term goal is to ensure business continuity and enhance the firm's value (Oktaviarni, 2019). Firm value reflects the investor's perception of a company's success, often linked to its stock price. A higher stock price not only increases the firm's value but also boosts market confidence, not only in the company's current performance but also in its future prospects (Damayanthi, 2019).

Firm value has always been a focus of both researchers and managers. Identifying factors that can positively impact firm value is key to addressing the fundamental challenge of maximizing profits for shareholders (Nguyen & Doan, 2020). The prosperity of shareholders reflects that the company has good firm value. The wealth owned by shareholders and the company itself can be represented by the market price of the stock, which mirrors investment decisions, financing choices, and asset management (Oktaviani et al., 2019). Management will carefully consider the decisions made to enhance the firm's value (Dewi & Dewi, 2022).

Firm value is important not only in the eyes of investors but also creditors. For creditors, firm value reflects the company's ability to repay its debts, thereby reducing their concerns about lending to the company (Sutama & Lisa, 2018). The value of a firm is used not only for profit generation but also to shape the company's image, showing that it can survive and compete, which in turn attracts investors (Baihaqi & Murtanto, 2023).

The rapid development of the capital market in Indonesia has made it an increasingly attractive investment alternative for investors. The capital market plays a role in forming stock prices, where securities prices are influenced by the demand and supply of financial instruments. Investors require information about stock valuations and company conditions, which can be obtained through the company's annual financial statements (Veronica & Pebriani, 2020). One of the firm value indicators reflected in financial reports is the Price to Book Value (PBV) ratio. When the stock price exceeds the book value of the company, the PBV increases because investors are willing to pay more for the stock, thus enhancing the firm's valuation in the financial market. Therefore, PBV can serve as an investment strategy for investors (Fallah et al., 2022).

In this study, firm value is measured using the Price to Book Value (PBV) ratio, which is the comparison between a company's stock price and its book value. A high PBV ratio increases market confidence in the company's prospects and indicates the prosperity of shareholders (Aryanti & Mertha, 2022).

Several studies have revealed that there are various factors affecting firm value. One of the factors influencing firm value is intellectual capital. Research by Nguyen & Doan (2020), Putri et al. (2019), Ni et al. (2020) found that intellectual capital has a positive impact on firm value. In efforts to improve profits, companies often overlook the importance of competitive advantage, not only based on tangible resources but also on the information, innovation, and knowledge from human resources. The approach used to assess and measure intangible assets is intellectual capital (Putri et al., 2019). Intellectual capital is an intangible asset consisting of knowledge and innovation, which is increasingly important in a knowledge-based economy, and represents valuable assets owned by the company.

The use and management of knowledge can enhance competitive advantage in the market through organizational technology, professional skills, customer relationships, and experience. A business's advantage is based on how it creates knowledge and transforms that knowledge into value (Nguyen & Doan, 2020). The transition from a manufacturing-based economy to a knowledge-based economy has significantly increased the value of Intellectual Capital (IC) in the process of creating firm value. Today, IC represents a core pillar of a company that can guarantee the creation and maintenance of a competitive advantage and the achievement of business goals. This situation further elevates the value of IC information (Salvi et al., 2020).

In Indonesia, the development of intellectual capital is outlined in PSAK No. 19 (2010 revision) concerning intangible assets. In PSAK No. 19 (2010 revision), intangible assets are defined as non-monetary assets that can be identified without physical form. Although intellectual capital is not specifically mentioned in PSAK No. 19 (2010 revision), it is indirectly believed to be part of intangible assets (Siregar & Safitri, 2019).

The measurement of intellectual capital was first introduced by Pulic with a model called the Value Added Intellectual Coefficients (VAIC™). This model can demonstrate how a company's ability to create value-added plays a crucial role in the success and sustainability of the company. Researchers generally divide intellectual capital into three main components: human capital, structural capital, and customer capital. These three components are believed to build intellectual capital that can increase firm value when managed and utilized optimally (Dzenopoljac et al., 2017).

The selection of intellectual capital as the variable in this study is based on the fact that IC is an approach that can be used to assess intangible assets in the form of knowledge. Stakeholders require IC information because it reflects the company's future capabilities. Information from the management of intellectual capital is expected to help investors assess the company's ability more effectively (Aryanti & Mertha, 2022). The role of intellectual capital in the implementation of organizational processes for value creation is based on organizational knowledge analyzed to determine the interaction between organizational knowledge and intellectual capital

to create and maximize competitive advantage (Kianto et al., 2014). The involvement of human resources in the disclosure process can align the company with market expectations and disseminate information that reduces information asymmetry (Caputo et al., 2016), in line with signaling theory.

