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**INTEGRATED REPORTING DISCLOSURE QUALITY AND FIRM  
PERFORMANCE: EVIDENCE FROM JAPANESE LISTED  
COMPANIES**

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**Abstract**

This study aims to examine the quality of Integrated Reporting (IR) disclosure by Japanese listed companies and its relationship with firm performance. An integrated reporting score based on eight content elements taken from IIRC's framework was used to assess the quality of IR disclosure (IRQ) for 72 Japanese companies. The performance of the company was evaluated using market-based measure such as Economic Value Added (EVA) and Tobin's Q as well as accounting-based measure namely Return on Assets (ROA) and Return on Equity (ROE). The results show that the Japanese listed companies' IR disclosure quality is sufficient. Organizational overview and external environment received the greatest mean score of all content elements, while "business model" received the lowest mean score. The findings demonstrate that there is no relationship between IR disclosure quality and firm performance based on market-based measures (EVA & Tobin's Q) and accounting-based measures (ROE), nevertheless there is a significant relationship between IR disclosure quality and firm performance based on accounting-based measures (ROA). The primary focus of this study was only on the relationship between the firm performance and 72 Japanese listed companies' IR disclosure quality. Hence, future study should concentrate on the Asian region as well as other crucial components of the IIRC framework, such as the seven guiding principles and six relevant capitals, to acquire empirical evidence.

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## 1. Introduction

The Covid-19 crisis began to encroach on global business activities after its outbreak in 2019, and the global economy was significantly affected by it. As the pandemic continues, many companies are increasing the disclosure of non-financial information in order to create and expand greater vision among their stakeholders in order to build long-term business values (IIRC, 2020). Financial reporting is intended to provide information about a business's past performance, which is the basis for predicting the business's future performance. However, traditional financial disclosure by itself is inadequate in meeting these responsibilities because it does not reflect a company's entire operations and impact on society in which it functions (Healy & Palepu, 2001). Thus, the company should issue numerous non-financial reports, such as corporate social responsibility and environmental report. However, different and numerous sources of information have led to lengthy and complex reports. The omission of vital information and addition of irrelevant information leads to a lack of transparency in disclosures, which creates problems for both preparers and stakeholders (KPMG, 2011).

It is now necessary to use integrated reporting (IR), a new type of reporting that combines financial and non-financial data. IR's primary goal is to clearly explain to stakeholders how firms produce value over time (Atkins & Maroun, 2015). Integrated reporting is claimed to provide a solution for reducing irrelevance and asymmetrical information in company reports. IR is a recent accounting innovation that connects financial and non-financial data to satisfy pertinent stakeholder needs and gather insightful data about a company's potential for future sustainable value creation (Hamad et al., 2020). In order to represent the business, social, and environmental contexts in which an organisation functions, IR compiles important information about a company's strategy, governance, performance, and outlook (IIRC, 2013), which indicates an organization's management capabilities as well as how it can create and maintain value. Most importantly, the primary advantage of IR is that it encourages integrated thinking, decision-making, and action with an emphasis on adding value throughout the short, medium, and long terms (IIRC, 2013). In fact, issuing integrated reports permit the companies to drive and measure its overall performance. Thus, some researchers have begun to give attention examining the relationship between the firm performance and quality of IR disclosure. More integrated reporting disclosures are anticipated to reduce information asymmetry and eventually improve company performance, and increasing the level of information disclosure by businesses makes them more transparent to stakeholders and improves the company's reputation (Huei & Kee, 2021). This finding is corroborated by other studies that found a favourable relationship between IR disclosure quality and firm value (Lee & Yeo, 2016; Martinez, 2016; Moloi & Iredele, 2020; Zhou et al., 2017), all concluding that IR disclosures are broadly beneficial to firm performance. The results also encourage companies to invest in improving IR disclosure quality as it benefits financial performance and adds value to the business. However, IR disclosure is still at a relatively young stage. Empirical studies on the economic consequences of IR as well as its ability to improve financial performance and create value are scarce. Therefore, if there is no strong evidence that integrated reporting (IR) improves a firm's performance, firms may not necessarily view IR as vital (Li et al., 2018). However, companies will place greater emphasis on improving IR disclosure if high-quality IR translates into better financial performance.

Most previous studies on IR disclosure and company performance were conducted in South Africa, the first nation to require listed companies to publish integrated reports. Few studies have also looked at how IR disclosures affect company performance in other countries, including Japan. Japan has the largest number of IR disclosures in the world, although the quality of the disclosures still needs improvement (KPMG, 2020). In light of the above discussions, this study aims to examine the IR disclosure quality of Japanese listed companies and its relationship with firm performance. Furthermore, findings of the study will provide further evidence for companies, especially aimed at improving the quality of disclosure by highlighting the value-creating effects of IR disclosure quality.

