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THE EFFECTS OF SUSTAINABILITY REPORTING AND INTELLECTUAL CAPITAL DISCLOSURE ON FIRM VALUE, WITH PROFITABILITY AS A MODERATOR

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ABSTRACT

The development of the economy in Indonesia makes all firms have to improve their performance in order to achieve firm goals. Besides that, the firm is expected to be able to increase the value of the firm for the welfare of the shareholders. This research empirically aimed at proving the effect of sustainability reporting and intellectual capital on firm value. The novelty of this study is to test whether profitability can moderate the effect of sustainability reporting and intellectual capital disclosure on firm value. The data used in this study is panel data for 32 firms listed on the Indonesia Stock Exchange for the 2017-2021 period. Data processing is done with WarpPLS 8.0. The results showed that disclosure of sustainability reporting has a negative effect on firm value, intellectual capital has a positive effect on firm value. Profitability can strengthen the relationship between disclosure of sustainability reporting and intellectual capital on firm value.

1. INTRODUCTION

Firm value is an investor's assessment of a firm's success, which is frequently correlated with stock prices. High stock prices may boost a firm's worth, fostering market confidence in the firm's present advancements and future possibilities [6] . Investors who desire to invest can use the worth of a firm as a benchmark, as the firm's high value is a direct indication that it is in excellent health and capable of generating profits [11].

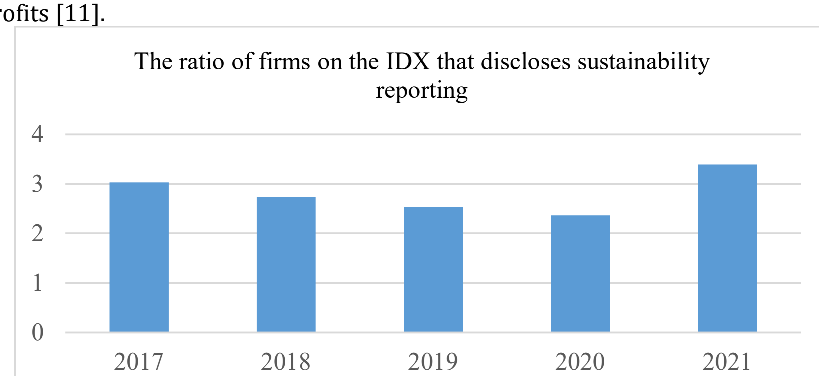

Figure 1. Graph of firm value during 2017-2021
Source: Data processed by the researchers, 2022

According to the table above, there has been a decrease in firm value from 2017 to 2019 as a result of external factors, including the fact that the president of the United States launched a trade war against China, which will also have an effect on investment flows in emerging markets such as Indonesia. The fall in 2020 was caused by the COVID-19 pandemic, which slowed global and Indonesian economic development. In 2021, economic expansion will be substantially superior to the previous year. This is due to vaccinations administered in the start of 2021 to combat the COVID-19 pandemic.

In addition to being influenced by the above external factors, the firm's value is also affected by a number of internal factors. Recent literature indicates that a firm's concern for the environment and society affects its market value. According to [18], Internal issues that might affect a firm's value include sustainability reporting. According to the Global Reporting Initiative (GRI), sustainability reporting is the practice of measuring and disclosing firm activities as a responsibility to all stakeholders regarding performance in achieving sustainable development goals, the content of which includes reporting on economic, environmental, and social impacts.

To support the implementation of sustainability reporting, OJK issued Regulation No. 51/POJK.03/2017 on the Implementation of Sustainable Finance for Financial Service Institutions, Issuers, and Public Firms, which requires the development and implementation of environmental economic instruments, such as policies that care about social and environmental life (Government of Indonesia, 2017).

According to [18], Sustainability Report positively affects firm value due to the fact that releasing a sustainability report can send a favorable message to investors. Besides, [14] stated that Sustainability Reporting has no effect on firm value. According to him, this is because the firm is still not optimal in disclosing sustainability reporting, such as not adhering to the standards applied by GRI or not publishing sustainability reporting consistently every year.