Intellectual capital is at least as important as financial capital in providing truly sustainable income and offering direction for future company development. Company performance is typically measured by tangible assets in traditional accounting; however, this does not reflect the value created by intangible assets, such as intellectual capital in the company. Therefore, companies need to make effective and comprehensive intellectual capital disclosures that support the stakeholder evaluation process (Ni et al., 2020).

Empirical studies on the effect of intellectual capital on firm value have been extensively conducted by previous researchers, yielding varied results. Some studies found that intellectual capital has a positive impact on firm value, while others suggested that intellectual capital has a negative effect. Research by Nguyen & Doan (2020), Lukman Surjadi (2021), Putri et al. (2019), Ni et al. (2020), Yustyarani & Yuliana (2020), Pangestuti et al. (2022), Dewi & Dewi (2022), and X. L. Xu et al. (2021) on the influence of intellectual capital on firm value found that intellectual capital positively impacts firm value. The management of intellectual capital in a company is a resource that can create added value for the company in competition, thus resulting in a positive market perception of the company (Putri & Wirajaya, 2023). X. L. Xu et al. (2021) concluded that intellectual capital positively affects long-term company growth or sustainability.

Contrary findings were reported by Kusuma & Rahyuda (2022), Saputra et al. (2022), Nabila & Surasni (2021), Aryanti & Mertha (2022), Anggraini et al. (2020), with results suggesting that intellectual capital has a negative impact on firm value. Research by Vereira & Pawestri (2024) emphasized that an increase in intellectual capital significantly decreases firm value, as the rise in intellectual capital becomes a financial burden that statistically reduces the company's value.

These conflicting results suggest that there may be other variables moderating the effect of intellectual capital on firm value. Thus, capital structure has been added as a moderating variable, as it is believed to moderate the relationship between intellectual capital and firm value. The choice of the moderating variable is based on contingency theory, which emphasizes that the relationship between two variables is not always absolute but depends on other factors that can either strengthen or weaken that relationship (Donaldson, 2001). In this context, the relationship between intellectual capital and firm value should not be viewed as linear or constant but can be influenced by the company's financial condition, particularly its capital structure. Capital structure was selected as the moderating variable to test whether the level of

debt the company holds weakens or strengthens the impact of intellectual capital on firm value.

One of the reasons why companies may experience suboptimal performance is due to a lack of capital, both tangible and intangible, which causes difficulties in competing with rivals. Capital structure is one of the factors influencing firm value. Capital structure in a company is an important consideration in financial decision-making. It represents the financial composition of the company, specifically the proportion of long-term debt (long-term liabilities) and equity (shareholder's equity) that finance the company. The company needs to decide on optimal capital to achieve a combination of debt and equity that generates maximum returns. Companies that can manage their debt well and achieve maximum profits are likely to be valued more highly by investors. This, in turn, attracts investors to invest in the company, which increases the company's value, reflected by a rise in its stock price (Apriawan & Dana, 2023).

Capital structure is crucial because in running a business, funding needs will impact the company's sustainability and the returns generated. The choice of capital structure as a moderating variable is also based on previous research findings, which indicate that capital structure positively influences firm value, as shown in studies by Fallah et al. (2022), Hirdinis (2019), Kusumawati & Rosady (2018), Apriawan & Dana (2023), Zafira (2021), Amro & Asyik (2021), and Salsabilla & Rahmawati (2021).

This study focuses on a sample of all technology sector companies from 2021 to 2023. The reason for choosing the technology sector as the object of this study is that it has experienced a significant decline in PBV and is classified as a High Intellectual Capital Intensity Industry (Pratiwi & Suryani, 2021). It also includes stocks that are actively traded on the capital market, with prices fluctuating in line with trading intensity.

Based on the background described above, the researcher is interested in further testing the "Effect of Intellectual Capital on Firm Value with Capital Structure as a Moderating Variable." The data used in this study is the latest and differs from previous studies, as it utilizes data from all technology sector companies listed on the Indonesia Stock Exchange in 2021-2023.

