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Voluntary and compulsory integrated reporting: Evidence on reporting quality

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ABSTRACT

This study investigates the quality of Integrated Report (IR) in the voluntary and compulsory setting. This study's first objective is to measure IR disclosure quality and assess whether companies comply with the 2013 IR framework. The second objective is to examine whether there is any difference in reporting quality between the IR's compulsory regime and voluntary regime. A sample of 120 international companies listed on the International Integrated Reporting Council (IIRC) websites throughout three years (2014-2016) is selected based on the availability of all data for the analysis. A Total Integrated Reporting Disclosure Quality (TIRDQ) index is self-constructed through quantitative content analysis. The finding shows that the quality of IR improved from the year 2014 to 2016. There is no significant difference in the reporting quality between mandatory and voluntary IR. The findings have implications for policy setters who have mandated or are considering mandating IR.

1. Introduction

Integrated Reporting (IR) is meant to be an alternative to the current reporting model. It is likely to be the future of corporate reporting (Burcă et al., 2018; Pavlopoulos et al., 2019). The International Integrated Reporting Council (IIRC) had developed an Integrated Reporting (IR) framework, which can integrate financial and non-financial information better and improve corporate reporting. The IR framework was established in December 2013 by the IIRC to promote integrated thinking and change business behaviour. IR comprises financial and non-financial information, but it is more than just publishing "one report" (Jensen & Berg, 2012). In general, IIRC asserts that an IR is "*a concise communication about how an organisation's strategy, governance, performance, and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long-term*" (IIRC, 2021, p. 53).

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The IR framework consists of seven guiding principles and eight content elements that clearly describe an organisation's capitals and value creation process. The IR report should explain the firm's business model, including its business activities, initiatives that influence the effectiveness and efficiency of the business activities, and the capacity of its business model to adapt, change and innovate (Abhayawansa, 2014). Integrated thinking is thus required to produce IR, where the organisation works together to set its strategy and business model (Morros, 2016).

The IR framework has gained significant momentum since its establishment in 2013. Its development has been considered by a growing number of participants in the IIRC Pilot Programs*. It has been consistently regulated by various parties involved in this area around the world†. The IIRC Pilot Program of Business Network started in October 2011; it began attracting more than 100 businesses from 26 countries. By 2015, the GRI started inviting Gold Standard SR companies to form a Group of Corporate Leadership to contribute to developing the IR. This movement has led to a growing number of companies preparing their report based on the IR framework. It was able to show that IR is a new corporate reporting regime. Given the nascent stage of development of the IR practices, it can be expected that practices would vary widely, hence an interesting topic to examine.

Given the new development of IR, García-Sánchez et al. (2013) emphasised that research should examine the actual contents of IR and its effect on firm performance or value. Prior studies by Setia et al. (2015) and Solomon and Maroun (2012), looking at the early adopters of IR in South Africa between 2010 to 2012 showed an increase in the disclosure of capital information. Studies by Stent and Dowler (2015) also found that IR reports ranged from lengthy rather than concise to not following the IR framework guidelines. According to Wild and van Staden (2013), early reporters of IR were not achieving the task of reporting required by IIRC. The reason is that there was no relevant Standard and framework available for IR. It appears that companies were taking the information disclosed in a traditional Sustainability Reporting (SR) and strategically placing this information on the IR to make their firms appear as successfully integrating sustainability issues in the business (Clayton et al., 2015). Higgins et al. (2014) found that organisations' IR was essentially the stapling of two reports, sustainability report and financial report together, and then renaming it as an IR. This practice has not stimulated innovations in disclosure mechanisms.