## **2. Literature Review**

### **2.1. Integrated reporting**

An integrated report is a concise report on how an enterprise creates value, reflecting the external environment of the enterprise, the benefits, value creation processes, such as outlook and governance (IIRC, 2013). IR can be advantageous for stakeholders interested in a company's potential to build value over time (IIRC, 2013).

In an effort to encourage businesses all over the world to use more uniform and standard IRs, the IIRC published the authoritative IIRF in December 2013. Eight content elements and seven guiding principles were listed in the reporting framework. The 7 guiding principles specifically refer to "strategy and future-oriented", "information connectivity", "stakeholder relationships", "importance", "simplicity", "reliability and completeness", "consistency and comparability" (IIRC, 2015). Meanwhile, the 8 main content areas focus on "Organizational overview and external environment", "governance", "business model", "risks and opportunities", "strategy and resource allocation", "performance", "prospects and presentation basis". The IIRC framework separates capital into human, financial, intellectual, manufacturing, social and relational, and natural capital since it considers capital to be the primary factor in an organization's performance (IIRC, 2013). The IIRC framework clearly puts forward the principles of compiling IRs, emphasizes the relationship with stakeholders, and provides clear guidance on the content, information presentation and audit verification of IRs (Yıldırım et al., 2017).

### **2.2. Quality IR disclosure and firm performance**

The word "disclosure" means the provision of information. In accounting, it represents only the company's financial information in its financial or annual report. Disclosure means that all economic information pertinent to accounting should be included in public financial statements and accompanying notes that are essential for influencing user decisions (Khoram Abadi & Hassan Janani, 2013). Information disclosure is the foundation of resource efficiency in the capital market, and a company should share all the information that can influence investors' decisions. The term "quality" relates to the exactness, accuracy or precision of the disclosure. Quality generally refers to how clearly financial reports depict a company business unit's primary economic activities so that it is easily conceivable for the users of those reports (Setayesh & Kazemnezhad, 2010).

Information disclosure is also divided into mandatory and voluntary disclosures. The former refers to a corporation disclosing only the bare minimum of information in its reports, whereas the latter refers to additional information provided when the mandatory disclosure falls short of accurately portraying the company's worth and the manager's performance (Owusu-Ansah, 1998; Wallace & Naser, 1995). According to Agency Theory (Jensen & Meckling, 1976), managers are aware that shareholders will want to exert control over their actions and they may be inclined to willingly reveal more information. This will lessen information asymmetry and decreasing investor uncertainty. Therefore, voluntary disclosure may be a beneficial strategy for companies seeking to differentiate themselves by sending out 'higher-quality' signals (Eccles et al., 2002).

Numerous evidences lend credence to the idea that companies with better IR disclosure tend to be more value-relevant than their rivals (IIRC, 2013; Krzus, 2017). IR can be used to benefit companies by attracting socially conscious investors who are prepared to pay a premium for their shares as well as practice material efficiency, energy conservation, and waste reduction (IIRC, 2013; Lourenço et al., 2014). In accordance with Stakeholder Theory, businesses should provide additional IR concepts to stakeholders. Thus, companies should provide investors with information regarding the status of the firm's organizational efficiency relative to other enterprises (Hussainey & Salama, 2010).

Several recent literatures have assessed the ability of IRs to disclose qualitatively valuable information about firm performance and value creation processes. Lee and Yeo (2016) evaluated the impact of IR quality (defined by its score) on Tobin's Q and found that the higher the value, the greater the business's market value when it adopted IR. Therefore, IR seems to minimize information asymmetry and information processing costs. In contrast, Pistoni et al. (2018) evaluated the quality of IRs and found that it was still sub-par. They argued that since the framework is flexible, businesses can observe it but still reveal limited information.

Despite the fact that IRs are still in their infancy, companies other than South Africa have the option of voluntary disclosure (Lai et al., 2022). Japan is a leader in the voluntary disclosure of IRs and one of the countries with the largest number of published IRs in the world; however, the disclosure quality is still inadequate (KPMG, 2020). Considering concerns about potential low-quality IR disclosures, especially in the voluntary environment context, and coupled with a lack of research on the economic consequences of IR disclosure, this study is interested in examining the relationship between the IR disclosure quality of 72 Japanese companies and firm performance.

### **3. Hypotheses Development**

As the market demands a more detailed and comprehensive view of firm performance, high-quality IR disclosures provide companies with the opportunity to meet this demand (Smith & World Economics Association, 2016). Typically, accounting-based or market-based measures are used to assess a company's performance, with the former reflecting a company's current operating conditions, and the latter indicating whether the company can achieve sustainable development.