RESEARCH METHOD

This study uses a quantitative approach with an associative design to analyze the effect of intellectual capital on firm value, with capital structure as a moderating variable. The research object is technology companies listed on the Indonesia Stock Exchange (IDX) for the years 2021–2023. The variables in this study consist of intellectual capital (X), measured using the VAIC™ (Value Added Intellectual Coefficient) method, firm value (Y), measured using the Price to Book Value (PBV) ratio, and capital structure (M), measured using the Debt to Equity Ratio (DER) (Ulum,

2013; Brigham & Houston, 2018; Fahmi, 2018). The population of the study includes all technology companies listed on the IDX, with a census sampling method, resulting in 100 observations over the three years of the study (Sugiyono, 2019).

The data used in this study is secondary data in the form of financial statements obtained through the official IDX website and from the respective companies. Quantitative data includes figures from the VAIC™ components, DER, and PBV, while qualitative data consists of a list of companies. Data collection techniques were carried out through non-participatory observation, meaning accessing and recording data from official sources without direct involvement of the researcher in the companies' activities (Sugiyono, 2017; 2019). This study aims to provide a deeper understanding of the role of intellectual capital in creating firm value while considering the influence of financing structure.

Data analysis was performed using the Moderated Regression Analysis (MRA) technique through SPSS software. The testing stages included descriptive statistical tests, classical assumption tests (normality, multicollinearity, heteroscedasticity, autocorrelation), and hypothesis testing using t-tests, F-tests, and coefficient of determination (R^2). The regression model used tested the interaction between intellectual capital and capital structure on firm value. The model is considered suitable for use if it meets statistical criteria and is significant at a 95% confidence level (Ghozali, 2016; Ghozali, 2018; Dewi & Wirawati, 2019).

RESULT AND DISCUSSION

Research Data Analysis Results

Descriptive Statistical Analysis

The description of the research variables provides information regarding the characteristics of the research variables, including the number of observations, minimum values, maximum values, average values, and standard deviations. Table 1 below presents the results of the descriptive statistical analysis of the variables in this study.

Table 1. Descriptive Statistical Test Results

	N	Minimum	Maximum	Mean	Std. Deviation
Y	90	-7,87	21,99	3,063	3,654
X	90	-25,97	28,71	2,780	6,626
M	90	-4,09	25,07	0,848	2,994
Valid N (listwise)	90				

Source: Data Processed, 2025

Based on the descriptive statistics table above, several insights can be drawn regarding the variables used in the study. The SPSS output indicates that the

number of observations analyzed is 90. The descriptive statistical test results are summarized as follows:

1) The firm value variable (Y), measured by the Price to Book Value (PBV) ratio, has a minimum value of -7.87 and a maximum value of 21.99, with an average of 3.063 and a standard deviation of 3.654. This suggests that, on average, the market values a company's shares at approximately 3.063 times its book value. However, the standard deviation being greater than the mean indicates relatively high variability in how the market values firm shares across different companies.
2) The intellectual capital variable (X), measured by the VAIC™ (Value Added Intellectual Coefficients) model, has a minimum value of -25.97 and a maximum of 28.71, with a mean of 2.780 and a standard deviation of 6.629. These results indicate that, on average, the sample companies have a relatively high level of efficiency in managing their intellectual capital. The moderately high standard deviation suggests some variation in intellectual capital efficiency across firms, though not to an extreme degree.
3) The capital structure variable (M), measured by the Debt to Equity Ratio (DER), has a minimum value of -4.09 and a maximum of 25.07, with a mean of 0.848 and a standard deviation of 2.994. This implies that, on average, firms in the sample finance their operations with equity more than with debt, as indicated by the DER of 0.84. However, the standard deviation being considerably higher than the mean suggests a wide dispersion in capital structure among the companies observed.

Classical Assumption Testing

1) Normality Test

This test aims to determine whether the residuals of the regression model are normally distributed. The Kolmogorov-Smirnov test was used to assess the normality of the data. If the Asymp. Sig. (2-tailed) value is greater than 0.05, the data can be considered normally distributed.

Table 2. Normality Tet Results

		Unstandardized Residual
N		90
Normal Parameters	Mean	0,0000000
	Std. Deviation	0,68452556
Most Extreme Differences	Absolute	0,087
	Positive	0,087
	Negative	-0,057
Test Statistic		0,087
Asymp. Sig. (2-tailed)		0,092

Source: Data Processed, 2025

Based on Table 2, the Asymp. Sig. (2-tailed) value is 0.092. This result indicates that the residuals of the regression model are normally distributed, as the p-value of 0.092 exceeds the significance level of 0.05.

2) Autocorrelation Test

If a regression model exhibits autocorrelation, the resulting predictions may be unreliable or biased. In this study, the Durbin-Watson (DW) test was used to detect autocorrelation in the residuals.