Similarly, a survey conducted by GRI on the pioneers of IR between 2010 to 2012 showed that half of the published IR was a combination of the annual report and sustainability report. It is essential to highlight that an IR is not the mere combination of two reports as one (Clayton et al., 2015). As mentioned before, IR is a holistic view of the organisation's performance and prospects, strategy, and governance toward its external environment (Zhou et al., 2017). The IR is different from the SR (each of which serves its beneficial disclosure purposes). It permits companies worldwide to tell their unique stories, linking their various capitals, opportunities, business models, business strategies, and risks to future economic values throughout the short, medium, and long-term (IIRC, 2021). Based on these revelations, there is a need to examine whether IR's quality is prepared according to the IR framework 201. This issue leads to the first research question (RQ1); *Does the self-declared IRs which IIRC recommended follow the 2013 IR framework?*

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[*] The IIRC currently runs three main Pilot Programmes, namely, the IIRC Pilot Programme Business Network, the IIRC Pilot Programme Investor Network and the Public Sector Pioneer Network. Pilot Programme Yearbook 2013 states that there are 140 leading businesses and institutional investors join the programme.

[†] Johannesburg Stock Exchange (JSE) made a production of IR as listing requirements in 2010. Stock exchanges such as Singapore, Malaysia, Sao Paolo and Copanhagen called for IR. IR also recommended by IFAC and G20.

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There are inconsistencies in the adoption of IR across regions in the world. For instance, the South African companies listed in the Johannesburg Stock Exchange (JSE) must produce IR since 2010. For other countries, IR is voluntary. As of 2018, around 372 South African companies listed on the JSE were required to prepare IR. The IIRC Integrated Report 2018 disclosed that approximately 50% of the listed companies in Australia and France made their annual reports based on the IR format. 35% of the listed companies consider IR to prepare their annual reports in the UK, while 700 companies in Brazil were already listed in the IR network. Studies across various regions show that most of the studies were from the African countries (Barth et al., 2017; Lee & Yeo, 2016; Setia et al., 2015; Zhou et al., 2017), and some studies were from other countries such as the UK (Robertson & Samy, 2015), the United States (US), and Australasia (Adams & Simnett, 2011; Stubbs & Higgins, 2018).

According to Serafeim (2015), there is no straightforward procedure to examine whether companies were preparing IR or not. Certain companies could be preparing IR but not declaring it IR, while other companies may not be preparing IR but are claiming it to be IR. In this study, empirical tests were conducted on companies listed on the IIRC website from 2014 to 2016. This research setting was selected because it was difficult to determine whether companies were issuing IR or not. The companies for this study comprised those registered on this website and had self-declared that their annual report was IR. The adoption of IR was based on voluntary principles. However, it is compulsory for IR disclosure by the JSE in 2010 for South African firms. Research finds that the mandatory reporting of integrated reporting can contribute to its growth where South African companies have adopted a higher number of integrated reporters than other countries (Chersan, 2017). South African listed companies reported the IR because it was mandatory to do so, whereas other countries did so voluntarily. This comparison could further elucidate the understanding of the different qualities of IR reports. Moreover, different countries seemed to be struggling with the adoption and implementation of the IR, whether mandatory or voluntary. Hence, this issue leads to the second research question (RQ2); *Is there any difference in the quality of reporting between voluntary and compulsory IR?*

This paper aims to analyse the quality of IR issuance of IR framework in 2013 and identify whether there is any difference in the reporting quality of IR in the voluntary and mandatory settings of IR. According to Scaltrito (2015), disclosure quality can be measured in two ways. The first method is a subjective tool that uses an analyst opinion, questionnaires on different stakeholders, or an external rating. The second method to measure the disclosure quality is through an objective tool such as a disclosure index or content analysis. This study estimates the disclosure quality using content analysis by developing an index, namely Total Integrated Reporting Disclosure Quality (TIRDQ). The effect of the institutional features (mandatory versus voluntary) on IR quality in different countries would offer the relevant authorities to weigh the costs and benefits of implementing IR – whether on a mandatory or a voluntary basis. A mandatory basis would stimulate standardisation and requires companies to report on the negative or decreasing firm performance. Voluntary reporting may also lead to a wider variation in the reporting of IR since companies may be reluctant to report when there are no obligations (Deloitte, 2015).

