HOW DO INTELLECTUAL CAPITAL DISCLOSURES MEDIATE FINANCIAL STRUCTURE AND COMPANY PERFORMANCE? EVIDENCE FROM INDONESIA AND SINGAPORE

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ABSTRACT

This study examines the effect of disclosure of intellectual capital in mediating the financial structure and performance of companies using path analysis method. This study also compares the effect of disclosing intellectual capital on companies listed on the Indonesian and Singapore stock exchanges from 2018 to 2020. A two-stage least squares statistical model is used to test the research hypothesis. The findings show that the financial structure in Indonesia and Singapore has a significant negative effect on financial performance. Meanwhile, financial structure has a significant negative effect on market performance only in Singapore, while Indonesia has no effect. Disclosure of intellectual capital which is used as a mediating variable on financial structure and performance has a significant positive effect in Singapore. Meanwhile, there is no significant effect on the relationship between financial structure and market performance after being mediated by disclosure of intellectual capital. This study can be used by managers as a starting point for designing more effective methods of using intellectual capital to gain competitive advantage through leverage.

JEL: M41, O34.

Keywords: *financial structure, intellectual capital disclosure, firm performance, market performance, path analysis.*

1.   INTRODUCTION

The company's shift from initially focusing on tangible assets as a resource to improving company performance has shifted to intangible assets, one of which is company knowledge known as intellectual capital, which can be utilized to enhance financial performance and market performance (Dumay, Guthrie, & Rooney, 2020). Financial performance, as measured by profitability, is the information used to assess a company's ability to generate profits from its assets. Meanwhile, market performance reflects the company's prospects, as assessed by investors in the capital market.

Improving company performance is related to investment and financing, both of which are directed at maximizing company value. Financing can be performed through internal sources in the form of retained earnings, external data in debt, or the issuance of new shares. According to the pecking order theory, companies first use internal financing to avoid negative signals due to dependence on external resources. When internal financing cannot meet the company's needs, the alternative is to use a loan. Issuing new shares is the last option for corporate financing (Myers & Majluf, 1984). The loan will incur debt costs equal to the interest charged by the creditor to the company. If the debt is used to acquire assets, profitability will decrease. This is because the company's net profit decreased due to debt interest payments, whereas the company's assets increased.

The funding sequence in the pecking order theory reflects the signal that will be generated. Negative signals, such as external financing and a decrease in profitability, will impact investors' judgments in the capital market (Myers & Majluf, 1984). This indicates that the company is experiencing internal financing difficulties and that investors prefer companies with good prospects. More profitable companies have lower debt in their financial structures. One way to improve company performance is to disclose intellectual capital. Intellectual capital was first popularized by a journalist from the Forbes magazine Thomas Stewart in 1991. Intellectual capital, which was introduced as the "brain power" of a company (Dumay, Guthrie, & Rooney, 2020), is a knowledge-based resource owned by a company consisting of intellectual competence, intellectual property, and intellectual resources (Chen, Liu, & Kweh, 2014). Intellectual capital disclosure is considered a new way to improve company performance because it was first disclosed by companies in the late 1990s. This disclosure is voluntary and not mandatory in accounting because strict accounting criteria are required to recognize and value intangible assets.

Companies that disclose intellectual capital are considered to have excess quality intangible resources (Abhayawansa & Guthrie, 2016; Astuti, Fachrurrozie, Amal, & Zahra, 2020), which not only benefits the company in the long term but also increases shareholder wealth (Dumay *et al.*, 2020). This causes companies to disclose intellectual capital as a positive signal to investors in the capital market. By making disclosures, the company shows investors and other stakeholders that external funds are used to fund the company's long-term investments. This affects the company's profits in the future. In addition, disclosing intellectual capital can also be a means for companies to increase competition and add value to the company (Weqar, Khan, & Haque, 2020).

This study examines intellectual capital disclosure, an important factor in mediating the effect of financial structure on financial performance and market performance. In contrast to previous research, this study examines not only the direct effect but also the indirect effect that occurs. The direct effect of financial structure on financial performance and market performance has been the subject of empirical studies on capital structure to provide evidence for capital structure theory, including trade-off theory, the pecking order hypothesis, market timing, and even the dynamic effects of the capital structure used.

Moosa & Li (2012) proved a significant negative relationship between profitability and leverage in Indonesian companies. M'ng, Rahman, & Sannacy (2017) found that profitability has a significant negative relationship with capital structure, and tangible assets have a significant positive relationship with capital structure in Singapore. However, this is not necessarily the case for intangible assets. Therefore, using two countries as samples in Southeast Asia, namely Indonesia, and Singapore, it will be interesting to provide empirical evidence that can clarify to companies and investors about intellectual capital as an intangible asset in the form of voluntary disclosure of financial statements. The two countries have differences in the use of technology, the availability of supporting facilities, and human resources.