Table 3. Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0,598[a]	0,357	0,335	0,63034	1,586

Source: Data Processed, 2025

The DW value obtained was 1.586. When compared to the Durbin-Watson table at a 5% significance level, with a sample size (n) of 90 and three independent variables (k = 3), the upper bound (du) value is 1.61190. Since the DW statistic of 1.586 is less than the upper bound of 1.61190 and also less than (4 - du) = 2.3881, it can be concluded that the model does not pass the Durbin-Watson test for autocorrelation.
Due to the failure to meet the criteria in the Durbin-Watson test, a secondary test using the **Run Test** was conducted to check for autocorrelation. The regression model is considered free from autocorrelation if the Asymp. Sig. (2-tailed) value in the Run Test is greater than 0.05.

Table 4. Results of Autocorrelation Testing Using the Run Test

	Unstandardized Residual
Test Value[a]	-0,09218
Cases < Test Value	45
Cases >= Test Value	45
Total Cases	90
Number of Runs	40
Z	-1,272
Asymp. Sig. (2-tailed)	0,203

Source: Data Processed, 2025

As shown in Table 4, the Asymp. Sig. (2-tailed) value is 0.203, which exceeds 0.05. Thus, it can be concluded that there is no autocorrelation among the residual values.

3) Multicollinearity Test

This test is conducted to examine whether there is a high correlation among the independent variables in the regression model. The presence of multicollinearity can be detected through the Tolerance and Variance Inflation Factor (VIF) values. If

the Tolerance value is greater than 0.10 (10%) and the VIF value is less than 10, the model is considered free from multicollinearity.

Table 5. Multicollinearity Test Results

	Collinearity Statistics	
Variabel	Tolerance	VIF
X	0,803	1,245
M	0,426	2,347
X.M	0,409	2,444

Source: Data Processed, 2025

Based on Table 5, it can be seen that the Tolerance and VIF values for the variables of Intellectual Capital, Capital Structure, and the interaction variable (X.M) all meet the criteria. Each variable has a Tolerance value greater than 0.10 and a VIF value less than 10, indicating that the regression model does not suffer from multicollinearity.

4) Heteroscedasticity Test

This test aims to determine whether there is a variance inequality in the residuals across observations in the regression model. The Glejser test was used to detect heteroscedasticity. If none of the independent variables significantly affect the absolute residuals (i.e., the significance values are greater than 0.05), the model can be considered free from heteroscedasticity symptoms.

Table 6. Heteroscedasticity Test Results

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	0,502	0,051		9,821	0,000
	X	0,033	0,033	0,119	1,001	0,320
	M	-0,018	0,108	-0,027	-0,163	0,871
	X.M	-0,046	0,059	-0,131	-0,784	0,435

Source: Data Processed, 2025

As shown in Table 6, the significance value for Intellectual Capital is 0.320, for Capital Structure is 0.871, and for the interaction term (Intellectual Capital × Capital Structure or X.M) is 0.435. All values are above the 0.05 threshold, indicating that none of the independent variables significantly influence the absolute residuals. Therefore, it can be concluded that the regression model does not exhibit heteroscedasticity.

Results of Moderated Regression Analysis (MRA)

To test the hypotheses regarding the moderating role of capital structure on the relationship between intellectual capital and firm value, a moderated regression

analysis was performed. The regression coefficients were estimated using SPSS 26.0 for Windows, and the results are presented in Table 7.

Table 7. Moderated Regression Analysis Results

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	0,859	0,088		9,773	0,000
	X	0,245	0,057	0,412	4,273	0,000
	M	0,901	0,186	0,643	4,858	0,000
	X.M	-0,441	0,101	-0,589	-4,354	0,000

Source: Data Processed, 2025

Based on the multiple linear regression analysis results shown in Table 7, the structural regression equation can be formulated as follows:

$Y = \alpha + \beta_1 X + \beta_2 M + \beta_3 X.M +$

$\boldsymbol{e}$……..9

$Y = 0{,}859 + 0{,}245\ X + 0{,}901\ M + (-0{,}441)\ X.M + \boldsymbol{e}$

The regression coefficients for Intellectual Capital (X) and the interaction term X·M (Intellectual Capital × Capital Structure) have significance values less than 0.05. This indicates that both the intellectual capital variable and its interaction with capital structure have a statistically significant effect on firm value.