Accounting-based measures can effectively measure a firm's profitability (Richardson & Tinaikar, 2004). Return on Assets (ROA) and Return on Equity (ROE) are basic profitability measures. Several empirical studies in South Africa (Baboukardos & Rimmel, 2016; De Villiers et al., 2017; Marx &

Mohammadali-Haji, 2014) have demonstrated that companies with high-quality IR disclosures provide sufficient risk exposure information to assist them in managing various types of risk, removing uncertainty, and more definitively, identifying investment opportunities. IR may be viewed as a signal to the market about a company's stability, which has a beneficial effect on the value correlation of returns. El-Deeb (2019) observed a positive correlation between the level of IR compliance, company performance, value, and the debt level of companies. Huei and Kee (2021) studied the impact of IR disclosure quality of listed companies in Malaysia on their performance, and found that IR quality had a significant impact on ROA & ROE. In addition, Soriya and Rastogi (2022) examined the relationship between IR quality and financial performance in India from 2017 to 2020 and found that IR quality is positively correlated with operational performance (ROA). This implies that increasing a company's information disclosure level fosters greater transparency for the benefit of stakeholders, thus, enhancing the company's reputation. Greater IR disclosure is expected to reduce information asymmetry and improve firm performance. Therefore, in order to determine how IR quality disclosure affects firm performance, this study employs accounting-based measures, ROA and ROE and thus, the following hypotheses were proposed:

H1: There is a relationship between quality of IR disclosure and Return on Assets (ROA)

H2: There is a relationship between quality of IR disclosure and Return on Equity (ROE)

IR has different effects on accounting-based performance, which also raises the question of how IR disclosures can affect firm value and capital markets. Mukeredzi (2019) used ROA, EVA, and Tobin's Q to measure company performance and found that IR require a lot of time, money, and effort, and for companies that adopt IR, the financial benefits appear to be minimal. However, Lee and Yeo (2016), Moloji and Iredele (2020), Melegy and Alain (2020) and Velte (2021) found conflicting results in relation to IR and firm performance compared to Martinez (2016). According to Lee and Yeo (2016), IR is considered beneficial to investors and found a positive correlation between IR disclosure and company valuation. Moreover, Moloji and Iredele (2020) found significant differences in firm value due to differences in the quality of integrated reporting. This shows that the degree to which the IR provides relevant information is proportional and/or directly related to investor confidence in the entity, which has a value-adding effect on the company as a whole. In addition, Melegy and Alain (2020) and Velte (2021), used Tobin's Q to measure firm value and concluded that IR disclosure quality contributes to firm value, accounting information quality, and earnings quality. Velte (2021) also found that both, IR adoption and quality, were associated with positive outcomes for firm value, as they led to higher measures of overall performance.

Finally, it can be concluded that companies with high quality information disclosure will possess higher firm value and value relevance compared to other companies (Hoque, 2017). Companies with high quality and successful IR strategies may reap non-financial benefits (e.g., increased cash flow, liquidity) that enhance their firm value. Based on previous findings, the following hypotheses to be proposed are as follows:

H3: There is a relationship between quality of IR disclosure and Economic Value Added (EVA).

H4: There is a relationship between quality of IR disclosure and Tobin's Q (TBQ).

## **4. Methods**

### **4.1. Research design**

Quantitative research is primarily a process of gathering quantitative data or information and quantitatively processing, testing, and analysing it in order to draw significant findings (Chu, 2015). This study used a quantitative approach because it uses numbers, statistical analysis of data, and mathematical measures, while a cross-sectional approach examined the relationship between IR disclosure quality of Japanese listed companies and firm performance. Descriptive, correlation and regression analyses were conducted to test the proposed hypotheses.

### **4.2. Sampling strategy**

The purposive sampling method was chosen since this kind of sampling can select objects, individuals, or groups that can provide a wealth of information under study or where the process under study may occur (Creswell & Creswell, 2017). As far as the study is concerned, the sample companies were companies that had issued an integrated report. The sample selected for this study consisted of 72 Japanese listed companies registered as of 2019, as shown in the IIRC integrated reporting database.

### **4.3. Data collection**

The sample of the integrated annual reports of this study was obtained from the official website of each company. Relevant data for Independent variable (IV) are IR disclosures from Integrated Annual Reports of Japanese listed companies, while DVs consisted of data collected from Yahoo Finance and Finbox. The market-based variables (Tobin's Q & EVA) were manually calculated from the pertinent financial data, while the accounting-based variables (ROA & ROE) were collected from Yahoo Finance and Finbox.

This study utilised the overall IR disclosure quality (IRQ) scores from the IIRC Framework. It did not use binary variables (1 and 0, 1 meaning the components exist in the integrated reporting, 0 is otherwise), but borrowed the method used by Lee & Yeo (2016), to analyse and capture more changes in IR disclosure quality scores by using continuous scoring. Using the content analysis method, the IR disclosure quality of 72 listed Japanese businesses was evaluated. As mentioned in section 2.1 above, the IIRC framework listed the eight content areas consisted of "overview and external environment", "governance", "business model", "risks and opportunities", "strategy and resource allocation", "performance", "prospects and presentation basis" (IIRC, 2013), with 5 questions for each element, leading to a total of 40 questions. The scoring approach established by Lee and Yeo (2016) and Pistoni et al. (2018) was utilised, in which questions for each content area were assigned a score ranging from 0 (absent) to 5 (extremely high quality) based on the classification scheme presented in Table 1. The final coding had 40 components, and each company may receive up to a 200-point score. As indicated in Table 2, the quality score range suggested by Pivac et al. (2017) was employed to determine whether the IR disclosure quality was poor or high.