This study provides empirical evidence that intellectual capital disclosure is appropriate as a factor for investors to consider in evaluating and making investment decisions. This is supported by Braune, Sahut, & Teulon (2020), who show that 17 countries in Europe (Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, and the UK) have investors who have received a positive response to companies disclosing intellectual capital, even though the company

uses loans for long-term financing. This study adds to the literature on the impact of intellectual capital disclosures. In addition, the importance of intellectual capital as a material consideration for investors in decision-making will impact the efforts made by companies to increase their capital. This study highlights the importance of intellectual capital as a mediating variable that can improve firm performance through the level of leverage, as in Singapore. However, the same fact is yet to be found in Indonesia.

2.   THEORETICAL FRAMEWORK AND EMPIRICAL STUDIES

2.1.   Signalling d Financial Structure Theory

Signaling theory discusses the signal the sender gives to the recipient in the form of financial information, which is then analyzed to determine whether the signal is positive or negative, which will be used as a basis for decision-making (Spence, 1973). Information asymmetry causes investors and other stakeholders to have less information about the company than about management. Therefore, management tries to provide signals in the form of quality information about the company's prospects to influence response and attract the attention of investors in the capital market to increase the company's value. These signals will distinguish companies that have and do not have high-quality resources (Yasar, Martin, & Kiessling, 2020). Companies use intellectual capital disclosure as a positive signal because intellectual capital components such as employee knowledge, employee expertise, customer relationships, suppliers and stakeholders, brands, technology, and innovation will greatly benefit the company in the long run and support its sustainability.

Trade-off theory is used as a comparative theory of the financial structure. This theory explains that a company's financial structure can determine the target optimal debt ratio that maximizes the value of the company (Modigliani & Miller, 1963), and an optimal financial structure can be achieved if the company can balance the tax shield of debt and financial distress costs (Fama & French, 2002). Companies take advantage of the tax shield from using debt because it can cause interest expenses, which can be a deduction for income tax. Thus, debt in the financial structure can help save on company tax payments.

Taxes for companies are costs that affect profits. Therefore, companies attempt to minimize tax payments. However, debt that is too high in a financial structure also increases the cost of financial distress, closely related to corporate bankruptcy. Thus, trade-off theory posits that an optimal financial structure can increase firm value through debt. The higher the use of debt, the more likely the company is to disclose intangible resources to convince investors about its prospects. Therefore, a company's value will not decrease before it reaches the optimal value because it issues a positive signal by disclosing intellectual capital.

Unlike trade-off theory, pecking order theory does not consider an optimal financial structure but rather a sequence of financial decisions within firms. As a result, there is information asymmetry between investors and management, giving rise to a sequence of corporate financing, starting from retained earnings, debt, and issuance of shares. Companies use internal financing (retained earnings) to fund long-term investments and avoid negative signals from the market. The management also knows that retained earnings are important for investors and other stakeholders to assess and evaluate company performance in generating profits (Yemi & Seriki, 2018). When internal financing runs out, the following order of financing is the use of debt because the costs to

be issued are cheaper than issuing new shares (Alshouha, Ismail, Mokhtar, & Rashid, 2021; Myers & Majluf, 1984), and the company does not need to be too "open" with external parties. In addition, issuing bonds is cheaper than issuing new shares (Fama & French, 2002).

Yıldırım & Çelik (2021) explained the funding order contained in the pecking order theory using 2197 observational data from 2000 to 2018. They concluded that 67% of companies prefer internal financing, 23% prefer using debt, and 10% choose financing by issuing new shares in a company listed on Borsa Istanbul. This study is based on the pecking order theory because intellectual capital disclosure is interpreted as a signal for investors in the capital market that can influence company evaluation. This disclosure convinces the market that an increase in debt is used to finance investment prospects that will improve financial and market performance.

2.2.   Company Performance

Company performance results from company activities, a process toward achieving company goals. A company's performance is divided into two parts. The first is financial performance, which explains how a company manages resources to maximize profits. This performance can be measured through the profitability ratio, defined as a company's ability to generate profits (Rahman, 2017). The higher the profit, the more investors are interested in investing in the company, thus making profitability an important factor affecting company value (Dang, Vu, Ngo, & Hoang, 2019). ROA can measure profitability and show the extent to which assets contribute to profit generation.

The second is market performance, which reflects a company's prospects from an investor's perspective. Market performance can be influenced by management's ability to manage the company (Bouteska & Regaieg, 2020). The capital market assesses market performance and leads to company performance, affecting company value. Tobin's Q can be used to measure market performance. Based on trade-off and pecking order theory, financial structure in the form of leverage influences firms' financial and market performance. However, these theories explain and assume this relationship differently. A new contribution of this study is that it provides empirical evidence of the direct effect of financial structure on firm performance and the indirect effect of intellectual capital disclosure.

2.3.   Financial Structure

The financial structure finances the company using both internal and external financing. There is a difference between financial and capital structures. The financial structure consists of short-term liabilities, long-term liabilities, and equity, whereas the capital structure consists only of long-term liabilities and equity (Schmidt, 2021). Debt can be obtained by issuing bonds or borrowing money from financial institutions, such as banks, while equity is obtained in two ways: issuing new shares or retaining profits. Debt and issuance of new shares are often referred to as external financing, while retained earnings are referred to as internal financing.

