

Sustainability Reporting to Integrated Reporting: the Relationship Between Integrated Reporting Disclosure Quality (IRDQ) and Firm Performance



Mira Susanti Amirrudin, Mazni Abdullah, Zakiah Saleh

Abstract: *The International Integrated Reporting Council (IIRC) has developed an Integrated Reporting (IR) Framework in 2013 for better integration of financial and non-financial information and to improve corporate reporting. IIRC calls companies to prepare their annual report according to IR Framework. Given the new development of IR, research should examine the actual contents of IR and the effect of this reporting strategy on the performance or value of the company. It is essential to highlight that an IR is not merely combining two reports as one. It is a holistic view of the organisation by putting its performance and prospects, strategy and governance into its external environment. Using the data of 360 firm-year observations of IR companies, this study examines the quality of IR by developing an index which measures the quality of IR report and identifies if there is any relationship between IR and firm performance. The finding provides evidence that companies preparing high-quality IR report show a significant positive relationship with firm performance. This study contributes by providing empirical evidence on the benefits of adopting the IR Framework. The IR disclosure score from this study will be significant to the preparers of IR, policymaker and standard setters to assist in assessing IR's potential as a vehicle to improve corporate reporting after the issuance of Framework in 2013.*

Keywords: *Integrated Reporting, Disclosure Quality, Corporate Reputation, Firm performance, Institutional factors*

I. INTRODUCTION

The International Integrated Reporting Council (IIRC) has developed an Integrated Reporting (IR) Framework for better integration of financial and non-financial information and to improve corporate reporting. IR Framework is established in

December 2013 by IIRC to promote integrated thinking and to change the behaviour in the business. The IR shows the holistic picture of a company about future targets as well as links between financial performances and non-financial performances (Jensen & Berg, 2012). In favour of IR, practitioners, and supporters of IR assert that IR brings more transparency on a corporate commitment to sustainability by showing the links between financial and sustainable performance in a single document (Adams, 2013; Eccles & Krzus, 2010; Shanmugam et al. 2019a, 2019b; Shanmugam & Nadesan 2019). It also brings governance, financial capital, intellectual capital, social capital, and environmental capital onto a common platform (Morros, 2016). Thus, integrated reporting is just not about reporting, but in reality, is an element of better business reporting with higher benefits (Steyn, 2014).

The impact of IR on firm performance is indeed a valuable matter. Changing to IR is a costly decision, and there is a need to ensure that the benefits of IR outweigh its costs. Previous studies provide a mix of evidence between IR and firm performance. There is significant positive evidence between IR and Return on Asset (Albetairi, Kukreja, & Hamdan, 2018), IR and Tobin's Q (Lee & Yeo, 2015) and IR and cost of capital (Barth, Cahan, Chen, & Venter, 2017). On the other hand, Motavassel, Ansari, Golzar and Zarfsaz (2013), found that there is no significant relationship between IR and firm performance. IR adoption and understanding the impact of IR report is an under-researched area that is of significant interest to be explored (Adams, 2014; De Villiers et al., 2011; Eccles and Krzus, 2010). Most of the studies on IR disclosures are carried out in South African countries which require companies to mandatory disclosed IR for companies listed in Johannesburg Stock Exchange (Barth et al., 2017; Lee & Yeo, 2015; Zhou, Simnett, & Green, 2017). There is a need to assess whether the IR disclosures will have any impact on firm performance in voluntary reporting countries. To enhance the research between IR and firm performance, the objective of this study is to provide empirical evidence on the benefits of IR reporting both in voluntary and mandatory reporting companies. Using a Signalling Theory, this study draws a sample of IR companies from the IIRC websites. A total of 120 companies from the year 2014 to the year 2016 (360 firm-year observations) is selected for this study comprises of companies from voluntary and mandatory reporting countries.

Manuscript received on February 10, 2020.

Revised Manuscript received on February 20, 2020.

Manuscript published on March 30, 2020.

* Correspondence Author

Mira Susanti Amirrudin *, Faculty of Accountancy, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia. Email: mirasusanti@uitm.edu.my

Mazni Abdullah, Faculty of Business & Accountancy, Universiti Malaya, Kuala Lumpur, Malaysia.

