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Voluntary disclosure with the International Integrated Reporting Council (IIRC) framework and value relevance

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Abstract

Research aims: This paper aims to investigate whether voluntary disclosure of integrated reports (IR) with the International Integrated Reporting Council (IIRC) framework influences value relevance in Indonesia.

Design/Methodology/Approach: The data covered the period 2017-2022 of all manufacturing companies in Indonesia listed on the Indonesia Stock Exchange (IDX). The total sample of this study was 606 firm-year observations. An IR Score was developed using the International IR Framework 2013, and content analysis was performed to measure IR adoption and practice. This study employed multiple linear regression to test the hypothesis. The authors also used two models: the Pricing Model for testing the main result and the Ohlson Model for testing robustness.

Research findings: The result claims that the IR score yielded a positive and statistically significant effect on the value relevance of the company. In other words, companies with higher IR scores will also have a higher value relevance.

Theoretical contribution/ Originality: First, this study contributes to the literature in accounting, stating that companies that adopt the IR framework can increase the value relevance. Second, by using different models to test the hypothesis, the results of this paper exhibit a consistent relationship.

Practitioner/Policy implication: The study's findings help regulators develop new regulations.

Research limitation/Implication: This research could only be generalized to Indonesian manufacturing companies. In addition, a significant number of Indonesian manufacturing companies continue to fail to submit integrated reports.

Keywords: Integrated Reporting; Value Relevance; IIRC's Framework

Introduction

Financial reporting is intended to provide an accurate and reliable depiction of a company's performance in both the present and the future. However, financial reporting models sometimes fail to interpret the economic implications of business innovation (Healy & Palepu, 2001). This is because financial reporting does not focus on environmental, social, and governance investments. Companies have traditionally focused solely on financial reporting, considering profit as the only avenue to achieve their targets (Juravle & Lewis, 2008). In this case, sustainable development, understood as meeting current needs without compromising the ability of

future generations, is currently a primary agenda for companies, governments, and academics worldwide (United Nations World Commission on Environmental and Development, 1987). Specifically, when the concept of sustainable development is applied to businesses, it is referred to as Corporate Social Responsibility (CSR) and implies integrating social equality, economic efficiency, and environmental performance into corporate operational practices. Nevertheless, the CSR concept continues to evolve towards environmental, social, and governance (ESG) reporting and integrated reporting based on creating shared value (Yu & Zhao, 2015).

Based on input from various stakeholders, the International Integrated Reporting Council (IIRC) released the Integrated Report (IR) framework in December 2013. The IR Framework aims to simplify corporate reporting and enhance its effectiveness by focusing on value creation as the next step in the evolution of corporate reporting (International Integrated Reporting Council (IIRC), 2013). The presence of IR has attracted the attention of practitioners and policymakers worldwide. Regulators and capital market authorities have begun to support it, and some countries have already mandated listed companies to report integrated sustainability and financial information. According to the International Integrated Reporting Council (IIRC) (International Integrated Reporting Council (IIRC), 2013), an integrated report is a communication that conveys the organization's strategy, governance, performance, and prospects to the external environment to create value for the company in the short, medium, and long term.

Since its introduction in South Africa in 2010 and Europe in 2013, IR has sparked debates among academics and practitioners. Some companies believe reporting IR will incur more significant costs than the benefits gained. The IIRC framework provides minimal company benefits and has left sustainability reporting behind (Flower, 2015). Their argument is based on two considerations. First, the IIRC's concept of value is "for investors only" and "not for the public." Second, the IIRC does not require companies to report losses resulting from activities outside the company (such as environmental activities) because these activities are considered to have no impact on the company's sustainability. This research finding is supported by previous studies that concluded that voluntary IR disclosure cannot enhance company relevance (Baboukardos & Rimmel, 2016; Cordazzo et al., 2020; Fernando et al., 2018).

However, the IIRC believes that integrated reporting is a more effective reporting approach, as it highlights value creation through the lens of six capitals (financial, manufacturing, intellectual, human, social, and natural) instead of sustainability reporting, which focuses only on environmental and social aspects. The IIRC does not propose that IR replaces sustainability reporting, but IR aims to promote a more cohesive and efficient approach to corporate reporting that leverages different reporting frameworks and communicates all material factors. The IIRC argues that IR is a credible solution to the reporting issues (Burrirt, 2012) aimed at addressing criticism of corporate reporting and sustainability reporting (Adams, 2015).