Model Feasibility Test (F-Test)

The model feasibility test, also known as the F-test, is conducted as an initial step to determine whether the estimated regression model is appropriate (reliable) for explaining the influence of the independent variables on the dependent variable. The ANOVA table provides the significance level (p-value), which is used to assess the goodness-of-fit of the regression model. A model is considered fit for use if the significance level is **less than 0.05**. If the significance value is greater than 0.05, the model is not suitable for further analysis. The results of the F-test for this study are presented in Table 8.

Table 8. Anova Test

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	18,976	3	6,325	15,919	0,000
Residual	34,171	86	0,397		
Total	53,146	89			

Source: Data Processed, 2025

The F-test results show an **F-value of 15.919** with a **significance level (p-value) of 0.000**, which is less than α = 0.05. This indicates that the regression model used in this study is statistically significant and appropriate for explaining the relationship between the independent variables—**Intellectual Capital (X)**, **Capital Structure (M)**, and the interaction term **X·M**—and **firm value (Y)** in technology companies listed on the Indonesia Stock Exchange. These results suggest that the model is suitable for further analysis and can be reliably used to project or explain variations in firm value, as evidenced by the strong goodness-of-fit with a highly significant p-value of 0.000.

Results of Determination Coefficient Test (R^2)

The coefficient of determination test (R^2) is used to assess the model's ability to explain the variation in the dependent variable. In this study, the **adjusted R^2** value was used to evaluate the model because, unlike R^2, adjusted R^2 can increase or decrease when an independent variable is added to the model, thus providing a more accurate measure of model fit. The results of the determination coefficient test are presented in Table 9.

Table 9. Results of Determination Coefficient Test (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,598[a]	0,357	0,335	0,63034

Source: Data Processed, 2025

The total influence of the independent variables on the dependent variable, indicated by the adjusted R^2 value of 0.335, means that approximately 33.5% of the variation in firm value is explained by variations in intellectual capital, capital structure, and their interaction. The remaining 66.5% of the variation is explained by other factors outside the model.

Statistical Test Results (t-Test)

The criteria for interpreting the influence between variables are as follows: if the significance value is **less than 0.05**, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted; conversely, if the significance value is **greater than 0.05**, H_0 is accepted and H_1 is rejected. The explanations for the influence among variables in this study are as follows:

1) Effect of Intellectual Capital on Firm Value

The regression analysis shows that intellectual capital has a coefficient of **0.245**, a positive t-value of **4.273**, and a significance level of **0.000** (which is less than 0.05), indicating that **H_1 is accepted**. This means that intellectual capital has a positive and significant effect on firm value.

2) **Effect of Capital Structure on the Relationship between Intellectual Capital and Firm Value**

Moderating variables can be classified into four types. Each type of moderation can be identified as described in the following table.

Table 10. Classification of Moderating Variable Types

No.	Type of Moderation	Coefficient
1.	Pure Moderation	b_2 non significant b_3 significant
2.	Quasi Moderation	b_2 significant b_3 significant
3.	Homologiser Moderation	b_2 non significant b_3 non significant
4.	Predictor Moderation	b_2 significant b_3 non significant

Source: Ghozali, 2018: 222

The significance value of the moderating variable (β_2) for capital structure is **0.000** (significant), and the interaction term between intellectual capital and capital structure (β_3) is also significant at 0.000. This indicates that the moderating variable is classified as a quasi-moderator (partial moderation). To determine whether the moderating variable strengthens or weakens the influence of X on Y, the following conditions can be used:

a) If the coefficient for intellectual capital is positive (significant or not), and the interaction term is positive and significant, then capital structure acts as a moderator that strengthens the effect of intellectual capital on firm value.
b) If the coefficient for intellectual capital is negative (significant or not), and the interaction term is negative and significant, then capital structure acts as a moderator that strengthens the (negative) effect of intellectual capital on firm value.
c) If the coefficient for intellectual capital is negative (significant or not), and the interaction term is positive and significant, then capital structure acts as a moderator that weakens the effect of intellectual capital on firm value.
d) If the coefficient for intellectual capital is positive (significant or not), and the interaction term is negative and significant, then capital structure acts as a moderator that weakens the effect of intellectual capital on firm value.