The costs incurred by the company when it wants to add funds from external parties must also be considered. Management must consider any additional external capital in the financial structure because the company must earn a higher rate of return than investors want. The financial structure can be assessed using the leverage ratio to determine how much of the company's assets and investments are financed by debt (Agustia & Suryani, 2018; Rely, 2018). Leverage can be measured by using the long-term debt-to-equity ratio. Using intellectual capital disclosure as a

mediating variable, this study reveals that the increased cost of capital due to additional debt financing can be reversed. The use of debt does not increase the cost of capital or financial risk as long as the company has high-quality human resources that can convert debt financing into a prospectus investment that generates profitability and value-added investment.

2.4.   Intellectual Capital Disclosure

According to Duff (2018), intellectual capital is a source of knowledge or an intangible asset a company owns. However, several elements of intellectual capital are not recognized by the International Financial Reporting Standards (IFRS) as intangible. This causes intellectual capital disclosure in financial statements and annual reports to be voluntary. Intellectual capital is divided into structural, relational, and human components. Structural capital refers to a company's ability to facilitate employee growth and support the change processes necessary to implement a corporate strategy (Braune *et al*., 2020). Relational capital relates to a company's relationship with customers, suppliers, and stakeholders, while human capital includes employee knowledge, competence, productivity, and capabilities to help achieve company goals.

Intellectual capital disclosure can improve a company's reputation and attract investors. Companies are considered more transparent when they provide company-related information to stakeholders. The components of intellectual capital are quality resources that are beneficial not only to companies but also to shareholders (Dumay *et al*., 2020). Managers consider intellectual capital disclosure a positive signal as a voluntary addition to financial statements. The empirical evidence explains whether this additional information contains the value investors can use to make investment decisions.

2.5.   Hypothesis Development

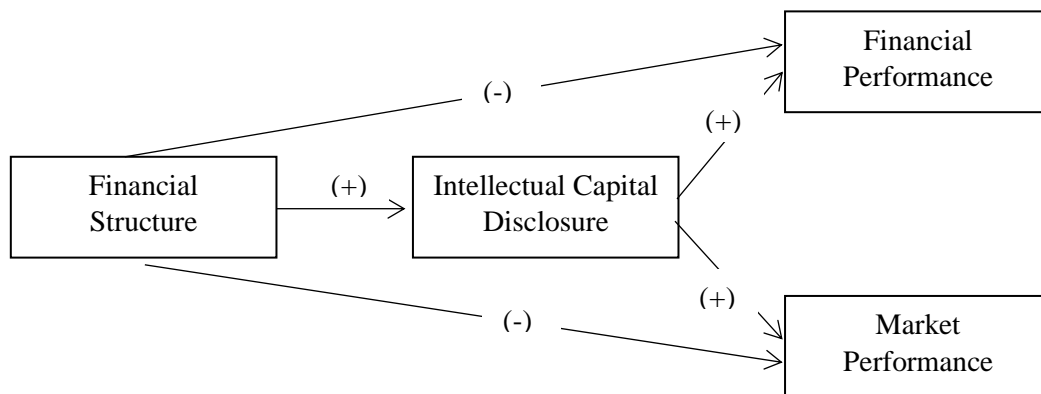The research framework used to develop the hypotheses is as follows:

Figure 1. Research Framework

Financial decisions are important in increasing or decreasing a company's financial performance as measured by profitability. According to the pecking order theory, when internal funds are insufficient, companies must use external financing, starting from debt and then issuing new shares. Based on signaling theory, this sequence of decisions can be a signal in the form of information for investors. The debt used in the financial structure will result in debt costs equal to the interest that the company must pay to creditors. The higher the level of debt used in funding, the higher the interest that the company must pay, and the debt used to purchase fixed assets reduces profitability.

Eysimkele & Koori (2019) concluded that investments financed with debt would produce lower returns. Thus debt can reduce profitability, as measured by ROA. Dalci (2018) obtained the same results for 1.503 manufacturing companies in China from 2008 to 2016. This is due to bankruptcy costs, financial distress, agency problems, and information asymmetry. Alarussi & Alhaderi (2018) and D'Amato (2020) also found that debt has a negative effect on ROA. Based on these arguments, the following hypothesis is formulated:

H1: Financial structure (leverage) has a negative effect on financial performance.

Financial decisions affect both financial and market performance. The financial sequence in the pecking order theory considers the signals that will be generated. Therefore, companies prioritize internal funds over external funds. Based on signaling theory, investors can interpret external funds as a negative signal because the company is considered to have internal funding difficulties. This indicates a decline in market performance, which reflects a company's performance assessed by investors in the capital market. The impact of debt on decreasing ROA is also a negative signal that affects investors' valuation in the capital market because investors prefer companies with good prospects, one of which can be seen from the company's ability to generate profits. The decrease in ROA due to debt also decreases the company's value.

Akhtar, Yusheng, Haris, Ain, & Javaid (2022) found that debt negatively and significantly affected company market performance except for the financial sector on the Pakistan Stock Exchange from 2001-2017. Le & Phan (2017) obtained similar results for companies listed on the Vietnam Stock Market in 2007-2012. Ahmed & Afza (2019) and Ramli, Latan, & Solovida (2019) also came to the same conclusion. Therefore, the following hypothesis is proposed:

H2: Financial structure (leverage) has a negative effect on a company's market performance.