Research conducted by Baboukardos and Rimmel tested whether the relevance of accounting information (BVS and EPS) increased after the voluntary adoption of IR by

companies listed on the Johannesburg SE (Baboukardos & Rimmel, 2016). They concluded that when companies voluntarily adopt IR, it tends to decrease the relevance of net assets. The increase in IR adoption does not significantly impact the company's value, but the relationship between IR reporting and relevance increases positively and significantly when combined with EPS (Cooray et al., 2020). The influence of voluntary IR reporting on the relevance of Asian companies was also reported by Fernando et al., with results showing no significant impact between IR adoption and relevance (Fernando et al., 2018). This condition may be attributed to several possibilities, such as the market reaction not being evident in the short term for Asian companies, the voluntary nature of IR implementation lacking strength and differing from mandatory adoption in South Africa, and relatively similar accounting standards before and after IR adoption.

In contrast to the results of those studies, Middleton found that environmental performance information has a marginal value that is relevant for investors in the stock market (Middleton, 2015). Several studies have also examined the relationship between voluntary disclosure in IR, especially on the value relevance aspect, the conclusion of which states that IR can increase value relevance. Empirical evidence regarding the effect of forward-looking disclosure (with an IR perspective) on company value was also reported by Utami and Wahyuni with the result that forward-looking information based on an IR perspective significantly influences company value using the Tobin's Q proxy to measure company value (Utami & Wahyuni, 2018). The results of this research are supported by several other researchers who revealed that IR has a positive and significant relationship with value relevance in organizational capital (OC) (Tlili et al., 2019; Setia et al., 2015).

Most literature on IR focuses on studies in developed countries. Evidence regarding developing countries like Indonesia is scarce because data to measure IR scores is still unavailable until now. Moreover, limited research addresses the integrated reporting disclosure in Indonesia, especially those linking IR with the relevance of values. Therefore, using two models simultaneously, this research examines voluntary IR disclosure by manufacturing companies listed on the Indonesia Stock Exchange (IDX). The objective is to determine the level of adoption and IR practices by identifying the determinants of IR adoption and practices. Lastly, this research aims to determine whether IR adoption and practices can influence the value relevance reflected in the company and market values. This can serve as a guide for companies and regulators to mandate IR reporting. Previous research conducted by related researchers on voluntary reporting centered on ESG performance regarding the cost of capital and investment in development and research (Lutfiani, 2022). However, that study only emphasized non-financial reports without considering financial reports. Hence, integrating financial and non-financial information in one report can demonstrate the effectiveness of sustainability reporting on company performance. Unlike other information, IR underscores presenting information about the company's value creation over time rather than profit and loss and disclosure rather than measurement (Veltri & Silvestri, 2020).

Therefore, this research examines the relationship between voluntary disclosure and value relevance based on the IIRC framework. Unlike previous studies, this research did

not use binning variables due to their inherent limitations. Therefore, to measure integrated reporting, this study employed score variables. Content analysis was utilized to assess the extent to which companies reported each item in accordance with the IIRC's Framework. This research also utilized two models: the Pricing Model as the primary model and the Ohlson Model as the secondary model. The Pricing Model was used to test the influence of IR on value relevance measured using Tobin's Q. Meanwhile, the Ohlson Model was employed to examine the impact of IR on value relevance using market value. A total of 606 companies' data were successfully analyzed. After testing with the same IR Score data but different dependent variables, the research findings exposed no significant differences. Statistically, IR significantly influenced Tobin's Q (Pricing Model) and equity market value (Ohlson Model). These findings have theoretical and practical implications. Theoretically, they contribute additional literature on alternative proxies for measuring value relevance. Practically, the findings are expected to serve as guidelines for regulators to mandate IR reporting by companies. Additionally, it is hoped that, with the benefits gained, companies will be more motivated to report financial and non-financial information in an integrated manner.