**Table 1.** IRQ scoring system

Score	Description
0	Content element absent.
1	Content element present, but poor description and scarce reference to Content.
2	Content element present; description based on some quantitative information and on a few Contents.
3	Content element present; balanced description of contents.
4	Content element present; good and detailed description of contents.
5	Content element present; excellent description of contents.

Source: Pistoni et al. (2018)

**Table 2.** IRQ quality scoring model

IR Score (%)	Quality of IR Disclosure
0-20	Poor
21-40	Low
41-60	Average
61-80	Sufficient
81-100	High

Source: Pivac et al. (2017)

## 5. Findings

### 5.1. Descriptive statistics

Findings of the descriptive analysis for IR disclosure quality involving the eight major content elements are shown in Table 3. It reveals that all content components meet the disclosure quality requirements, with all items scoring between 64 and 76 percent, since an IRQ score of between 61 to 80 percent, it is regarded as satisfactory quality disclosure (see Table 2). "Organizational Overview and External Environment" had the highest mean score of 77 percent, which was anticipated since it requires the firm to present an overview of its background, including its vision, goal, and primary operations. It was anticipated that this information can be directly accessed and the requirement easy to adhere. This was followed by "Strategy and Resource Allocation," "Governance," "Risk and Opportunity," and "Performance", with each scoring 76 percent. "Outlook" and "Basis of Presentation" both scored 72 percent. While, "business model" is a relatively new element compared to the others and received the lowest mean score, which was 64 percent. Prior to the deployment of IR, the majority of high-scoring categories, such as "Organizational Overview and External Environment" and "Governance", were already integrated into traditional corporate reporting. In contrast, a new idea that is emphasised in IR is the "Business Model," which combines internal and external components to create a whole operating system with unique core competitiveness. To meet stakeholder needs, companies might not have disclosed this element prior to the IR implementation, due to the need to meet stakeholders' interests.

Overall, it can be concluded that the elements that scored higher were those commonly disclosed in a company's financial report, even before IR was implemented, while IR's innovative topics, such as "business model" disclosures, were still in their infant stage. The IRQ weighted average score was 73 percent, indicating that the integrated report has achieved an adequate level of disclosure quality (see the

quality scoring model in Table 2). Hence, this study believes that if no element scores above 80 percent, then there is space for companies to improve the quality of their disclosure.

**Table 3.** Descriptive statistics for IR

Major Content element	Minimum	Maximum	Median	Mean	Std. Deviation
Organizational Overview and External Environment (OO& EE)	77%	88%	56%	77%	2.02
Strategy and Resource Allocation (S& RA)	75%	100%	56%	76%	1.95
Business Model (BM)	63%	88%	36%	64%	3.90
Governance (G)	75%	88%	56%	76%	1.46
Risks & Opportunities (R&O)	74%	88%	52%	76%	1.65
Performance (P)	73%	84%	48%	76%	1.67
Outlook (O)	72%	88%	48%	72%	1.98
Basis of Presentation (BP)	70%	88%	40%	72%	2.53
Total score for IRQ	72%	84%	51%	73%	14.12

Table 4 portrays the level of quality disclosure in different industries in Japan. It compares the IR disclosure quality of 72 Japanese companies in different industries. Compared to the other 10 industries, retail has earned the highest overall mean score, with a weighted indicator score of 79 percent. It was followed by Utilities, Real Estate, Conglomerate, Automobiles, Pharmaceuticals, Industrials, IT, Materials, Services, while Consumer Staples had the lowest mean score of 69 per cent. According to the mean scores of the different industries, it can be seen that the retail industry scored the highest with a weighted average score of 79 percent, and the retail companies scored the highest on content elements such as organizational overview and external environment (OO&EE), with an average score of 86 percent. The second-highest were Utilities and Real Estate, both scoring an average of 77 per cent. Overall, the average score for all industries is over 60 percent, and the results show that all industries are currently fully meeting the expected quality of IR disclosures. The three sectors previously highlighted, namely Retail, Utilities and Real Estate, showed very high compliance with the expected quality of IR disclosures. The lowest score was Consumer Staples, indicating a slightly lower quality of IR disclosures compared to other industries. In addition, Retail has the lowest score for the business model (BM) of the content element, with an average score of 54 percent, suggesting that the industry should focus on improving the quality of this content element.