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2. Literature review

2.1 Integrated reporting

The first part, IR framework 2013, explains how to use the framework by defining an integrated report as "a *concise communication about how an organisation's strategy, governance, performance, and prospects in the context of its external environment, lead to the creation of value over the short, medium and long term*" (IIRC, 2013, p. 7) The means of concise here is giving much information clearly but in brief but comprehensive. IR should be relatively few pages, and the other information that requires explanation in detail should be provided through an electronic form (de Villiers et al., 2014). IR integrates all the annual elements that have been reported separately in the previous reporting (financial report, governance, sustainability, remuneration) in a coherent way that leads to the notion of "one report" comes in (Eccles & Krzus, 2010). Other parts of the definition in IR will be discussed in the content elements.

The framework can be used for the private and the public sector adapted when necessary. The semi-structured interview by Guthrie et al. (2017) on the public sector found no resistance to adopting IR by a public sector in Italy. The framework discusses that the report's primary user is providers of financial capital, and the main purpose of the IR is to explain how the organisation creates value throughout the time by combining financial and non-financial information. Although the primary user is the financial capital provider, the intended benefit is for all stakeholders such as employees, non-governmental organisations, customers, creditors, and other stakeholders (IIRC, 2021). The framework is applying a principle-based approach means no specific Key Performance Indicators (KPIs), measurement methods, or any individual matter disclosure. The organisation must use its judgment on deciding what material is. This approach provides management with enough freedom to prepare their IR, leading to variations in IR content and affecting comparability (Velte & Stawinoga, 2017). The following section discusses the fundamental concepts, guiding principles, and IR framework's content elements. The IR framework can be referred to below:

Table 1. IR Framework 2013

Fundamental concepts	Guiding principles	Content elements
Capitals	Strategic focus and future orientation	Organisational overview and external environment
Financial	Connectivity of information	Governance
Manufactured	Stakeholder relationships	Business model
Intellectual	Materiality	Risks and opportunities
Human	Conciseness	Strategy and resource allocation
Social and relationship	Reliability and completeness	Performance
Natural	Consistency and comparability	Outlook
The Business Model		Basis of presentation
The Creation of Value over time		

Source: IIRC (2013)

Healy and Palepu (2001) discussed that listed firms have substantial flexibility and discretion over their corporate disclosure policies despite strict disclosure regulations. Bhasin (2017b) believes that even the IR legislation plays an essential role in its adoption, but stakeholders' and shareholders' roles will increase IR reporters. The decision to adopt IR voluntarily is not just based on specific firm levels but also at institutional levels. It is necessary to consider the various effects and aspects related to the institutional features. This is because the companies that were most likely to act responsibly and

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adequately report their behaviours operated in institutional settings due to intense coercive and normative pressure (Campbell, 2006). The increase in the number of IR reports among various countries shows coercive isomorphism whereby organisations need to act responsibly. They need to report their behaviours as a measure to seek protection against the interest of stakeholders when receiving pressure from government regulations (Campbell, 2006; Frías-Aceituno et al., 2013; Othman et al., 2011). Moreover, a deeper understanding of the implications of IR for public listed companies in various countries throughout the world would also benefit more regions around the globe since current studies had been confined to mainly South Africa (Barth et al., 2017; Lee & Yeo, 2016; Zhou et al., 2017).

Since this study measures the quality of capital in Integrated Report, the quality of the annual report will consist of quality for financial information and non-financial information. For the financial information, the researcher has referred to this as a financial reporting quality. Gary et al. (2009) define financial reporting quality as the ability to convey information about the firm's operation, especially their cash flow, to inform equity investors. This definition is consistent with the conceptual framework issued by the International Accounting Standard Board (IASB) in 2010. The general purpose of financial reporting is to inform present and potential investors to make rational decisions on equity or debt instruments by assessing the firm's cash flow. Prior studies have suggested that higher quality financial reporting can enhance investment efficiency by mitigating information asymmetries that cause economic frictions such as moral hazard and adverse selection (Leuz & Verrechia, 2000; Bushman & Smith, 2001). In addition, companies that provide high-quality financial information tend to be more conservative in their accounting and less inclined to carry out unethical practices such as earnings management (Martínez-Ferrero et al., 2015).