Literature Review and Hypotheses Development

Three alternative theories could potentially explain the impact of IR reporting on value relevance: value creation, agency, and voluntary disclosure theories. The value creation theory states that integrating social responsibility activities into a company's reported strategy and practices in financial statements creates a unified entity, leading to long-term shareholder value creation. The benefits encompass improved brand reputation, increased employee productivity, enhanced operational efficiency, and improved relationships with regulators, society, and other stakeholders (Charlo et al., 2015). Additionally, it provides access to better investment projects and greater financial resources (Miralles-Quirós & Miralles-Quirós, 2017). Based on this theory, IR reporting actions by listed companies are expected to be positively and significantly evaluated regarding company value. Although the literature on IR and corporate value creation yields diverse results (Charlo et al., 2015; Yu & Zhao, 2015), an increasing number of studies support the value creation theory (Cardamone et al., 2018; Miralles-Quirós & Miralles-Quirós, 2017). From the value creation theory perspective, comprehensive reporting enhances the company's competitive advantage and shareholder value (Bernardi & Stark, 2018). Indeed, the benefits of a company's involvement in IR practices enable operational efficiency improvement and enhance the company's reputation in the capital market (Li et al., 2019).

Meanwhile, from the agency theory perspective, delegating the company's task from investors to management leads to information asymmetry (Fama & Jensen, 1983). This situation arises due to differences in the ability to access company information between external and internal individuals. Managers have more information about creating financial and non-financial value than investors (Dhaliwal et al., 2012). As such, disclosure is used to reduce information asymmetry (Demartini & Trucco, 2017). Because the required mandatory information coverage is often not extensive enough, managers use

voluntary disclosure as a supplement to reduce external party uncertainty (Ball et al., 2012). The voluntary disclosure theory suggests that private information can further reduce information asymmetry and improve the corporate information environment. Companies will emphasize positive information by using voluntary disclosure to signal beneficial outcomes (Hughes, 1986). However, occasionally, companies could also reveal unfavorable facts to maintain their credibility and behave in accordance with social norms (Suchman, 1995).

Investors are meant to be informed about the organization's value-generating process through integrated reporting (IR). Accordingly, an integrated report should offer related non-financial and financial data that is not included in required financial reports or Corporate Social Responsibility (CSR) reports (International Integrated Reporting Council (IIRC), 2013; Tlili et al., 2019). According to earlier research, IR lowers agency costs for investors and improves the investor information environment, which is relevant to the IR framework used to explain the value creation contribution of CSR spending (Cortesi & Vena, 2019). The ability of IR practices to reduce opportunistic managerial behavior and improve transparency for efficient stakeholder monitoring is the basis for the relationship between IR practices and agency expenses. Investor reporting (IR) ought to furnish them with details not only regarding the amount of value-added but also concerning the process of generating said value (International Integrated Reporting Council (IIRC), 2013). Because more corporate information is provided in a single document, investors view investor relations (IR) as a positive because it lowers the acquisition costs of critical information (Reimsbach et al., 2017).

Value Relevance

The relationship between released information and the company's worth is referred to as value relevance. Thus, information is vital to value if a correlation can be found between it and the movement of the company's stock or value. Information cannot be deemed value-relevant if there is no relationship between accounting numbers and the company's worth (Barth, Beaver, and Landsman, 2017). Barth, Beaver, and Landsman (2017) summarize this: "Value relevance research examines the connection between equity market value and accounting amounts." Value relevance research, according to Kothari (2017), is predicated on the idea that if the information is valuable, investors will act accordingly, and the market will react by shifting the price of stocks. Consequently, if the publication of information is linked to changes in stock price, it is deemed value-relevant. According to Beaver (2002), value relevance research looks at the relationship between various chosen exogenous variables—such as accounting or financial data—and stock prices, which are an endogenous variable.

It is also explained by Bernardi and Stark (2018) from four angles. First, the perspective of predictive value relevance emphasizes accounting information's capacity to predict future stock values. If it can do so, it is considered relevant to value. Secondly, the degree of the stock market's response to revealed information is connected to the information perspective on value significance. Still, there is a strong correlation between this and the degree of market efficiency. Thirdly, the definition of value relevance from the

fundamental analysis standpoint is based on evaluating a portfolio using accounting data and the possibility of anomalous gains from these judgments. Fourth, the financial data's capacity to concisely gauge equity movements is the measurement perspective of value relevance. According to Kothari (2017), researchers frequently use two primary methodological approaches in value-relevance studies. The first is the event study strategy, in which the main goal is to determine whether market reactions impacting stock price movements are primarily tied to the event period or if business activities, like mergers or acquisitions, earnings releases, and others. The association method is an alternative strategy that uses regression models to estimate the correlation between information disclosure and stock prices.