**Table 4.** Compare means in different industries

Industry		OO&EE	S&RA	BM	G	R&O	P	O	BP	Total
Materials	Mean	80%	80%	62%	76%	75%	76%	74%	71%	71%
Industrials	Mean	76%	75%	61%	74%	73%	72%	70%	68%	72%
Services	Mean	66%	76%	64%	78%	78%	72%	66%	68%	71%
Automobiles	Mean	88%	78%	66%	70%	76%	74%	72%	66%	74%
Pharmaceutical	Mean	75%	74%	66%	74%	76%	75%	72%	70%	74%
Retail	Mean	84%	82%	54%	82%	72%	82%	74%	82%	79%
Consumer Staples	Mean	75%	71%	62%	74%	68%	68%	68%	66%	69%
IT	Mean	77%	72%	61%	72%	74%	73%	73%	69%	72%
Utilities	Mean	78%	75%	70%	74%	77%	77%	72%	78%	77%
Real Estate	Mean	79%	83%	71%	75%	77%	79%	75%	77%	77%
Conglomerate	Mean	86%	78%	76%	76%	74%	72%	76%	72%	76%



The results of the descriptive statistics for the dependent (DV) and control (CV) variables are shown in Table 5. As for firm performance, the mean of ROE based on accounting measures is the highest (8.7 percent), followed by the mean of ROA (5.2 percent). The efficiency with which a corporation generates profits from the equity investments of its shareholders is measured by its return on equity (ROE), and a mean of 8.7 percent shows that shareholders have benefited significantly. The ROA of 5.2 percent or higher is generally considered good. The greater a company's ROA, the more efficient it is at creating profits. Meanwhile, the mean of Tobin's Q based on market measures is 1.04, and the mean of EVA is negative 121.3. The Tobin's Q ratio should ideally equal 1, which indicates that the company's investment choices were well thought out and that the market has fairly valued its assets.

**Table 5.** Descriptive statistics of dependent variables and control variables

	Minimum	Maximum	Median	Mean	Std. Deviation
ROA	-0.052	0.237	0.049	0.052	0.039
ROE	-0.092	0.196	0.097	0.087	0.056
EVA	-6821.9	365.6	-3.691	-121.3	811.4
Tobin's Q	0.233	5.223	0.734	1.042	0.757
Firm Size	0.079	5.485	2.984	3.025	0.743
Leverage	0.001	8.330	0.433	0.823	1.213

## 5.2. Correlation analysis

Table 6 explains the results of the Pearson correlation matrix between the dependent, independent, and control variables. Additionally, it demonstrates a significant positive association between IR disclosure quality (IRQ) and ROA and ROE, proving that IRQ led to a better firm performance of the 72 Japanese listed companies.

Overall, the findings indicate there is a significant positive correlation between IR disclosure quality and firm performance based on accounting-based measurement. A correlation coefficient above 0.80, according to Field (2013), may indicate multicollinearity problems. However, the results in Table 6 depict the score is less than 0.8, indicating that the variables used in this study do not suffer any serious multicollinearity problems.

**Table 6.** Pearson correlation matrix for variables used in the study

	IRQ	ROA	ROE	EVA	Tobin's Q	Firm Size	Leverage
IRQ	1						
ROA	0.303**	1					
ROE	0.249*	0.514**	1				
EVA	0.170	0.185	0.103	1			
Tobin's Q	0.124	.444**	.308**	0.154	1		
Firm Size	0.216	-0.023	0.090	-.427**	-0.284*	1	
Leverage	-0.148	-.383**	-.194	-.461**	-0.254*	0.334**	1

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

## 6. Main Regression Results

### 6.1. Accounting-based measure

The dependent variable (ROA) and independent variable (IRQ) regression findings are shown in Table 7. It shows the p-value is less than 5 percent, which portrays there is a significant relationship between IR disclosure quality and firm performance, so the original H1 hypothesis is accepted. As for the control variables, leverage (debt-to-equity ratio) indicates a significant correlation with ROA, whereas in contrast, firm size shows no correlation with ROA.

**Table 7.** Regression analysis: ROA as the dependent variable

Variables	$\beta$	t-Statistic	p-value
Constant		-0.918	0.362
Independent variable:			
IRQ	0.239	2.102	0.039
Control variables:			
Firm Size	0.047	2.102	0.697
Leverage	-0.363	-3.081	0.003
F value		6.034	
Sig.		0.001	

The outcomes of the regression analysis for both the independent variable (IRQ) and the dependent variable (ROE) are shown in Table 8. The original H2 Hypothesis is rejected because the IRQ's p-value of 0.109, which is larger than 5%, indicates that there is no relationship between IR disclosure quality and firm performance as assessed by return on equity (ROE). In addition, the p-values for leverage (debt-to-equity ratio) and company size are 0.192 and 0.719 (greater than 5%), respectively, thus, there is no correlation with ROA.