Investors doubt the ability of companies that use debt as a source of funding to generate profits because, in pecking order theory, debt is second only to internal funds, which can give investors a negative signal. However, companies with quality resources want to make wrong judgments by disclosing their intellectual capital. Signals based on signaling theory can be in the form of information companies share with external parties so that companies use intellectual capital disclosure as a positive signal. Intellectual capital is considered capable of generating double returns compared to investments in tangible assets. Intellectual capital is a quality intangible resource that focuses not only on human resources but also on supporting facilities and relationships with external parties. This shows that even though the company uses debt, it can be used productively to increase its future profits, which is supported by a quality intellectual capital component.

Mehrotra, Malhotra, & Pant (2018), Salvi, Vitolla, Giakoumelou, Raimo, & Rubino (2020), Cahya, Student, & Mohamad (2020), and Christabel, Britney, & Hatane (2021) support that debt can increase intellectual capital disclosure, and the disclosure can also increase company profitability. Hence, the following hypothesis is proposed:

H3: Financial structure (leverage) has a positive effect on a company's financial performance after being mediated by intellectual capital disclosure.

The higher the use of debt, the more likely the company is to disclose its intangible resources to convince investors of its prospects. Based on the pecking order theory, debt is an external fund that is used when the company's internal funds are insufficient. Thus, debt can be a

negative signal in the capital market, indicating that a company is experiencing a shortage of funds. By disclosing intellectual capital, the company gives a positive signal that financing using debt is not always detrimental to the company or investors. Companies use debt to fund profitable long-term investments because their intellectual capital is also considered intangible. Intellectual capital components such as employee knowledge, innovation, technology, customer relations, and more make this investment profitable for the company and shareholders. This makes the information provided through intellectual capital disclosure based on signaling theory a beneficial signal sent to investors to increase the company's valuation in the capital market.

Braune *et al.* (2020), Paputungan, Subroto, & Ghofar (2020), and Subaida, Nurkholis, & Mardiati (2018) found that debt has a positive effect on the disclosure of intellectual capital, and disclosure of intellectual capital has a positive effect on company market performance. Thus, the following hypothesis is formulated:

H4: Financial structure (leverage) has a positive effect on a company's market performance after being mediated by intellectual capital disclosure.

3.   RESEARCH METHODS

3.1.   Population and Sample

The population in this study comprises companies listed on the Indonesia Stock Exchange and the Singapore Stock Exchange for the 2018-2020 period. The data were taken from the Osiris database, financial reports, and the company's annual report. Purposive sampling was used to select samples based on several predetermined criteria, as shown in Table 1.

This study used the path analysis method to examine the effects of independent variables on the dependent variable. Two types of effects were tested in this study: direct and indirect. The direct effect was tested using the ordinary least squares method, whereas the indirect effect was tested using the two-stage least squares method. In this study, a T-test was used to test the direction and statistical significance of the effect of the independent variables on the dependent variable.

Table 1. Sample Selection Criteria

Criteria Sample	Number of Indonesian Companies	Number of Singaporean Companies
Companies excluding finance and property, real estate, and building construction sectors during 2018-2020	256	371
Companies that do not publish an annual report in the research period	-61	-56
Company data that does not use Rupiah and Singapore Dollars in financial statements	-46	-79
Companies that issue financial statements not ending on December 31	-11	-69
Companies with incomplete market capitalization financial data	-60	-65
Number of companies that meet the criteria	**78**	**102**
Observation year	3	3
Number of research observations	**234**	**306**

3.2.   Variable Measurement

Intellectual capital disclosure was measured using the 61-item checklist method popularized by Li, Pike, & Haniffa (2008). This is divided into human, structural, and relational capital. Intellectual capital items were assessed using three presentation formats: text, numeric, graphic, and image. Each disclosed item is given 1 point, while the item not disclosed is given 0 points. The items disclosed were given a maximum of three points. Hence, the maximum number of points earned per company's annual report is 183 (61 items of intellectual capital multiplied by three formats). After assessing 61 intellectual capital items, each company's intellectual capital disclosure score was calculated as an index using the following formula:

$$ICDI = \frac{Number\ of\ intellectual\ capital\ points\ disclosed}{Maximum\ ICD\ points\ per\ annual\ report}$$

Profitability measures financial performance by proxy Return on Assets (ROA) using the following formula:

$$ROA = \frac{Net\ income}{Total\ assets}\ x\ 100\%$$

Market performance shows investors' assessment of the company as measured using Tobin's Q formula:

$$TQ = \frac{Market\ capitalization + Total\ debt}{Total\ assets}$$

To measure the financial structure as an exogenous variable using the ratio of long-term debt to equity with the formula:

$$LTDER = \frac{Total\ long\ term\ debt}{Total\ equity}$$

This study also uses company size as a control variable which is calculated by the formula:

$$Sz = natural\ logarithm\ x\ total\ assets$$

3.3.   Statistical Models

The statistical model used to test the direct effect in this study is as follows:

Statistical Model 1

$ROA \quad = \alpha + \beta_1 LTDER + \beta_2 Sz + \varepsilon_1$ .... (1)

Note:

ROA = return on assets,

$LTDER$ = long-term debt-to-equity ratio,

Sz = firm size,

α = regression constant,

β = regression coefficient,

ε = error.