There is currently an increasing interest in non-financial information, even though value-relevant research has historically concentrated chiefly on accounting and financial information. This is especially true in light of the enormous risks that firms may face as a result of their social and environmental operations. The increasing number of socially and ethically conscious investors, environmental pollution, and climate change have all contributed to a global focus on sustainability reporting.

Integrated Report (IR)

Integrated reporting (IR) aims to combine financial and non-financial data reporting into a succinct report highlighting the organization's future value-generation strategies. This entails describing its approach and business plan and relating these components to several types of capital, including natural, manufactured, financial, intellectual, human, social, and relational capital. "Improving the quality of information available to providers of financial capital to enable a more efficient and productive allocation of capital" is the primary goal of IR, according to the IIRC (2013). It is crucial to remember that shareholders, not a broad spectrum of stakeholders, are the target audience for investor relations (IR). Moreover, IR is intended to assist managers and investors in embracing a longer-term perspective.

An integrated report's main goal is to explain to lenders how a company creates value over the long run (Atkins & Maroun, 2015; International Integrated Reporting Council (IIRC), 2013; Stent & Dowler, 2015). In order to generate value over the short, medium, and long terms, IR also seeks to make clear how the organization interacts with the outside world and different types of capital (IIRC, 2013). Although organizations are not required to create integrated reports, the capitals are categorized as follows: financial, manufactured, intellectual, human, social and relationship, and natural capital. An integrated report, as defined by the IIRC (2013) aims to provide insights into the external environment that affects an organization, the resources that the organization uses and impacts, and the relationships that the organization impacts. These elements are collectively referred to as capital in the framework and are classified as financial, manufactured, intellectual, human, social, and natural relationships.

Eight content elements make up an integrated report, according to the IIRC (2013): (1) external environment and organizational overview; (2) governance; (3) business model;

(4) risk and opportunities; (5) strategy and resource allocation; (6) performance; (7) outlook; and (8) basis of preparation and presentation. An integrated report defines key outcomes that include (a) "both internal outcomes (e.g., employee morale, organizational reputation, revenue, and cash flows) and external outcomes (e.g., customer satisfaction, tax payments, brand loyalty, and social and environmental effects) and (b) both positive outcomes (i.e., those that result in a net increase in the capitals and thereby create value) and negative outcomes (i.e., those that result in a net decrease in the capitals and thereby diminish value)" (IIRC, 2013).

Hypothesis Development

Several studies provide evidence of the value relevance associated with IR indicators; prior research indicates that IR reduces information processing costs to generate information about a company's value-creation activities (Lee & Yeo, 2016). This can result in higher investor forecasting ability through a better understanding of how environmental and social activities can lead to financial value creation and risk mitigation (Barth et al., 2017; Wahl et al., 2020). Beyond the equity market, previous studies confirm that IR also lowers a company's debt costs (Gerwanski, 2020; Muttakin et al., 2020). Additionally, IR can inform various stakeholders, such as customers, by making them aware of the company's environmental and social responsibilities. This can directly impact the company's financial performance (Barth et al., 2017). Therefore, the company's market value may increase due to lower capital costs (reducing information asymmetry, resulting in a more extensive investor base, better legitimacy, and favorable market signals) and expected higher cash flows. Therefore, the research hypothesis proposed in this study is:

H₁: There is a positive relationship between IR's voluntary disclosure and firm value.

Research Method

This type of research is a descriptive-quantitative-research to explore social situations thoroughly, broadly, and deeply. The period from 2017 to 2022 was collected in this study because this is the last period reflecting the voluntary disclosure of integrated reports in Indonesia. The research sample was a manufacturing sector company listed on the Indonesia Stock Exchange (IDX). Several reasons underlie considering this industry. First, the company's performance always increases from year to year. Second, the manufacturing sector has played a very good role in CSR activities with several initiatives in the social and environmental fields, such as creating products using more environmentally friendly materials, creating jobs for the community around the company, and minimizing the use of paper and energy (electricity and water) at the company. Third, data is expected to be available compared to other sectors in Indonesia.