**Table 8.** Regression analysis: ROE as the dependent variable

Variables	$\beta$	t-Statistic	p-value
Constant		-0.045	0.964
Independent variable:			
IRQ	0.206	1.626	0.109
Control variables:			
Firm Size	0.048	0.362	0.719
Leverage	-0.174	-1.317	0.192
F value		2.035	
Sig.		0.118	

According to the results in Tables 7 and 8 above, IR disclosure quality has a significant effect on firm performance based on the accounting-based measures (ROA). This result is similar to that of previous studies by Velte (2021) and Samy (2019), where they discovered IR quality was found to have a positive influence on the company's financial performance (ROA). However, IR disclosure quality had no impact on company performance when measured using ROE.

## 6.2. Market-based measure

Table 9 shows the regression analysis results for the independent variable (IRQ) and dependent variable (EVA). The results explained there is no relationship between EVA and IR disclosure quality, as evidenced by the p-value of 0.055, which is higher than 5%. Additionally, a p-value of less than 1% reveals a significant relationship between leverage (debt-to-equity ratio) and business size with ROA.

**Table 9.** Regression analysis: EVA as the dependent variable

Variables	$\beta$	t-Statistic	p-value
Constant		-0.500	0.618
Independent variable:			
IRQ	0.204	1.949	0.055
Control variables:			
Firm Size	-0.368	-3.360	0.001
Leverage	-0.308	-2.842	0.006
F value		11.337	
Sig.		0.000	

**Table 10.** Regression analysis: Tobin's Q as the dependent variable

Variables	$\beta$	t-Statistic	p-value
Constant		0.769	0.445
Independent variable:			
IRQ	0.163	1.365	0.177
Control variables:			
Firm Size	-0.273	-2.182	0.033
Leverage	-0.138	-1.121	0.266
F value		3.468	
Sig.		0.021	

Table 10 depicts the results for the independent variable (IRQ) and the dependent variable (Tobin's Q). It shows a p-value of higher than 5 percent indicates that there is no significant association between the Tobin's Q and IR disclosure quality. Only firm size, with a p-value of 0.033 percent, indicates a significant correlation with ROA, while leverage's (debt-to-equity ratio) p-value is 0.266 (greater than 5 percent), thus, it has no correlation with ROA.

According to the results in Tables 9 and 10 above, IR disclosure quality has no impact on firm performance based on market-based measures. These results are similar to those of Mukeredzi (2019) and Matemane and Wentzel (2019), whereby both studies concluded that there was no significant relationship between IR quality and EVA. However, these results contradict the expected results of this current study. The fact that there is no substantive relationship shows that when companies provide their stakeholders with an overall assessment of the company through comprehensive reports, the company does not add value. Atan et al. (2016) pointed out that one possible reason for the insignificant relationship is time. Their research lasted for two years and it suggests that longer studies might produce significant results. Another possible reason could be that EVA has inherent limitations when using historical market value. This

irrelevant relationship could be due to the associated costs of integrating these issues into a business strategy.

Meanwhile for Tobin's Q, the results are consistent with Mukeredzi (2019) and Matemane and Wentzel (2019), they found no relationship between IR disclosure quality and firm performance. In fact, Matemane and Wentzel (2019) believed that companies often focus only on short-term financial performance and ignore more robust long-term performance measures, such as EVA and Tobin's Q.

## **7. Discussion and Conclusion**

Based on the above findings, the results showed that IR disclosure quality is at an adequate level when the mean score for all content elements is between 60 percent and 80 percent, as shown in Tables 2 and 3. Companies seem to score higher on criteria such as "organizational overview and external environment," "strategy and resource allocation," "governance," "risk and opportunity," and "performance". On the other hand, novel parts like "Business model" and "Outlook," which have just been included to the IR framework and place a higher emphasis on the future, may still be lacking.

Overall, the findings revealed a significant relationship between the ROA-based firm performance and the quality of IR disclosure. However, they are in contradiction to the firm's performance and IR disclosure quality as determined by accounting (ROE) and market-based measures (EVA and Tobin's Q). This shows that Japanese listed companies have yet to develop long-term value creation, but have adopted a short-term view, paying more attention to the company's profitability. This confirms the result of the first research objective: most companies only focus on disclosing the existing framework content in traditional financial reports and lack the disclosure of forward-looking and long-term value contents, such as "Business model" and "Outlook". Findings also indicate that increases in IR disclosure quality can have a favourable effect on a company's short-term financial performance but building long-term value needs improvements in the forward-looking components of IR disclosures.

## **8. Practical and Social Implications**

Results of this study tend to benefit accountants, businesses, and regulators. Findings indicate that IR disclosure quality is adequate, however, the disclosure creatives initiatives, i.e., those deemed novel and more prospective under the IR framework, that are scarce. Compilers of business reports, particularly accountants and consultants, should therefore be more specific about the missing content elements and make the required modifications to produce higher quality disclosures. Conversely, this research provides evidence that greater levels of financial success can be achieved through high-quality IR disclosures.