How Do Intellectual Capital Disclosures Mediate Financial Structure and Company Performance?
Evidence from Indonesia and Singapore

9

Statistical Model 2

$$TQ = \alpha + \beta_1 LTDER + \beta_2 Sz + \varepsilon_1 \quad \text{...} \quad (2)$$

Note:

TQ = Tobin's q,

$LTDER$ = long-term debt-to-equity ratio,

Sz = firm size,

α = regression constant,

β = regression coefficient,

ε = error.

The two-stage least squares (2SLS) model is similar to partial least squares (PLS) because it is free from distributional requirements. 2SLS is even more robust in the face of model misspecifications and is superior to it in generating consistent parameter estimates in latent variable equations (Garson, 2016)**.**

Statistical Model 3

$$ICDI = \alpha + \beta_1 LTDER + \beta_2 Sz + \varepsilon_1 \quad \text{...} \quad (3)$$
$$ROA = \alpha + \beta_3 \varepsilon_1 + \beta_4 Sz + \varepsilon_2 \quad \text{...} \quad (4)$$

Note:

$ICDI$ = intellectual capital disclosure index,

ROA = return on assets,

$LTDER$ = long-term debt-to-equity ratio,

Sz = firm size,

α = regression constant,

β = regression coefficient,

ε = error.

Statistical Model 4

$$ICDI = \alpha + \beta_1 LTDER + \beta_2 Sz + \varepsilon_1 \quad \text{...} \quad (5)$$
$$TQ = \alpha + \beta_3 \varepsilon_1 + \beta_4 Sz + \varepsilon_2 \quad \text{...} \quad (6)$$

Note:

$ICDI$ = intellectual capital disclosure index,

TQ = Tobin's q,

$LTDER$ = long-term debt-to-equity ratio,

Sz = firm size,

α = regression constant,

β = regression coefficient,

ε = error.

4.   DATA ANALYSIS AND DISCUSSIONS

The following are the results of the descriptive statistics for Indonesia and Singapore: LTDER, ICDI, ROA, and TQ are the main variables, while Sz is the control variable:

Table 2. Descriptive Statistics of Indonesia

Variable	Number of Observations	Minimum	Maximum	Mean	Standard Deviation
LTDER	234	0,002	8,459	0,589	0,747
Sz	234	27,117	33,495	30,156	1,196
ICDI	234	0,093	0,492	0,291	0,075
ROA	234	-45,090	30,650	3,775	6,776
TQ	234	0,016	9,600	1,382	0,933

Source: Data Processing Results (2021)

Table 3. Descriptive Statistics of Singapore

Variable	Number of Observations	Minimum	Maximum	Mean	Standard Deviation
LTDER	306	0,000	4,344	0,368	0,514
Sz	306	16,651	24,192	19,598	1,491
ICDI	306	0,169	0,557	0,367	0,074
ROA	306	-72,130	33,700	1,772	9,130
TQ	306	0,293	8,836	1,044	0,779

Source: Data Processing Results (2021)

The average LTDER values in the Indonesian and Singapore samples were 0.589 and 0.368, respectively, and the maximum values obtained were higher in Indonesia, namely 8.459, compared to Singapore, 4.344. This means that companies in Indonesia are more likely to use long-term debt than equity to fund their long-term investments. In contrast, companies in Singapore are more likely to use equity to fund long-term investments than long-term debt.

The ICDI variable has an average value of 0.291 in Indonesia, while in Singapore, it is 0.367. Companies' interest in disclosing voluntary intellectual capital in Indonesia is relatively lower than in Singapore. Companies in Singapore focus not only on human capital and structural capital, which are components of intellectual capital but also on relational capital, which is the company's relationship with external parties.

The average ROA value in the sample in Indonesia is 3.78% higher than in Singapore, which is 1.77%, but data in Singapore varies more than in Indonesia. This can be seen in the standard deviation values in Indonesia and Singapore of 6,776 and 9.130. The average TQ score in Indonesia is 1.382 compared to 1.044 in Singapore, and the standard deviation value in Indonesia is higher than in Singapore, 0.933 and 0.779, respectively. This shows that the market valuation of companies in Indonesia is more varied than in Singapore. Firm size has a higher average value in Indonesia than in Singapore, which is 30,156 and 19,598, respectively. However, the standard deviation value is larger in Singapore, which is 1,491, compared to Indonesia, which is 1,196.

In this study, two effects are tested, namely direct and indirect. The following are the results of the regression test of models 1 and 2 in Indonesia and Singapore:

Table 4. Regression Result: Model 1

Variable	Indonesia Coefficient	Singapore T-test	Coefficient	T-test
Constant	6,793	0,644	59,527***	5,354
LTDER	-3,226***	-5,751	-4,219***	-3,728
Sz	-0,037	-0,106	-2,321***	-3,972

*** significant at α = 1%, ** significant at α = 5%
Source: 2021 Data Processing Results

Table 4 shows that the LTDER coefficient for Indonesia and Singapore has a negative and significant effect at the level of α = 1%. The LTDER coefficient in Indonesia is -3.226, while in Singapore, it is -4.219. This means that the higher the debt, the lower the profitability as measured by ROA, so hypothesis 1 is supported by empirical evidence obtained in Indonesia and Singapore. The control variable, size, shows a negative and significant effect at the α = 1% level but only occurs in Singapore.