The sample was selected based on several criteria, namely [1] listed companies on the IDX for the 2017-2022 period; [2] Annual reports were available on company websites or IDX websites; [3] the company's share price was available to determine the company's value

and market value; [4] available company-specific data expressed in rupiah. The summary of sample selection can be observed in Table 1.

Table 1 Sample Selection

Selection Criteria	Number of Sample Firms
Manufacturing sector firms listed on the IDX for 2017-2022	193
Unavailable annual report	(57)
Unavailable firm's stock price	(27)
Unavailable firm-specific data in the rupiah currency	(8)
Total Sampled Firms	101

Measurements were made for each variable: integrated reports, company value, and market value.

To investigate voluntary disclosure of integrated reports on value relevance, this study used the IR Score obtained by conducting content analysis. The content analysis method was used because there were no theoretical guidelines for measuring integrated reports (Lee & Yeo, 2016). Due to the absence of a measure in the context of voluntary disclosure in a comprehensive database, the content analysis method was developed by referring to previous literature (Dey, 2020). However, there are limitations in using self-constructed measures, namely the extent to which these measures can capture what the researcher means in his research (Healy & Palepu, 2001).

IR Score is a measure based on the IR framework consisting of eight content elements companies can use to disclose integrated reports voluntarily. Based on the IR framework published by IIRC, the eight content elements include [1] overview of the organization and external environment; [2] governance; [3] business model; [4] risks and opportunities; [5] strategy and resource allocation; [6] performance; [7] view; and [8] basis of preparation and presentation. This research assigned a binary score, 1 for disclosing and 0 for not disclosing IR framework items. Furthermore, the IR Score is equal to the weighted average of the eight elements of the IR framework (Dey, 2020).

To test the hypothesis, Tobin's Q was used as a market measure of firm value. In addition, this study used control variables, such as return on assets (ROA), leverage, and company size. The regression model equation is stated as follows:

$$TOBINQ_{i,t} = \beta_0 + \beta_1 IRS_{i,t} + \beta_2 ROA_{i,t} + \beta_3 (LEV_{i,t} + \beta_4) SIZE_{i,t} + \epsilon_{i,t} \dots [1]$$

TOBINQ represents the firm's value, calculated as the sum of market equity value and book value of total debt divided by the book value of total assets. IRS stands for the integrated reporting score (Dey, 2020). The control variables included ROA, LEV, and SIZE. ROA signifies the return on assets, determined by net income divided by the average total assets. LEV symbolizes leverage, estimated with total debt divided by total assets. SIZE denotes company size, the natural logarithm of total assets. The coefficient β_1 was found to be statistically different from zero, leading to the conclusion that voluntary IR disclosure held value relevance.

In financial literature, market equity value serves as a sufficient indicator for assessing a company's worth. Based on this premise, Ohlson proposes an evaluation model for listed companies where market equity value is a function of the company's financial information, particularly book value and other non-financial information. Therefore, this research employed the Ohlson Model as a robustness test to estimate the IR Score on the Indonesia Stock Exchange concerning value relevance. Specifically, the study tested a modified version of the Ohlson Model (Ohlson, 1995) proposed by Barth and Clinch (2009), who concluded that a model using earnings per share specifications effectively mitigates scale effects, thereby maintaining the financial significance of the variables under investigation. The regression model equation is expressed as follows:

$$P_{i,t}^{&*} = \alpha + \beta_1 EPS_{i,t} + \beta_2 BVPS_{i,t} + \beta_3 IRS + \beta_4 ROA + \beta_5 LEV + \beta_6 SIZE + \varepsilon_{i,t} \dots \dots \dots [2]$$

$P_{i,t}^{&*}$ is the observed stock price six months after the end of the fiscal period, and $EPS_{i,t}$ and $BVPS_{i,t}$ denote the book value and earnings per share of the i th company, respectively. Meanwhile, the IRS represents an integrated reporting score, following (Dey, 2020). In addition, the control variables encompassed ROA , LEV , and $SIZE$. The coefficients β_1 to β_3 were found to be statistically different from zero, so it can be concluded that the voluntary disclosure of IR had value relevance.

As the literature review indicates, companies must invest significant effort and resources into integrated reporting to meet stakeholders' expectations. Therefore, those with high levels of integrated reporting can fulfill stakeholders' expectations and gain recognition, minimizing agency conflicts. The figure below depicts this study's framework model.