## **9. Research Limitations and Direction for Future Research**

First, this study is limited to public traded Japanese companies, thus, high-quality IR disclosure in other countries, particularly the Asian region, were not included. Second, the variables used in this study are ROA and ROE, EVA and Tobin's Q. Various other performance measures, such as earnings per share (EPS), sales growth and others should be used in future studies. Next, is the limitation in the timeframe, this study required manual calculation of IR disclosure scores involving comprehensive report samples,

which was time-consuming. In fact, due to variations in knowledge and cognition, the manual assessment of IR disclosure quality based on the IIRC Framework may result in minor discrepancies in the ratings. In addition, only the 2019 comprehensive reports were examined, but future research should increase the time frame of the analysis. Finally, this study focuses solely on the eight content elements; however, the IIRC framework also has other important disclosure indicators, such as seven guiding principles and six relevant capitals that can be considered by future studies.

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## References

- Atan, R., Razali, F. A., Said, J., & Zainun, S. (2016). Environmental, social and governance (ESG) disclosure and its effect on firm's performance: A comparative study. *International Journal of Economics and Management*, 10(2), 355-375.
- Atkins, J., & Maroun, W. (2015). Integrated reporting in South Africa in 2012: Perspectives from South African institutional investors. *Meditari Accountancy Research*. <https://doi.org/10.1108/MEDAR-07-2014-0047>
- Baboukardos, D., & Rimmel, G. (2016). Value relevance of accounting information under an integrated reporting approach: A research note. *Journal of Accounting and Public Policy*, 35(4), 437-452. <https://doi.org/10.1016/j.jaccpubpol.2016.04.004>
- Chu, H. (2015). Research methods in library and information science: A content analysis. *Library & information science research*, 37(1), 36-41. <https://doi.org/10.1016/j.lisr.2014.09.003>
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- De Villiers, C., Venter, E. R., & Hsiao, P. C. K. (2017). Integrated reporting: background, measurement issues, approaches and an agenda for future research. *Accounting & Finance*, 57(4), 937-959. <https://doi.org/10.1111/acfi.12246>
- Eccles, R. G., Herz, R. H., Keegan, E. M., & Phillips, D. M. (2002). *The value reporting revolution: Moving beyond the earnings game*. John Wiley & Sons.
- El-Deeb, M. S. (2019). The impact of integrated reporting on firm value and performance: Evidence from Egypt. *Alexandria Journal of Accounting Research*, 3(2), 1-34.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.
- Hamad, S., Draz, M. U., & Lai, F. W. (2020). The impact of corporate governance and sustainability reporting on integrated reporting: A conceptual framework. *Sage Open*, 10(2), 2158244020927431. <https://doi.org/10.1177/2158244020927431>
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of accounting and economics*, 31(1-3), 405-440. [https://doi.org/10.1016/S0165-4101\(01\)00018-0](https://doi.org/10.1016/S0165-4101(01)00018-0)
- Hoque, M. E. (2017). Why company should adopt integrated reporting? *International Journal of Economics and Financial Issues*, 7(1), 241-248.
- Huei, L. Y., & Kee, P. L. (2021). Integrated reporting and firm performance in Malaysia: moderating effects of board gender diversity and family firms. *Studies of Applied Economics*, 39(4). <https://doi.org/10.25115/eea.v39i4.4588>
- Hussainey, K., & Salama, A. (2010). The importance of corporate environmental reputation to investors. *Journal of Applied Accounting Research*. <https://doi.org/10.1108/09675421011088152>
- IIRC. (2013). The International Integrated Reporting Framework. <http://integratedreporting.org/wp-content/uploads/2015/03/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-2-1.pdf>