Table 5. Regression Result: Model 2

Variable	Indonesia Coefficient	Singapore T-test	Coefficient	T-test
Constant	-0,727	-0,752	2,396***	3,709
LTDER	-0,060	-1,171	-0,222	-1,795
Sz	0,031	0,961	-0,083**	-2,448

*** significant at α = 1%, ** significant at α = 5%
Source: 2021 Data Processing Results

The test results in Table 5 show that the LTDER coefficient in Indonesia is negative -0.060 but not significant, so hypothesis 2 on sample testing in Indonesia is not supported. In contrast to Indonesia, the LTDER coefficient in Singapore is negative -0.222 and is significant only at the α = 10% level. Even though the results provide weak empirical evidence, the LTDER variable still influences the TQ variable, so hypothesis 2 tends to be supported in the sample test in Singapore. Therefore, the higher the level of debt, the market performance of companies in Singapore will decrease. Meanwhile, in Indonesia, the higher level of debt does not affect the company's market performance. The size, the control variable, only affects the sample test in Singapore with a negative and significant effect at the level of α = 5%.

The following are the results of the regression of the indirect effect of statistical models 3 and 4 on sample testing in Indonesia and Singapore:

Table 6. Regression Results for Indirect Effect on ROA: Statistical Model 3

Variable	Indonesia Coefficient	Singapore T-test	Coefficient	T-test
Constant	-2,792***	-6,008	-0,143	-1,464
LTDER	0,014	0,571	0,047***	3,754
Sz	0,050***	3,243	-0,035***	-6,907
Constant	11,654	1,037	65,854***	6,291
ICDI	-0,025	-0,016	15,457***	4,452
Sz	-0,261	-0,702	-2,712***	-4,980

*** significant at α = 1%, ** significant at α = 5%
Source: 2021 Data Processing Results

Table 6 shows the regression results of the effect of financial structure on financial performance after being mediated by the disclosure of intellectual capital. The results obtained in Indonesia show no significant effect between the LTDER variable and the ICDI variable, but the direction of the relationship is positive, as expected. Meanwhile, the effect of ICDI on ROA also

did not find a significant effect. It even showed a negative relationship of -0.025, so it can be concluded that hypothesis 3 on the test sample in Indonesia is not supported.

In contrast to Indonesia, Singapore showed different results. In particular, the LTDER variable showed a positive and significant effect at the $\alpha = 1\%$ level of the ICDI variable. The ICDI variable also has a positive and significant effect on the ROA variable at the $= 1\%$ level, so that after being mediated by disclosure of intellectual capital, the higher the long-term debt, the higher the company's profitability. Thus, hypothesis 3 on sample testing in Singapore is supported by the empirical results obtained.

Variable size as a control variable shows a positive and significant effect at the level of $\alpha = 1\%$ in the test of the LTDER variable on the ICDI variable. However, in the relationship between ICDI variables and ROA, a negative direction of the relationship was found, but no significant effect was found in Indonesia. In contrast to Indonesia, the sample test in Singapore found that the size variable had a negative and significant effect at level $\alpha = 1\%$ in both equations.

Table 7. Regression Results on Indirect Effect on TQ: Statistical Model 4

| Variable	Indonesia		Singapore	
	Coefficient	T-test	Coefficient	T-test
Constant	-2,792***	-6,008	-0,143	-1,464
LTDER	0,014	0,571	0,047***	3,754
Sz	0,050***	3,243	-0,035***	-6,907
Constant	-0,636	-0,659	2,670***	4,295
ICDI	0,098	0,712	0,368	1,360
Sz	0,027	0,834	-0,101***	-3,146

*** significant at $\alpha = 1\%$, ** significant at $\alpha = 5\%$
Source: 2021 Data Processing Results

Table 7 presents the regression results of the effect of financial structure on market performance after being mediated by intellectual capital disclosure. The results obtained based on sample testing in Indonesia show that the DIDER and ICDI variables do not directly affect the TQ variable. However, the direction of the expected relationship was as expected. Hence, hypothesis 4 on the test sample in Indonesia is not supported.

The sample test results in Singapore show that the LTDER variable has a positive and significant effect at the $= 1\%$ level on the ICDI variable with a coefficient value of 0.047. Meanwhile, the relationship between ICDI and the TQ variable has no significant effect, but the direction of the relationship is as expected. So, it can be ascertained that disclosure of intellectual capital does not mediate the effect of financial structure on market performance, so the sample test in Singapore is also not supported.