Zakiah Saleh, Faculty of Business & Accountancy, Universiti Malaya, Kuala Lumpur, Malaysia.

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an [open access](http://creativecommons.org/licenses/by-nc-nd/4.0/) article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

Sustainability Reporting to Integrated Reporting: the Relationship Between Integrated Reporting Disclosure Quality (IRDQ) and Firm Performance

II. LITERATURE REVIEW

According to signalling theory (Spence, 1973), the primary objective of the corporate disclosure is to inform analysts and investors about the firm quality and value. Signalling theory suggests how a company gives signals to users through financial reports. This signal contains information about the results of managers' activities to realise the owner's wishes. The signals can be a firm's performance, such as financial and annual reports or other information, which states the company's prospects are better than others. According to Oliveira, Rodrigues, and Craig (2006), signalling theory in organisations will signal news to investors and other stakeholders through voluntary disclosure

IR demonstrates how an organisation creates value through the connectivity of strategic objectives, risk, and performance (IIRC, 2013), and this requires the company to report in integrated manners on their commitment to the value creation activities. Since the disclosure of IR is to inform the analyst and investors about the firm quality and value, this suggests that disclosure decisions in the IR involve reporting only relevant information about firm performance. Therefore, if the IR is prepared by IR Framework 2013, this signalling the quality of the company towards their stakeholders and signal received is shown through firm performance.

A. Integrated Reporting Framework 2013

In this framework, the IR is defined as a concise communication about how an organisation's prospects, performance, governance, and strategy in the context of its external environment, create value over the short, medium

and long-term (IIRC, 2013). Table 1 shows that the framework for IR consists of fundamental concepts, guiding principles and content elements. The IR Framework introduces three fundamental concepts, which are the concept of the six capitals, the need to explain the organisation's business model and the value creation and destruction over time. Capitals are categorised in the Framework as financial, manufactured, intellectual, human, social and relationships, and natural capital. Although the Framework does not mandate that all the capital as mentioned above categories apply to all organisations, it proposes that the categories as mentioned earlier be used as a guideline to ensure that the company does not ignore the capital it uses or affects.

In the context of IR, value is created through the business model of an organisation that takes input from the capitals and transforms it through business activities and interactions to generate results and outcomes that create or destroy value for the company, its stakeholders, community and the environment in the short, medium and long term (IIRC, 2013). The content of the integrated report is informed by the guiding principles of strategic focus and future orientation, connectivity of information, stakeholder responsiveness, materiality and conciseness, reliability, completeness and consistency and comparability (IIRC, 2013a). There are eight areas identified in the IR as a basis for its content elements. The importance of analysing the content elements of the Integrated Report lies in the fact that they are considered as essential factors of organisational value creation (IIRC, 2013).

TABLE 1:IR Framework

Fundamental concepts	Guiding principles	Content elements
1. Capitals <ul style="list-style-type: none"> • Financial • Manufactured • Intellectual • Human • Social and relationship • Natural 2. The Business Model 3. The Creation of Value over time	1. Strategic focus and future orientation 2. Connectivity of information 3. Stakeholder relationships 4. Materiality 5. Conciseness 6. Reliability and completeness 7. Consistency and comparability	1. Organisational overview and external environment 2. Governance 3. Business model 4. Risks and opportunities 5. Strategy and resource allocation 6. Performance 7. Outlook 8. Basis of presentation

B. Firm Performance Measurement

Firm performance can be viewed as how well an entity enhances its shareholders' wealth and the capability of generating earnings from the capital invested by shareholders. This study employed four indicators that were commonly used in prior studies to measure firm financial performance. Firm performances will be based on corporate financial performances such as Return on Assets (ROA) and Return on Equity (ROE), and market-based performances will be Return on Invested Capital (ROIC) and Tobin's Q (TQ)(Bhattacharyya, 2014; García Jara, Cuadrado Ebrero, & Eslava Zapata, 2011).