- IIRC. (2015). Progress through reporting. <https://www.integratedreporting.org/wp-content/uploads/2014/12/IIRC-Integrated-Report-2015.pdf>
- IIRC. (2020). The International Integrated Reporting Framework. <https://www.integratedreporting.org/2020revision/>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Khoram Abadi, A. C., & Hassan Janani, M. (2013). The role of disclosure quality in financial reporting. *European Online Journal of Natural and Social Sciences*, 2(3), 439.
- KPMG. (2011). Integrated reporting: performance insight through better business reporting. <https://www.stern.nyu.edu/sites/default/files/assets/documents/road-to-integrated-reporting.pdf>
- KPMG. (2020). Survey of Integrated Reporting in Japan 2020. <https://home.kpmg/jp/en/home/insights/2021/04/integrated-reporting2020.html>
- Krzus, M. P. (2017). Integrated Reporting for a Long-Term Strategy. [http://integratedreporting.org/wp-content/uploads/2017/03/Mar2017\\_IntegratedReportingForALongtermStrategy.pdf](http://integratedreporting.org/wp-content/uploads/2017/03/Mar2017_IntegratedReportingForALongtermStrategy.pdf)
- Lai, F. W., Shad, M. K., Konečná, Z., Goni, F. A., Chofreh, A. G., & Klemeš, J. J. (2022). Corporate governance code and voluntary disclosure of integrated reporting: Evidence from an emerging economy. *Sustainable Development*. <https://doi.org/10.1002/sd.2323>
- Lee, K. W., & Yeo, G. H. H. (2016). The association between integrated reporting and firm valuation. *Review of Quantitative Finance and Accounting*, 47(4), 1221-1250. <https://doi.org/10.1007/s11156-015-0536-y>
- Li, Y., Gong, M., Zhang, X. Y., & Koh, L. (2018). The impact of environmental, social, and governance disclosure on firm value: The role of CEO power. *The British Accounting Review*, 50(1), 60-75. <https://doi.org/10.1016/j.bar.2017.09.007>
- Lourenço, I. C., Callen, J. L., Branco, M. C., & Curto, J. D. (2014). The value relevance of reputation for sustainability leadership. *Journal of Business Ethics*, 119(1), 17-28. <https://doi.org/10.1007/s10551-012-1617-7>
- Martinez, C. (2016). Effects of integrated reporting on the firm's value: evidence from voluntary adopters of the IIRC's framework. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.2876145>
- Marx, B., & Mohammadali-Haji, A. (2014). Emerging trends in reporting: an analysis of integrated reporting practices by South African top 40 listed companies. *Journal of Economic and Financial Sciences*, 7(1), 231-250. <https://doi.org/10.4102/jef.v7i1.138>
- Matemane, M. R., & Wentzel, R. (2019). Integrated reporting and financial performance of South African listed banks.
- Melegy, M., & Alain, A. (2020). Measuring the effect of disclosure quality of integrated business reporting on the predictive power of accounting information and firm value. *Management Science Letters*, 10(6), 1377-1388. <https://doi.org/10.5267/j.msl.2019.11.019>
- Moloi, T., & Iredele, O. (2020). Firm Value and Integrated Reporting Quality of South African Listed Firms. *Academy of Strategic Management Journal*, 19(1), 1-12.
- Mukeredzi, T. C. G. (2019). Impact of integrated reporting on financial performance [Doctoral dissertation].
- Owusu-Ansah, S. (1998). The impact of corporate attributes on the extent of mandatory disclosure and reporting by listed companies in Zimbabwe. *The International Journal of Accounting*, 33(5), 605-631. [https://doi.org/10.1016/S0020-7063\(98\)90015-2](https://doi.org/10.1016/S0020-7063(98)90015-2)
- Pistoni, A., Songini, L., & Bavagnoli, F. (2018). Integrated reporting quality: An empirical analysis. *Corporate Social Responsibility and Environmental Management*, 25(4), 489-507. <https://doi.org/10.1002/csr.1474>
- Pivac, S., Vuko, T., & Cular, M. (2017). Analysis of annual report disclosure quality for listed companies in transition countries. *Economic research-Ekonomska istraživanja*, 30(1), 721-731. <https://doi.org/10.1080/1331677X.2017.1311231>
- Richardson, G., & Tinaikar, S. (2004). Accounting based valuation models: what have we learned? *Accounting & Finance*, 44(2), 223-255. <https://doi.org/10.1111/j.1467-629X.2004.00109.x>

- Samy, M. (2019). The Impact of Integrated Reporting on Firm Value and Performance: Evidence from Egypt. *Journal of Accounting Research*, 3(2), 1-33.
- Setayesh, M., & Kazemnezhad, M. (2010). Investigating the Effect of Ownership Structure and Board of Directors Combination on the Dividend Policy of the Companies Listed on the Tehran Stock Exchange. *Journal of Accounting Knowledge*, 1(1), 29-51.
- Smith, R., & World Economics Association. (2016). *Green capitalism: the god that failed*. College Publications.
- Soriya, S., & Rastogi, P. (2022). The impact of integrated reporting on financial performance in India: a panel data analysis. *Journal of Applied Accounting Research*, (ahead-of-print). <https://doi.org/10.1108/JAAR-10-2021-0271>
- Velte, P. (2021). Archival research on integrated reporting: a systematic review of main drivers and the impact of integrated reporting on firm value. *Journal of Management and Governance*, 1-65. <https://doi.org/10.1007/s10997-021-09582-w>
- Wallace, R. S. O., & Naser, K. (1995). Firm-specific determinants of comprehensiveness of mandatory disclosure in the corporate annual reports of firms on the stock exchange of Hong Kong. *Journal of Accounting and Public Policy*, 14, 311-368. [https://doi.org/10.1016/0278-4254\(95\)00042-9](https://doi.org/10.1016/0278-4254(95)00042-9)
- Yıldırım, G., Kocamış, T. U., & Türüdüoğlu, F. Ö. (2017). Integrated Reporting: A Template for Energy Companies. *Accounting and corporate reporting*, 15. <https://doi.org/10.5772/intechopen.68921>
- Zhou, S., Simnett, R., & Green, W. (2017). Does integrated reporting matter to the capital market? *Abacus*, 53(1), 94-132. <https://doi.org/10.1111/abac.12104>