Intellectual Capital is another internal factor that can affect firm value. Intellectual capital is a firm's added value in the form of knowledge, information technology, innovation, employee development, and favorable customer relations [12]. Intellectual capital can be said to be good if the firm can develop the ability to motivate its employees so they can create new ideas and build employee productivity [17].

According to [17], intellectual capital has a substantial effect on firm value. Intellectual capital is a source of a firm's competitive power in attaining competitive advantage and enhancing market views of its worth. According to [11], intellectual capital variable does not have a substantial effect on firm value. According to them, this is the case since intellectual capital does not have a direct link with investors and is not a significant criterion for an investor when making investment selections.

A reconsideration of the effect of sustainability reporting and intellectual capital on firm value remains intriguing in light of the discrepancy between the previous studies' findings. This study, unlike prior studies, will evaluate profitability as an additional internal element that might attenuate the influence of sustainability reporting and intellectual capital disclosures on firm value. Profitability is a performance metric that indicates a firm's capacity to generate profits within the accounting period. Profitability is an indicator of the financial health of a firm and a measure of management performance [8].

2. LITERATURE REVIEW

Signal Theory

Signal Theory is an investor's perspective on raising the firm's worth in the future, based on information disclosed to shareholders by the firm's management [1]. With the disclosure of sustainability reporting and intellectual capital, investors will see the firm positively since they will recognize the firm's bright future possibilities. Profitability may also serve as a criterion for investors seeking to invest in firms with recurring earnings.

Effect of Disclosure of Sustainability Reporting on Firm Value

Sustainability reporting is evidence that an organization is accountable to its stakeholders. Investors will have a greater demand for firms who provide sustainability reporting, among other advantages [5]. Disclosure of sustainability reporting carried out by a firm is considered as a form of accountability and transparency to stakeholders who are believed to be able to increase the value of the firm. This is in line with research conducted by [18], which stated that sustainability reporting disclosures have a positive effect on firm value.

H_1: Disclosure of Sustainability Reporting has a positive effect on Firm Value

The Effect of Intellectual Capital on Firm Value

Disclosure of intellectual capital is useful for increasing the validity of annual financial reports. Disclosure of good intellectual capital will also be associated with increasing transparency and reducing information asymmetry between firms and investors, which causes an increase in a firm's value. This is in line with previous research conducted by [18], which states that intellectual capital has a significant effect on firm value.

H_2: Intellectual Capital has a positive effect on Firm Value

The Effect of Profitability in Moderating Disclosure of Sustainability Reporting on Firm Value

The higher the profitability of a firm and the disclosure of Sustainability Reporting, the firm's value will also increase. This happens because investors are more interested in firms that disclose Sustainability Reporting than firms that do not carry out or disclose Sustainability Reporting. Thus the higher the profitability will strengthen the influence of Sustainability Reporting on firm value.
H_3: Profitability strengthens the influence of Sustainability Reporting on firm value

The Effect of Profitability in Moderating Intellectual Capital on Firm Value

Intellectual capital is an integral part of a firm that can create efficiency in the use of firm resources. Profitability is the firm's ability to generate net income from activities carried out in the accounting period. When a firm gets high profits, it will attract investors to invest. This of course will increase the value of the firm and also the profit of the firm itself.
H_4: Profitability strengthens the influence of Intellectual Capital on firm value

3. METHOD

The type of data in this study uses secondary data. The data in this research were taken from all firms on the Indonesian Stock Exchange's website, and each firm's website. The research period is 5 years, namely 2017-2021. The technique used for sampling is purposive sampling technique which is targeted based on certain criteria.

Table 1. Research Sample Criteria

No.	Description	Total
1	All firms listed on the Indonesia Stock Exchange for the 2017-2021 period	**768**
2	Firms that do not issue Sustainability Reports and annual reports in a row during 2017-2021	**(720)**
3	Firms that did not earn consecutive profits during the 2017-2021 period	**(16)**
The total of firms that can be used as a sample		**32**
Research year		**5**
Total research data		**160**

The dependent variable in the study is firm value (Y) and the independent variable is disclosure of sustainability reporting (X_1) and intellectual capital (X_2) moderated by profitability. Data processing using WarpPLS 8.0 software. Measurements for each variable used are in Table 2.