According to Scaltrito (2015), disclosure quality can be measured in two ways. First method is a subjective tool that uses an analyst opinion, questionnaires on different stakeholders, or through an external rating. The second method to measure the disclosure quality is through an objective tool such as a disclosure index or content analysis.

The first method that is subjective instruments for measuring the level of disclosures can be found in the previous study such as by Habek and Wolniak (2016) that is assessing the quality of CSR report in the European Union States using a questionnaire consists of 17 criteria grouped into two categories (relevance and credibility of information). Surveys and interviews are also used to understand SR and assurance practices, such as in Malaysia. Results showed that reporting on monetary contributions is selective reporting applied by companies(Sawani et al., 2010). Analysts rating is another method used to examine the quality of the annual report, such as ratings provided by the Council on Economic Priorities as a degree of corporate social responsibilities of the companies (Gelb & Strawser, 2001) or ratings provided by Kinder, Lyderberg, and Dominion measuring the level of information disclose on employee and customer relations(Hogan & Evans, 2015)

The second method of measuring disclosure quality is through disclosure index and content analysis. Previous studies estimate the environmental disclosures using content analysis based on pre-selected environmental criteria (Hasseldine et al., 2005; Toms, 2002). The number of environmental sentences is selected and codified using the scheme recommended; for example, the quality of environmental sentences is codified from zero to five that represents a higher score will be higher quality, and the quality score is calculated to compute aggregate variable (Toms, 2002). The disclosure quality of the annual report is extended to measure the CSR report, for example, measuring the quality of CSR using the qualitative characteristics of information such as relevance, faithful representation, understandability, and comparability (Alotaibi & Hussainey, 2016).

The issue in measuring the quality of annual report has been discussed in the literature where they argue that there is a need to acquire a rich understanding of the reporting and dimension for quality such as quantity, the depth of the information, and timing (Beattie et al., 2019; Elo & Kyngas, 2008;

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Hsieh & Shannon, 2005). Weighted content analysis by developing a disclosure index is one of the methods used to measure the disclosure quality of the annual report. The purpose is to count the disclosure topics and evaluate content's quality (Beck et al., 2010). Content analysis by developing the disclosure index is widely used in the CSR report (Alotaibi & Hussainey, 2016; Bidhari et al., 2013; Hermawan & Gunardi, 2019) and can measure the quality of integrated report (Lee & Yeo, 2016).

2.2 Mandatory and compulsory disclosures

Mandatory disclosures refer to the information that must be published due to law or legal requirements, stock exchange or capital market regulations, or accounting authorities' standards. Economies, social, political and human development indicators can help grow the nation's economy (Sarwar & Haq, 2017). The purpose of the mandatory disclosure is to satisfy user information needs and ensure that the annual report's preparation meets the regulatory body's requirements. Voluntary disclosures are the information disclosed exceeds the requirements by the rule of law. It represents a choice by the manager to provide accounting, and other information deemed relevant to the decision needs of users of the annual report. The voluntary disclosure appears to be the consequence of information asymmetry between the manager and the owner and the agency conflicts between managers, and outside investors (Diamond & Verrecchia, 1991; Healy & Palepu, 2001; Lang & Lundholm, 1993; Meek & Thomas, 2004) discussed that the voluntarily disclosed information should satisfy the needs of various stakeholders.

Various factors motivate the organisation to disclose information voluntarily (Graham et al., 2005; Healy & Palepu, 2001). These factors are information asymmetry or capital market transactions. Information asymmetry between managers and investors creates a preference raking over financing sources starting from internal funds, followed by debt and equity. The second is increasing in the analyst coverage due to the information available for them. The third is the corporate control contest, where the manager increases information disclosed to retain control, explain poor performance, and the possibility of reducing the undervaluing company. The fourth factor is the stock compensation plan. Rewarding managers with stock-based compensating plans such as stock appreciation rights and stock option grants is another motive for increased disclosure. Lastly is manager talent signalling, where an investor's perception of a manager's ability to predict future changes in the company's economic environment and respond to them is one of the determinants of a company market value.