Researchers have used content analysis and examined the relationships between the financial performance (return on equity and return on assets) and degree of disclosures of various elements of IR framework from annual reports using

panel data. Lee & Yeo (2016) research on IR companies in South Africa found a positive relationship between IR disclosure score and firm value, which suggests that the advantages of integrated reporting in South African companies have surpassed the cost.

They also state that publishing IR can alleviate information asymmetry between company management and outside stakeholders. Extending the research of Lee & Yeo (2016), Barth et al. (2017) conduct similar research by separating firm values into three components, namely liquidity, capital costs, and expected future cash flows in South African companies. The results showed that integrated reporting has a positive relationship with firm value, which is consistent with the findings of Lee & Yeo (2016).

Also, Albetairi, Kukreja and Hamdan (2018) study of IR on the listed insurance companies found that there is wide variation in the disclosures of IR and use of non-uniform disclosures format. Furthermore, they found a positive and significant relationship between the business model, strategy and resource allocation with Return on Assets (ROA), while risk and opportunities and performance elements negatively, but significantly related to ROA. However, Barin (2016) found that there no significant evidence between IR and ROA and ROE. However, the sample size in his study is only six companies, and the panel data are for two years only.

Based on the previous studies, this study hypothesises the following:

H₁: There is a positive relationship between IR and firm performance

III. METHOD

A. Data Collection

The sample for this study comprises 120 companies listed from the IIRC websites and self-declared as IR reporters. There is no quality assessment conducted by IIRC on these IR reports. The quality of IR reports is measured by developing a Total Integrated Reporting Disclosures Quality (TIRDQ) Index consists of eight themes, and each theme consists of 10 items and this creates a total of 80 items. Quality ratings for the IR report are based on Toms (2002) which measures the disclosure quality from 0 to 5. The maximum score of the IR report, therefore, will be 400. Firm performance in this study is based on accounting performance (ROA and ROE) and market performance (ROIC and TQ). Control variables in this study are based on the size of the company, board size, leverage, industry classification and year of IR report issued (2014, 2015 and 2016).

Firm performance data and control variables for this study were obtained from the DataStream, i.e. a financial numeric database that enables users to display and download data. This database includes worldwide equity coverage direct from the stock markets, market indices, data from national government sources, commodities and derivatives data.

B. Research Model

The relationship between TIRDQ index and independent variables of performance, age and size are tested using ordinary least square method. The model for the study is as follows:

$$FIRMPERF = \alpha + \beta_1 TIRDQ + \beta_2 SIZE + \beta_3 BSIZE + \beta_4 LEV + \beta_5 IND + \beta_6 YR + \epsilon$$

Where FIRMPERF is the ROA, ROE, ROIC or TQ of the company, α is the intercept, TIRDQ is the index represents the quality of IR report, SIZE is the Log_{10} of company total assets, BSIZE is the board size of the company, LEV is the leverage of the company measured as long term debt of the company, IND is the binary number of 0 and 1 to represents financial and non-financial companies, YR represents the year annual IR report is published and ϵ is the error term.

IV. RESULTS AND DISCUSSION

A. Descriptive Statistics

The maximum score for Total Integrated Reporting Disclosure TIRDQ Index is 370 while the lowest at 160 with an average score of 265. Firm performance shows that there is a company in the sample has a negative ROA with -5.85% min, 15.89% maximum and 5.24% average. ROE shows a minimum return at -3.14%, maximum at 40.32% and min 13.3%. ROCE statistics show a min -9.73%, maximum at 31.89% and average at 9.44%. Tobin's Q (TQ) maximum measure is at 2.99 and the lowest at 0.04. This study includes industry classification (IND) dummy variables to control for industry effects and year (YR) dummy variables to control for time effects. The industry is classified into two areas, financial and non-financial industries. The year control variable is for the year IR report issued during the year 2014, 2015 and 2016. The other control variables are the size (measured based on the log of a total asset), board size (number of board members) and leverage.

Sustainability Reporting to Integrated Reporting: the Relationship Between Integrated Reporting Disclosure Quality (IRDQ) and Firm Performance

B. Correlation and Regression

TABLE 2 shows the correlation between TIRDQ and variables included in the study and

TABLE 3 presents the results of regression analysis for the association between TIRDQ, independent and control variables.