Assuming X is the predictor variable, Y is the dependent variable, and M is the moderating variable, the following moderated regression equation can be formulated:

$Y = \alpha + \beta_1X + \beta_2M + \beta_3X.M + \boldsymbol{e}$……………………………………………………..(9)

Y = 0,859 + 0,245 X + 0,901 M + (-0,441) X.M

The results of the moderated regression analysis indicate that the intellectual capital variable has a positive and significant effect, while the interaction term between intellectual capital and capital structure has a negative regression coefficient of −0.441, a t-value of −4.354, and a significance value of 0.000 (< 0.05). This demonstrates an inverse or opposing relationship, suggesting that capital structure weakens the positive influence of intellectual capital on firm value. Therefore, it can be concluded that capital structure acts as a moderating variable that attenuates the effect of intellectual capital on firm value, which leads to the rejection of Hypothesis 2 (H_2).

Discussion of Research Results

The Effect of Intellectual Capital on Firm Value

The first hypothesis states that intellectual capital has a positive effect on firm value. Based on the results of the t-test from the moderated regression analysis (MRA) in Table 7, intellectual capital has a positive and significant impact on firm value. Thus, it can be concluded that the first hypothesis is accepted. This finding aligns with previous studies by Nguyen & Doan (2020), Putri et al. (2019), Ni et al. (2020), and X. L. Xu et al. (2021), which also found that intellectual capital positively affects firm value. This is because intellectual capital serves as a resource used by companies to compete and achieve competitive advantages, as well as to create and enhance market perceptions of the firm's value. In line with this, Yustyarani & Yuliana (2020), Pangestuti et al. (2022), Dewi & Dewi (2022), and Rahayu & Widiati (2018) suggest that the more efficient the use of intellectual capital, the higher the firm value.

The results of this study show that the level of intellectual capital influences the increase in firm value. Intellectual capital positively affects firm value, which supports signaling theory. If a technology company's intellectual capital increases, it sends a positive signal to investors. This positive signal indicates that the company can create value added and competitive advantages, which attracts investors to invest in the company and, in turn, increases its value.

Capital Structure Moderates the Effect of Intellectual Capital on Firm Value

The second hypothesis states that capital structure strengthens the effect of intellectual capital on firm value. Based on the results of the t-test from the moderated regression analysis (MRA) in Table 7, capital structure moderates, but in this case, weakens the effect of intellectual capital on firm value. Therefore, it can be concluded that the second hypothesis is rejected. The results indicate that capital structure (CS) has a negative and significant moderating effect on the relationship between intellectual capital and firm value. In other words, the higher the capital structure, the weaker the impact of intellectual capital on firm value.

Directly, this study finds that capital structure positively affects firm value, in line with previous studies by Fallah et al. (2022), Hirdinis (2019), Kusumawati & Rosady

(2018), Apriawan & Dana (2023), Zafira (2021), Amro & Asyik (2021), and Salsabilla & Rahmawati (2021), which conclude that capital structure positively influences firm value. However, when tested as a moderating variable, capital structure weakens the impact of intellectual capital on firm value, as shown by the negative and significant interaction coefficient. Companies must balance their capital structure to avoid hindering the benefits of intellectual capital. Excessive debt usage can increase financial risk and reduce the company's capacity to innovate and develop its intellectual resources. Companies with a healthy capital structure can maximize the use of intellectual capital to enhance firm value. Good debt management provides flexibility in investing in knowledge resources without the burden of financial risk. Therefore, technology companies need to manage debt wisely to ensure that financial burdens do not impede investments in intellectual capital. For investors, this result may serve as a consideration when evaluating companies with high debt ratios, as excessive debt may reduce the company's growth potential and value creation.

This result can be explained by Contingency Theory, which states that the relationship between variables is not absolute but depends on situational factors (Donaldson, 2001). In this context, the capital structure is the determining factor in the effectiveness of intellectual capital in enhancing firm value. When a company has a high capital structure, the level of debt may inhibit the optimalization of intellectual capital benefits, such as innovation and investment in knowledge resource development..

CONCLUSION

Based on the hypothesis testing and discussion of the research results presented in the previous chapters, the following conclusions can be drawn:

1) Intellectual capital has a significant positive effect on firm value because intellectual capital within a company represents a resource that can create added value for the company in competition, thereby enhancing market perceptions of the company. Intellectual capital, consisting of human, structural, and relational capital, increases innovation, operational efficiency, and stakeholder relationships, ultimately boosting firm value. Companies that can manage and develop intellectual capital effectively tend to create long-term value for shareholders. An increase in stock prices will reflect an increase in the value of technology companies.
2) Capital structure weakens the relationship between intellectual capital and firm value. In other words, the higher the level of debt a company has, the weaker the positive impact of intellectual capital on firm value. This result supports Contingency Theory, which emphasizes that the effect of a variable is not absolute but depends on other accompanying factors.

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