Stakeholders have increased their information needs to effectively guide their decision-making by complementing non-financial disclosures with financial indicators (Eccles & Saltzman, 2011). Although financial statements undoubtedly represent the primary way users gather information, this form of reporting has limitations. Such limitation arises from the inability to adapt or change since now more non-financial disclosures are required on the area such as strategy and risk, environmental issues, human rights disclosure, or employee-related disclosures (Fasan, 2013). In addition, various non-financial corporate reporting types are needed to fill financial reporting gaps, such as social and environmental accounting, triple bottom line, CSR, and SR (Eccles & Saltzman, 2011). This information is necessary as part of the investment decision process because investors value socially responsible companies (Barom, 2019).

3. Research methodology

According to Serafeim (2015), there is no straightforward procedure to examine whether companies were preparing IR or not. Certain companies could be preparing IR but not declaring it IR, while other companies may not be preparing IR but are claiming it to be IR. In this study, content

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analysis was conducted on companies listed on the IIRC website from 2014 to 2016. The year 2014 to 2016 is selected for this study since the IR framework was introduced in 2013. The sample of IR reporters is chosen from the IIRC Reporting Database. This research setting was selected because it was difficult to determine whether companies were issuing IR or not. Therefore, selecting companies from the IIRC websites will ensure that the companies self-declared preparing the annual report following IR framework 2013. The companies were chosen for this study comprised those registered on this website and had self-declared that their annual report was IR. Another advantage of taking samplings from this website was a mix of international companies not limited to South Africa (voluntary). Therefore, there is a combination of voluntary reporting companies and mandatory reporting companies.

The quality of IR is measured by developing an index. An index was developed from the IR framework, which the IIRC had issued in 2013 to capture differences in disclosure quality in the IR report. There were eight content elements, with each content element comprising ten items. Therefore, there would be 80 items in the index. The quality ratings of 0 to 5 were adhered to, following previous studies (Lee & Yeo, 2016), to measure IR disclosure quality. The validity test and reliability tests were conducted before the index was used for further analysis. The validity test refers to the expert panel from the industry and academicians familiar with the development of the index for IR, and reliability tests are conducted through pre-testing and inter-rater reliability by two different coders.

4. Results and discussion

Table 2 shows that 49% of the sample is from the European region, Africa, Asia, North America, and South America. After the issuance of the IR framework in 2013, the European Commission issued a Directive 2014/95/EU concerning the disclosure of non-financial information. Companies that fall within the directive will prepare a non-financial statement containing environmental matters according to this directive. Also, social and employee-related issues, respect for human rights, anti-corruption, and bribery matters enhance the consistency and comparability of non-financial information disclosed throughout the European Union. The purpose of adopting this directive was in full accord with the Integrated Reporting objectives (FEE, 2013). These directives' issuance has encouraged European companies to adopt IR to present their annual report (Chersan, 2017). In this study, the IR of South African companies represents 26.7% of the sample. The UK follows it at 16.7% and Japan at 10.8%. According to the King III Report, the sample's highest number of South African companies are because South African firms listed on the JSE must produce the IR according to the King III Report since 2010. Most South African companies listed their IR on IIRC websites. It is also interesting to note that those Japanese firms are preparing their annual report following the IR framework. In 2015, The Ministry of Economic, Trade, and Industry (METI) in Japan recommended that IR provide the required information disclosure to better dialogue between companies and investors to enhance corporate value creation.