TABLE 2: Pearson Correlation between variables

	TIRDQ	ROA	ROE	ROIC	TQ	SIZE_	BSZ	LEV	YR	IND
TIRDQ	1	.435**	.341**	.345**	.355**	.213**	0.026	0.1	-0.204**	0.069
ROA		1	.697**	.636**	.528**	.105*	-0.036	.197**	0.008	.278**
ROE			1	.740**	.377**	.168**	0.083	.170**	0.006	0.073
ROIC				1	.463**	.163**	0.007	0.091	0.071	0.081
TQ					1	0.097	-0.084	.180**	-0.018	.348**
SIZE						1	.130*	-0.073	-0.038	-0.087
BSZ							1	0.049	0.041	-.195**
LEV								1	-0.039	.360**
IND									1	-0.008
YR										1

*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed). The result from correlation analysis from Table 1 shows that TIRDQ has a positive significant correlation ($r=0.435$, $p<0.01$) with firm performance, Return on Asset (ROA), positive significant correlation ($r=0.341$, $p<0.01$) with Return on Equity (ROE), positive significant correlation ($r=0.345$, $p<0.01$) with Return on Invested Capital (ROIC) and positive significant correlation ($r=0.355$, $p<0.01$) with Tobin's Q

(TQ). There is also a significant positive correlation between TIRDQ and size of the company ($r=0.213$, $p<0.01$) but significant negative correlation (-0.204 , $r<0.01$) with the year of the report. Subsequent regression analyses are performed on the TIRDQ and firm performance to identify the relationship. The analysis is divided into four models (ROA, ROE, ROIC and TQ).

TABLE 3: Regression results

	Accounting Performance				Market Performance			
	ROA		ROE		ROIC		TQ	
	Model 1		Model 2		Model 3		Model 4	
	B	t-stat	B	t-stat	B	t-stat	B	t-stat
TIRDQ	0.046	8.82**	0.081	6.1475**	0.076	6.6783**	0.006	6.7290**
SIZE	0.25	0.97**	1.39	2.1285*	1.173	2.069*	0.061	1.35
BSZ	-0.022	-0.394	0.157	1.0989	-0.037	-0.297	-0.009	-0.95
LEV	0.026	1.68**	0.104	2.5956*	0.035	1.01	0.003	0.912
IND	2.384	4.3798**	0.577	0.417	1.018	0.847	0.569	5.9735**
YR	0.555	2.1885**	0.997	1.5473	1.651	2.9522**	0.054	1.224
R ²	0.268		0.156		0.155		0.24	
Adj R ²	0.255		0.142		0.14		0.227	
Min ViF	0.822		0.822		0.822		1.05	
Max ViF	1.217		1.217		1.217		1.202	
F	21.5230**		10.8801**		10.7604**		18.6188**	

The result shows that there is a significant positive relationship between TIRDQ and accounting performance (ROA and ROE). The relationship is a significant positive relationship between TIRDQ and ROA at 1% confidence interval for Model 1 ($F=21.5230$, $p<0.01$) and R^2 at 26.8%. In Model 2, TIRDQ shows a significant positive relationship with ROE at 1% confidence level ($F=10.8801$, $p<0.01$) with

R^2 at 15.6%. Size of the company, leverage, industry and year are showing a significant relationship in the relationship

between TIRDQ and ROA while the size of the company and leverage shows a significant relationship between TIRDQ and ROE. The regression analysis between TIRDQ and market performances (ROIC and TQ) also shows a significant positive relationship. In Model 3, the

result is significant at a 1% confidence level ($F=10.7604$, $r<0.01$) and TIRDQ, size of the company and year showing a significant relationship.

In Model 4, the relationship is significant at a 1% confidence level ($F=18.6188$, $r<0.01$) with R^2 at 24%. In Model 4, TIRDQ and industry classification is showing a significant relationship.