The following are the results of regression testing on the samples of Indonesia and Singapore, which are described by the research framework:
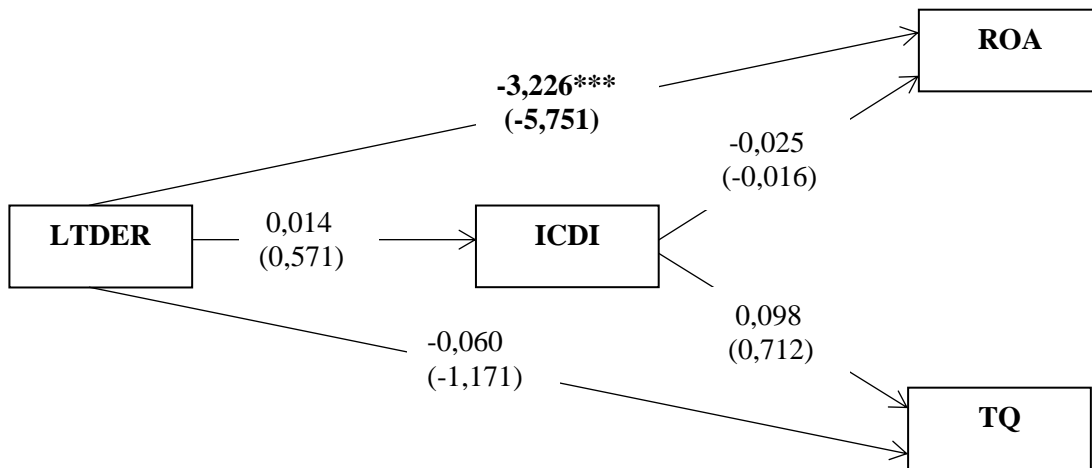
Source: Processed Data Year 2021
Figure 2. Indonesia Regression Test Results
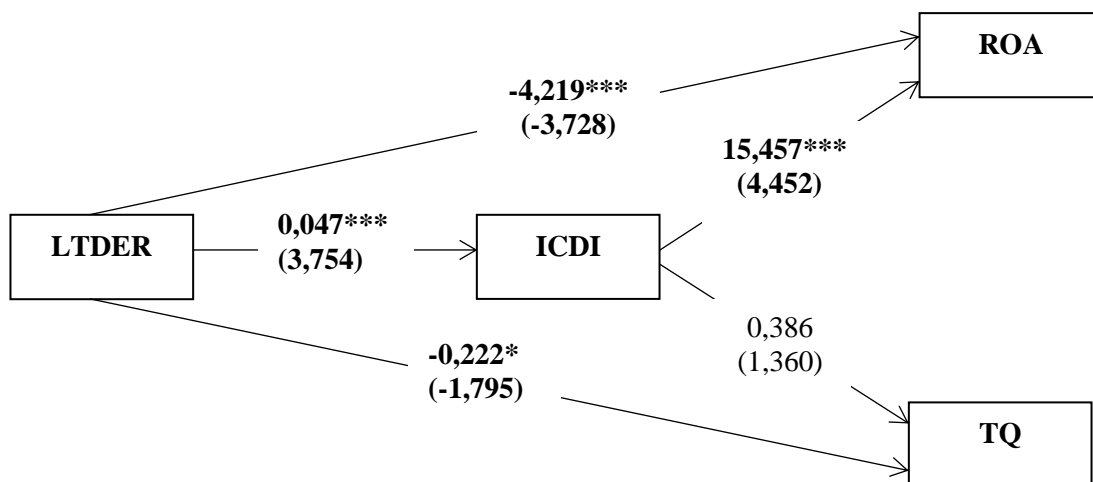
Source: Processed Data Year 2021
Figure 3. Singapore Regression Test Results

Figures 2 and 3 show a significant negative influence between financial structure and performance. The empirical results obtained on sample testing in Indonesia and Singapore show a significant effect at the level of $\alpha = 1\%$. Thus hypothesis 1 is supported by sample testing in both countries. In contrast to financial performance, market performance only found a negative and significant effect at the level of $\alpha = 10\%$, which was found in the sample in Singapore. There was no significant effect in Indonesia but in the direction of the expected negative relationship. So, it can be concluded that hypothesis 2 is only supported in the sample test in Singapore.

In testing the indirect effect mediated by intellectual capital disclosure, it was found that it mediated the effect of financial structure on financial performance in the Singapore test sample. The results show a positive and significant effect at the level of $\alpha = 1\%$. In contrast, in Indonesia, the direction of the relationship is positive and negative, and there is no statistically significant effect. So, it can be concluded that hypothesis 3 is only supported in the sample test in Singapore.

The role of disclosure of intellectual capital as a mediator between financial structure and market performance in the test samples in Indonesia and Singapore is not supported by the

empirical results obtained. The direction of the positive relationship was expected but found no significant effect. In Singapore, a positive and significant influence was found between financial structure and intellectual capital disclosure. However, no significant effect was found between intellectual capital disclosure on market performance. Thus, hypothesis 4 was not supported in the sample test in Indonesia and Singapore.

All regression analyses were carried out based on the classical OLS assumptions, and these assumptions were not violated significantly. Therefore, all statistical results can be used to test the hypothesis and determine whether the hypothesis is supported based on the empirical statistical evidence presented in this study. Findings in Indonesia and Singapore show that long-term debt used in corporate financing can reduce financial performance due to the interest expense that must be paid. The company's net profit has decreased due to debt interest payments, while the company's fixed assets have increased.