Table 2. Indicators of dependent and independent variables

No.	Variable	Measurement
1.	Firm value	This study reveals the value of the firm as market value, this is because the prosperity of shareholders is influenced by the value of the firm. In this study, firm value is measured using Tobin's Q (Sari & Wahidahwati, 2021). $\boldsymbol{Tobin's\ Q = \frac{(MVE + DEBT)}{TA}}$
2.	Disclosure of Sustainability Reporting	This calculation uses the Sustainability Reporting Disclosure Index (SRDI) standard with a score of 1 if the item is disclosed, and 0 if the item is not disclosed (Pujiningsih, 2020) $\mathbf{SR = \frac{n}{k}}$
3.	Intellectual Capital	This study uses the VAICTM (Value Added Intellectual Coefficient) calculation to measure the value of intellectual capital. There are three components to VAICTM, namely VACA (physical capital), VAHU (human capital), and STVA (structure capital). First, **VA = Out-In** Scond, **VACA = VA/CE** Third, **VAHU = VA/HC**

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		Forth, **STVA** = **SC/VA** Fifth, **VAIC^{TM}** = **VACA+VAHU+STVA**
4.	Profitability	The profitability ratio is measured based on the comparison between the profit after tax and the firm's total assets. One of the profitability ratios is Return on Assets (ROA). $$\textbf{Profit} = \frac{\textbf{Net profit}}{\textbf{total assets}}$$

To test the hypotheses H1 to H4, the regression equation model is used as follows:
TOBIN'S Q = α + β1SR + β2IC + β3Profit + β4SR*Profit + β5IC*Profit + e
Information:

TOBIN'S Q : Firm value
SR : Disclosure of Sustainability Reporting
IC : Intellectual Capital
Profit : Profitability
α : Constant
β : Coefficient
e : Error

4. RESULTS AND DISCUSSION

Descriptive statistics

Table 3. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SR	160	,03	,81	,24	,14
IC	160	,51	97,18	10,81	14,39
Tobin's Q	160	,16	42,56	3,12	5,39
Profit	160	,00	1,60	,09	,21
Valid N (listwise)	160				

SR= Sustainability Reporting; IC = Intellectual Capital; Tobin's Q = Firm Value; Profit = Profitability

Based on Table 3. above, the number of samples in this study was 160. The firm value has a minimum value of 0.16 while the maximum value obtained is 42.56. The average firm value obtained for all firms listed on the Indonesia Stock Exchange for the 2017-2021 period was 3.12 with a standard deviation of 5.39. Sustainability reporting has a minimum value of 0.03 while the maximum value is 0.81. The average value is 0.24 with a standard deviation of 0.14. Intellectual capital has a minimum value of 0.51 while the maximum value is 97.18. The average value is 10.81 with a standard deviation of 14.39. Profitability has a minimum value of 0.00 while the maximum value is 1.60 with an average value of 0.09 Profitability with a standard deviation of 0.21.

Evaluation of Outer Model and Convergent Validity

Initial evaluation of the outer model is convergent validity. To determine convergent validity, the value per outer loading (for reflective indicators) and T-Statistics at the outer weight can be utilized (for formative indicators). The conditions of convergent validity are met if they have an outer loading value of > 0.7 while the validity of formative indicators in terms of the weight value per indicator is significant or not [4] and [11]. The following is the output value of the significance of weight and VIF.