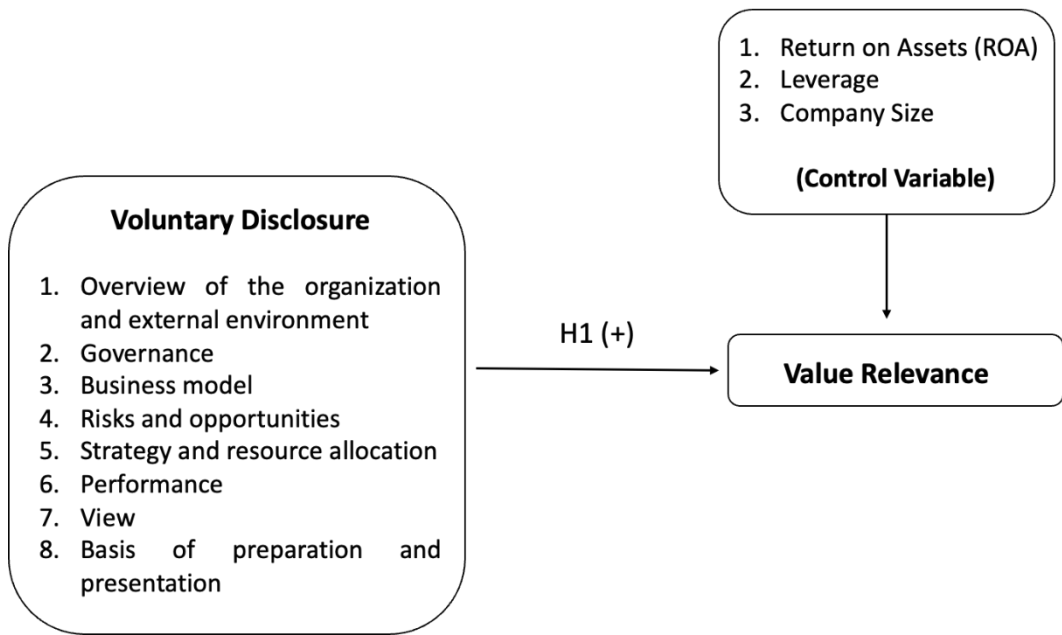


Figure 1 Framework Model

Result and Discussion

The number of observations in this study was 606 firm-years consisting of 101 company samples for six years. Firm value in this study was measured using Tobin's Q proxy. From the results of descriptive statistics in this study, the level of integrated report disclosure in manufacturing companies in Indonesia was found to be low. This might be because manufacturing companies in Indonesia still do not believe that IR can increase the company's value relevance. The notion that if they report an IR, the costs incurred will be higher than the benefits is still their belief. The summary of descriptive testing can be observed in Table 2.

Table 2 Descriptive Results

	N	Min	Max	Mean	Median	Std. Deviation
TOBINQ	606	0.072	85.02	4.281	1.254	11.034
IR_Score	606	0.00	7.640	4.779	3.385	1.705
ROA	606	-0.329	0.486	0.038	0.037	0.060
Leverage	606	0.003	0.629	0.270	0.250	0.151
Size	606	4.522	15.963	10.266	10.122	2.326

Before testing the hypothesis, the variables used in this study were assessed for correlation with Spearman's and Pearson's correlations. Typically, correlation analysis is used to determine a quantity that states whether the relationship between a variable and another variable is strong. The correlation coefficient value is between $-1 < 0 < 1$, i.e., if $r = -1$ perfect negative correlation, it means that the significance level of the influence of variable X on variable Y is very weak. Meanwhile, if $r = 1$ perfect positive correlation, it indicates that the significance level of the influence of variable X on variable Y is very strong. If the correlation coefficient shows 0, there is no relationship between the two studied variables. Spearman's correlation is shown below the diagonal, while Pearson's is above the diagonal. Superscripts a, b, and c exhibit significance of 1%, 5%, and 10%, respectively. The summary of correlation analysis can be observed in Table 3.