Empirical evidence obtained in samples from Indonesia and Singapore is also in line with empirical evidence obtained by Moosa & Li (2012), M'ng *et al*. (2017), D'Amato (2020), Eysimkele & Koori (2019), and Dalci (2018), who found a negative and significant effect between debt and ROA in a sample of companies in Kenya, Italy, and China. Meanwhile, referring to descriptive statistical data on long-term debt, the average Indonesian company has higher leverage than Singaporean companies. Nevertheless, the negative effect on profitability occurred in both countries. These findings indicate that the use of long-term debt will reduce company profitability.

In Singapore, it is not only found that the influence of long-term debt can reduce financial performance, but also the influence of long-term debt can reduce the market performance of companies. Investors in the Singapore capital market believe that using external funds in the form of debt is a negative signal that indicates a company is experiencing internal financing difficulties. The declining financial performance also affects investors' assessment of the company. The results found in this study are also in line with Akhtar *et al*. (2022), Ramli *et al*. (2019), and Almajali & Shamsuddin (2019), who also found a negative and significant effect of debt on company market performance.

To overcome the negative influence on financial performance caused by debt, companies in Singapore tend to have a higher interest in disclosing intellectual capital. The disclosure focuses not only on human resources and the company's ability to facilitate employees but also on the company's relationship with external parties. To achieve company goals, external support is needed to strengthen relationships with customers, suppliers, and stakeholders. Apart from that, the reputation, brand, and cooperation carried out by companies are also a concern for companies in Singapore.

By disclosing intellectual capital, it shows that the company has intangible, quality resources that can manage the use of debt to increase its profits in the long term. The positive regression coefficient (see Table 6) indicates that disclosure of intellectual capital is an important factor that must be considered in improving the financial performance of companies in Singapore. This result is in line with the findings of Cahya *et al*. (2020), Salvi *et al*. (2020), and Christabel *et al. (2021)*. On the other hand, the average disclosure index for intellectual capital of Indonesian companies is still lower than that of Singapore, which is 29.1%, compared to Singapore, which is 36.7%. Companies in Indonesia still tend to rely on tangible resources compared to intangible resources to improve financial performance. Therefore, intellectual capital cannot reverse the

negative effect of leverage on profitability with the intellectual capital disclosure index as a mediating variable.

From all tests in this study, the average long-term debt owned by companies in Singapore tends to be lower than companies in Indonesia but still has quite an effect on the decline in investor valuations in the capital market. On the other hand, companies in Indonesia tend to use long-term debt because the procedure for obtaining funds from bank loans and issuing bonds is easier than issuing new shares. Market assessments in Indonesia regarding financing using debt are varied, so no significant effect is found between debt on market performance in Indonesia.

This research implies that companies with quality resources will disclose their intellectual capital, which is helpful for the company's interests in the long term, even though it is financed with debt. The results are expected to show investors that intellectual capital can be a factor that needs to be considered in making investment decisions supported by empirical evidence. The importance of intellectual capital disclosed by companies through their annual reports shows that intangible resources can not only be used to help achieve company goals but also play a role in improving financial performance. This is supported by empirical evidence obtained in Singapore. Unfortunately, these results were not found in Indonesia. Although the average disclosure of Indonesian intellectual capital is slightly lower than that of Singapore, the index score is not strong enough to convince the market.

5.   CONCLUSION, SUGGESTION, AND LIMITATION

This study uses samples from Indonesia to represent developing countries and Singapore to represent developed countries with limited research that only uses three years. Extending to future data sets with more than three years will enhance empirical testing of the effects of intangible assets likely to have a long-term effect on performance. The research results show that the financial structure negatively and significantly affects financial performance. A negative and significant influence was also found on the financial structure of market performance in the test sample of companies in Singapore, while in Indonesia, there was no significant effect. Meanwhile, the role of intellectual capital disclosure as a mediation between financial structure and financial performance shows a positive and significant influence in Singapore. In contrast, the same role is not found in Indonesia. In the end, the effect of financial structure on market performance mediated by disclosure of intellectual capital did not find a significant effect in the two countries. However, the positive direction of the relationship is in line with expectations.

From the empirical results found in Singapore, intellectual capital disclosure does help the market study the quality of companies in managing leverage to improve financial performance. However, intellectual capital disclosure cannot reverse the negative effect on market performance. This is because disclosing intellectual capital is voluntary and insufficient to convince the market. What motivates companies to disclose their intangible assets will be more important than the disclosure itself. For further research, it is possible to consider aspects of the company's concern for environmental, social, and governance aspects that affect the sustainability of the company. Companies that pay much attention to sustainability and governance will be most aware of increasing their intellectual capital and are more likely to disclose it as valuable information that investors capitalize on to make investment decisions. Furthermore, future research may expand the sample to include other developing countries such as Malaysia, Thailand, and the Philippines and

other developed countries such as Japan and South Korea to increase the robustness of the results of this study regarding the effect of disclosing intellectual capital.

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