Table 4. Output Indicator weight and VIF results

	SR	IC	Tobin's Q	Profit	Profit * SR	Profit * IC	Type	P value	VIF	WLS
SR	1.000	0.000	0.000	0.000	0.000	0.000	Formative	<0.001	0.000	1
IC	0.000	1.000	0.000	0.000	0.000	0.000	Formative	<0.001	0.000	1

Tobin's Q	0.000	0.000	1.000	0.000	0.000	0.000	Formative	<0.001	0.000	1
Profit	0.000	0.000	0.000	1.000	0.000	0.000	Formative	<0.001	0.000	1
Profit* SR	0.000	0.000	0.000	0.000	1.000	0.000	Reflective	<0.001	0.000	1
Profit* IC	0.000	0.000	0.000	0.000	0.000	1.000	Reflective	<0.001	0.000	1

Source : WarpPLS 8.0 (2022)

From the output above, it can be seen that the reliability indicators of all the items forming the construct of Sustainability Reporting, Intellectual Capital, Firm Value and Profitability are valid using the factor loading value obtained > 0.7 and the P value indicator weight value < 0.001 and < 0.05, the Variance Inflation value Factor (VIF) per indicator obtained <3.3 which can be concluded that there is no colleenarity problem between indicators. It can also be seen that the value of the weight-loading sign (WLS) is equal to 1, which means that it meets the recommended conditions, then the model is fit.

Evaluation of the Inner Model

Table 5. Model fit results

Average path coefficient (APC)	0,348	P=0,001<0,05	It meeets the criteria
Average R-squared (ARS)	0,501	P=0,001<0,05	It meeets the criteria
Average adjusted R-squared (AARS)	0,488	P=0,001<0,05	It meeets the criteria
Average block VIF (AVIF)	acceptable if <= 5, ideally <= 3.3	1,127<3,3	There is no multicollinearity
Average full collinearity VIF (AFVIF)	acceptable if <= 5, ideally <= 3.3	2,012<3,3	There is no multicollinearity
Tenenhaus GoF (GoF)	small >= 0.1, medium >= 0.25, large >= 0.36	0,708	It is large

Source : WarpPLS 8.0 (2022)

The results above show that the output model is fit and Quality Indicates. It can be seen that the model is said to be fit because the Average path coefficient (APC), Average R-squared (ARS), and Average adjusted R-squared (AARS) have a significance value of <0.05. The research model also does not have multicollinearity problems because the Average block VIF (AVIF) and Average full collinearity VIF (AFVIF) values have a value of <3.3. Tenenhaus GoF (GoF) has a value of 0.708 which means the model is large.

Table 6. Output Latent Variable Coefficients

	SR	**IC**	**Tobin'sQ**	**Profit**	**Profit*SR**	**Profit*IC**
R-squared coefficients			0,501			
Adjusted R-squared coefficients			0,488			
Composite reliability coefficients	1.000	1.000	1.000	1.000	1.000	1.000
Cronbach's alpha coefficients	1.000	1.000	1.000	1.000	1.000	1.000
Average variances extracted	1.000	1.000	1.000	1.000	1.000	1.000
Full collinearity VIFs	1.141	1.237	2.850	2.944	2.174	1.454
Q-squared coefficients			0,509			

Source : WarpPLS 8.0 (2022)

Based on the output of WarpPLS 8.0, the Adjusted R Squared value is 0.488, this means that the effect of the research variable is 48.8% and the remaining 51.2% is influenced by other variables outside this research model. Then the value of Q Squared is 0.509 > 0 this shows that the model is fit. VIFs full collinearity value shows <3.3, which means there is no multicollinearity problem.

Hypothesis test

Regression analysis is to measure the influence between variables and obtain direction from the independent variable on the dependent variable [11]. The results of the regression analysis using a significance level of 5% are shown in Table 7:

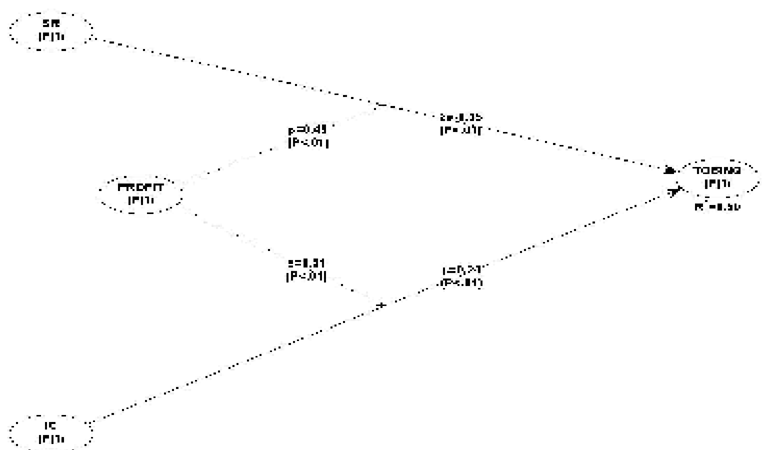

Figure 2. Hypothesis Testing Results

Table 7. Result Significances and Coefficients

	Path Coefficient	P-Value	Relation between Variables	Result
SR → Tobin'sQ	-0,354	0,001	Significant Negative	Rejected
IC → Tobin'sQ	0,241	0,001	Significant Positive	Accepted
Profit*SR → Tobin'sQ	0,487	0,001	Significant Positive	Accepted
Profit*IC → Tobin"sQ	0,308	0,001	Significant Positive	Accepted

The results of the first hypothesis regression test based on the output coefficient and significance show a p value of 0.001 less than 0.05 and a coefficient of -0.354. These results indicate that Sustainability Reporting has a negative and significant effect on Firm Value, which means that hypothesis 1 is rejected. This result means that investors do not look at the sustainability reporting disclosures made by the firm as their benchmark for investing. Some firms are still unable to disclose Sustainability Reporting consistently every year, and the discrepancy between the sustainability reporting carried out by a firm and the standards set by the GRI is one of the reasons why investors don't really look at it from that perspective. These results are supported by research conducted by [14] which stated that the disclosure of Sustainability Reporting has a negative effect on Firm Value.

The results of the second hypothesis regression test based on the output coefficient and significance show a p value of 0.001 less than 0.05 and a coefficient of 0.241 so that hypothesis 2 is accepted. These results indicate that Intellectual Capital has a positive and significant effect on Firm Value. This result means that if a firm has a high intellectual capital value, the firm has a competitive advantage that is able to overcome intense firm competition so that the value of the firm increases. These results are in line with research [12] and [3] which suggested that Intellectual Capital has a positive and significant effect on firm value.

The results of the third hypothesis regression test based on the output coefficient and significance show a p value of 0.001 less than 0.05 and a coefficient of 0.487 so that hypothesis 3 is accepted. These results indicate that Profitability can moderate the relationship between Sustainability Reporting on Firm Value. This means that investors will be more interested in investing in firms that have a high level of profitability from year to year because it indicates that firms have high profits and disclose Sustainability

Reporting successively. These results are in line with previous research conducted by [2] which stated that profitability can strengthen the relationship between Sustainability Reporting on Firm Value.

The results of the fourth hypothesis regression test based on the output coefficient and significance show a p value of 0.001 less than 0.05 and a coefficient of 0.308. These results indicate that Profitability can moderate the relationship between Intellectual Capital on Firm Value so that hypothesis 4 is accepted. This means that when a firm is able to make good use of intangible assets that can cause the value of intellectual capital to be high, which means that the value of the firm is also high. The results of this study are in line with research conducted by [12] which stated that Profitability can strengthen the relationship between Intellectual Capital and Firm Value.

5. CONCLUSION

This research empirically aimed at proving the effect of sustainability reporting and intellectual capital on firm value. The novelty of this study is to test whether profitability can moderate the effect of sustainability reporting and intellectual capital disclosure on firm value.

This research is expected to be beneficial to the community, particularly investors, so that it becomes a factor for investing in firms with high financial performance, that utilize the firm's Intellectual Capital, and that have sustainable operations. The firm is expected to serve as the foundation for managing the firm so that it works effectively and sustainably.

This study is limited in scope, since it only investigates firms listed on the Indonesia Stock Exchange that produce Sustainability Reporting and Annual Reports sequentially from 2017 to 2021. For more study, it is expected that the research period and other internal variables that can affect firm value would be extended.

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