Table 3 Correlation Analysis

Correlations	(1)	(2)	(3)	(4)	(5)
(1) TOBINQ	1.00	0.01	-0.09 ^c	-0.10 ^c	-0.12 ^b
(2) IR_Score	0.58 ^a	1.00	-0.18 ^a	-0.07	0.18 ^a
(3) ROA	0.00	0.08	1.00	0.41 ^a	-0.18 ^a
(4) LEV	-0.07	-0.10 ^b	-0.19 ^a	1.00	0.10 ^c
(5) SIZE	-0.18 ^a	-0.16 ^a	-0.12 ^b	0.10 ^c	1.00

Multiple linear regression was employed in hypothesis testing. The results of multiple regression analysis of the Pricing Model showed a statistically significant relationship between the estimated IR score and TOBINQ, which was 0.000. This indicates that a higher IR score will increase firm value, supporting hypothesis 1. This study also revealed that the ROA and SIZE coefficients were statistically significant and positively related to TOBINQ.

Meanwhile, the LEV coefficient uncovered statistical significance and had a negative relationship. This finding suggests that the control variable intervening in the relationship between IR scores and firm value is more critical for large companies with higher returns on assets and lower leverage. The results of this study align with Grassman (2020). However, it differs from Cooray et al. (2020), who found no positive relationship between IR compliance and value relevance to accounting information.

This study's results further reinforce agency and voluntary disclosure theories, asserting that voluntary disclosure of credible and material information in integration reports can reduce information asymmetry (Demartini & Trucco, 2017; Fama & Jensen, 1983; Tlili et al., 2019). Voluntary disclosure will also increase a good signal to stakeholders and indicate that the company is running well, especially for stakeholders who pay attention to non-financial metrics as a proxy for company performance (Tlili et al., 2019). These results corroborate the expectations of IIRC (2013) that the value relevance of accounting information increases with IR because it combines financial information with environmental, social, and corporate governance information in an integrated manner. Additionally, this finding empirically supports the research of Baboukardos and Rimmel (2016) and Cortesi and Vena (2019), who unveiled that the value relevance proxied by Earnings per Share increases due to the adoption of IR. Overall, this study indicates that the level of IR compliance with IIRF significantly affects firm value with the Pricing Model. However, IR has a positive and statistically significant relationship to firm value when combined with accounting information and constructs, such as ROA and firm size. By improving accounting information, IRs can contribute to increasing the value of manufacturing companies in Indonesia, which aligns with IIRC's expectations of being more profitable for capital providers and improving the quality of equity markets. The summary of hypothesis testing with pricing model can be observed in Table 4.

Table 4 Pricing Model Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig	
	B	Std. Error	Beta			
1	(Constant)	-0.903	0.399		-2.261	0.024
	IR_Score	0.071	0.014	0.253	4.956	0.000
	ROA	1.457	0.215	0.337	6.769	0.000
	Leverage	-0.003	0.001	-0.140	-2.855	0.005
	Size	0.046	0.015	0.163	3.138	0.002

Apart from testing the Pricing Model, the Ohlson Model was also tested in this study using the same sample. This model relates the market value of equity to earnings, book value, and dividends (EBD). In addition, this model also relates the market value of equity with non-financial information, namely environmental, social, and governance. Following the research of Landau et al. (2020), market value was measured six months after the end of the fiscal year to anticipate delays in the publication of annual reports.

After testing using the same IR Score data but different dependent variables, the results showed no difference in the relationship between the IR Score on Tobin's Q and the market value of equity. From the similarity of these results, it can be concluded that the

data in this study are robust. Although using a different method, it turned out that the relationship between IR Score and value relevance did not have different results. The results of this study are consistent with the results of other studies, demonstrating that the publication of IR has a statistically significant effect on the market value of equity (Landau et al., 2020). The summary of hypothesis testing with ohlson model can be observed in Table 5.