V. CONCLUSION

Overall, the results between TIRDQ and firm performance show a significant positive relationship. The result confirmed with the previous findings that higher IR quality would improve firm performance and firm value (Barth, Cahan, & Venter, 2015; Lee & Yeo, 2015). Higher quality of IR report will signal to the investors of high-quality information which indirectly shows better internal decisions, and this is rewarded through the increase in firm performance. This result shows that, on average, the benefits of reporting good quality of IR report will reward company in the accounting return and market return. These results also supported the objective of IIRC that the company reporting IR will be able to create values over time (IIRC, 2013).

REFERENCES

- Adams, C. (2013). Understanding Integrated Reporting: The Concise Guide to Integrated Thinking and Future of Corporate Thinking.
- Albetairi, H. T. A., Kukreja, G., & Hamdan, A. (2018). Integrated Reporting and Financial Performance: Empirical Evidences from Bahraini Listed Insurance Companies. *Accounting and Finance Research*, 7(3), 102.
- Barin, A. (2016). Integrated Reporting Practices in. (December), 129–135.
- Barth, M. E., Cahan, S. F., Chen, L., & Venter, E. R. (2017). The economic consequences associated with integrated report quality: Capital market and real effects. *Accounting, Organizations and Society*, 62, 43–64.
- Barth, M. E., Cahan, S. F., & Venter, E. R. (2015). The Economic Consequences Associated with Integrated Report Quality: Early Evidence from a Mandatory Setting. *Ssrn Electronic Journal*, (2014).
- Bhattacharyya, A. (2014). Factors associated with the social and environmental reporting of australian companies. *Australasian Accounting, Business and Finance Journal*, 8(1), 25–
- Eccles, R. G., & Krzus, M. (2010). One report: Integrated reporting for a sustainable strategy.
- García Jara, E., Cuadrado Ebrero, A., & Eslava Zapata, R. (2011). Effect of international financial reporting standards on financial information quality. *Journal of Financial Reporting and Accounting*, 9(2), 176–196.
- IIRC. (2013). The international Integrated Reporting framework. 15(1), 37. Retrieved from www.theiirc.org
- IIRC. (2013). Integrated Reporting Framework. International Integrated Reporting Council.
- Jensen, J. C., & Berg, N. (2012). Determinants of traditional sustainability reporting versus integrated reporting. An institutionalist approach. *Business Strategy and the Environment*, 21(5), 299–316.
- Lee, K.-W. W., & Yeo, G. H.-H. H. (2015). The association between integrated reporting and firm valuation. *Review of Quantitative Finance and Accounting*.
- Morros, J. (2016). The integrated reporting: A presentation of the current state of art and aspects of integrated reporting that need further development. *Intangible Capital*, 12(1), 336–356.
- Motavassel, M., Ansari, J., Golzar, B. A., & Zarfaz, S. T. (2013). Corporate Governance Attributes, Audit Quality and Financial Discourser Quality: Case of Tehran Stock Exchange. 3(5), 297–301.
- Shanmugam, L. & Nadesan, G. 2019. An Innovative Module for Learning Computational Thinking Skills among Undergraduate Students. *International Journal of Academic Research in Progressive Education & Development* 8(4): 116–129. doi:10.6007/IJARPE/v8-i4/6440
- Shanmugam, L., Yassin, S. F. & Khalid, F. 2019a. Incorporating the Elements of Computational Thinking into the Mobile Application Development Life Cycle (MADLC) Model. *International Journal of Engineering and Advanced Technology* 8(5): 815–824.
- Shanmugam, L., Yassin, S. F. & Khalid, F. 2019b. Enhancing Students' Motivation to Learn Computational Thinking through Mobile Application Development Module (M-CT). *International Journal of Engineering and Advanced Technology* 8(5): 1293–1303.
- Steyn, M. (2014). Organisational benefits and implementation challenges of mandatory integrated reporting Perspectives of senior executives at South African listed companies. *Accounting, Auditing & Accountability Journal*, 5(4), 476–503.
- Zhou, S., Simnett, R., & Green, W. (2017). Does Integrated Reporting Matter to the Capital Market? *Abacus*, 53(1), 94–132.