Table 5 Ohlson Model Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig	
	B	Std. Error	Beta			
1	(Constant)	-6.481	1.193		-5.431	0.000
	IR_Score	0.195	0.042	0.221	4.651	0.000
	BVPS	0.517	0.167	0.141	3.095	0.002
	EPS	0.267	0.060	0.203	4.452	0.000
	ROA	0.129	0.054	0.108	2.372	0.018
	Leverage	0.011	0.004	0.120	2.608	0.010
	Size	0.386	0.044	0.440	8.810	0.000

These findings substantiate those obtained in developed markets, with a significant positive relationship between integrated reporting and value relevance. However, unlike most previous studies using dummy variables (Gerwanski, 2020), this research employed the eight pillars of integrated reporting and discovered that investors were significantly pleased when companies produced integrated reports, thereby creating increased market equity value (International Integrated Reporting Council (IIRC), 2013). The study results support the value creation theory as investors positively evaluate IR practices undertaken by companies, recognizing the direct impact of their productive activities on non-financial aspects. Integrating financial and non-financial reporting through IR practices reduces company risks and encourages long-term value creation (Yu & Zhao, 2015). Given the voluntary nature of IR in Indonesia, companies are motivated by stakeholders' demands for extensive disclosure of environmental, social, and governance issues (Fernando et al., 2018).

Consequently, manufacturing companies in Indonesia have ample incentives to voluntarily integrate financial and non-financial information into corporate reports to meet stakeholder demands. Consistent with agency and voluntary disclosure theories, investors prefer companies implementing IR practices, as shareholders and other stakeholders receive comprehensive information in a single report, facilitating their access to information (Fama & Jensen, 1983). The alignment of interests between agents and principals in obtaining information reduces agency costs incurred by the company (Demartini & Trucco, 2017). This condition encourages corporate managers to disclose more information about the company, both financial and non-financial.

These results represent a novel feature compared to previous studies. In this context, it is crucial to acknowledge that investors are the primary stakeholders for listed companies and can significantly influence the sustainability strategies of the companies they invest in. As a result, the credibility of this type of information and investors' trust in it are

associated with increased equity value (Cardamone et al., 2018). Therefore, these findings are highly relevant for corporate managers, as they reveal that the investment community appreciates integrated reporting practices. Furthermore, the findings indicate that shareholders pay significant attention to environmental, social, and governance practices reflected in non-financial reports to generate substantial added value.

Conclusion

Whether businesses regularly produce integrated reports in keeping with shareholder interests in increasing corporate value is hotly debated in the academic community. On the other hand, little is known about how investor relations (IR) affect the value of listed companies in emerging economies, with the majority of the literature currently in publication on IR and corporate value creation focusing on businesses operating in developed nations. According to this study, a strong correlation exists between underpricing company value models and IR scores. The authors performed additional tests using a modified version of the Ohlson asset valuation accounting model proposed by Barth and Clinch. The research results revealed no difference in conclusions between the Pricing and Ohlson Models. IR scores had a statistically significant positive impact. Thus, these findings support the value creation, agency, and voluntary disclosure theories.

The research findings have several implications for theory and practice. Theoretically, this research highlights the potential for considering alternative approaches to measuring the value relevance of IR information. Next, content elements were developed to measure IR scores. As scholars have suggested various other methods to measure IR implementation, it would be interesting to use this measure to examine the relationship between the level of IR and changes in firm value. Since investors' perceptions will serve as the foundation for their responses to the information disclosed, this research can also be broadened to evaluate investors' impressions of the information supplied in integrated reports.

Practically, these findings have significant implications for corporate managers and policymakers. The credibility and trust of shareholders in integrated reports legitimize managerial decisions in implementing IR strategies. These results provide credence to the idea that operating a company according to standards that incorporate financial reporting, environmental, social, and governance aspects forms a unique business strategy and helps create meaningful corporate value. Consequently, the authors believe that strategic managers of Indonesian-listed firms must follow IR standards. Lastly, legislators are also essential players in this field. Public policies that support sustainable development in the nation must be developed by the government to help Indonesian manufacturing enterprises adopt IR practices more effectively. The expansion of Indonesia's capital markets is helped by the growing use of IR techniques.

The authors acknowledge that this study's analysis has limitations. First, the main limitation is the small sample size, which limited the number of observations to 101 integrated reports over the six years considered. Therefore, future research can expand the empirical evidence regarding the value relevance of various IR pillars to other stock

markets in developing and developed countries. Second, this research did not empirically test the differences in results between the Pricing and the Ohlson Models.

The authors suggest that future research can compare the Pricing and Ohlson Models to measure firm value. Third, this study only considered the overall impact of IR disclosure scores on firm value. However, analyzing the relationship between each content element's score and company value will reveal more meaningful information. Therefore, further research is also recommended to analyze the impact of each content element on company value.

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Conflicts of Interest

The author declares no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.



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