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Table 2. IR report based on the region

	Frequency	Percent	Valid percent	Cumulative percent
Africa	96	26.7	26.7	26.7
Europe	177	49.2	49.2	75.8
Asia	48	13.3	13.3	89.2
North America	27	7.5	7.5	96.7
South America	12	3.3	3.3	100
Total	360	100	100	

The analysis of the TIRDQ index from Table 3 shows the lowest average mean scores for three years are reported for the content element is in the area of Business Model (TBM). It reveals a means score of (29.28) and Outlook (TOL) (31.66) themes, while the highest mean score is for the Organizational Overview (TOE) (35.49), Performance (TPF) at 33.44, and Basis of Presentation (TBP) at 36.25. There is high variation in the disclosures of IR report, with some companies show a high quality of the content elements to the maximum number of 50. In contrast, some companies offer low-quality content elements with a score of less than 10 (e.g., a score of nine for the governance and strategy content element). Overall, the TIRDQ index score for the IR reporter's companies is higher than average (maximum score is 400), which is for 2016 at 276.96, the year 2015 at 261.92, and year 2014 at 256.39.

A business model is a system transforming inputs, through its business activities, into outputs and outcomes that aim to fulfil the organisation's strategic purposes and create value over the short, medium, and long-term (IIRC, 2013). The business model theme might be difficult to explain by the organisation, so there is a low average mean score in the TIRDQ score at 29.28. There is a need to explain the organisation's capital, such as natural capital, social and relationship capital, human capital, and natural capital in the business model. Cheng et al. (2014) discussed that the concepts of the stock and flow of capitals are very subjective, and it will be difficult for organisations to explain some of their capitals. Beattie and Smith (2013) explain that capital reporting is a higher-level concept that must be understood carefully. For example, illustrating natural capitals, which might not belong to the organisations, and the trade-off of the decrease in natural capitals needs careful consideration. Disclosing information regarding the output might be more comfortable for the companies, but managing capital throughout the organisation might be a challenge.

The Basis of Preparation and Presentation contains a high mean score of 36.25 over three years. The organisation discloses a summary of its reporting framework and guidelines such as materiality process, financial reporting standards, and financial reporting boundaries. Most companies still disclosed information such as guidelines from GRI in this section. Companies have widely used GRI as a source of reporting. An integration of GRI and IIRC was extended with the fourth generation (G4) of SR in May 2013. IR framework 2013 and GRI Guideline G4, if used complementary in the annual report preparation, can help companies create value for the organisation (KPMG, 2014).

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Table 3. Descriptive statistics of the TIRDQ index

Year		TOE	TGV	TBM	TRO	TST	TPF	TOL	TBP	TIRDQ
2016	Mean	38.1	34.7	27.6	34.3	36.7	34.2	33	38.1	276.
	Min	12	15	11	15	20	20	15	15	160
	Max	50	50	46	50	50	50	50	50	370
2015	Mean	34.6	32.0	29.5	33.9	32.2	33.2	30.5	35.8	261.
	Min	12	13	16	14	14	14	18	20	167
	Max	49	50	47	50	50	50	50	50	369
2014	Mean	33.6	30.2	30.6	31.7	30.9	32.8	31.4	34.7	256.
	Min	14	9	12	8	9	17	12	12	162
	Max	47	45	47	45	54	47	46	47	329
Total	Mean	35.4	32.3	29.2	33.3	33.3	33.4	31.6	36.2	265.
	Min	12	9	11	8	9	14	12	12	160
	Max	50	50	47	50	54	50	50	50	370

*Note: Total Organisational and External Environment (TOE), Total Governance (TGV), Total Business Model (TBM), Total Risks and Opportunities (TRO), Total Strategy and Resource Allocation (TST), Total Performance (TPF), Total Outlook (TOL), Total Basis of Presentation (TBP) and Total Integrated Reporting Disclosure Quality (TIRDQ).

In Australia, The Australian Council of Superannuation Investors has cited GRI's Guidelines as the framework of choice among the ASX100 in 2014, with 80 per cent reporting companies using the framework. This study's finding is in line with the previous research by Al Amosh and Mansor (2020) when they analysed the integrated report of Jordanian listed industrial companies from 2014 to 2017. The lowest disclosure score for the company is for governance and outlook, while the highest score is for the Basis of Preparation and Presentation and risks and opportunities.

The lowest score for IR quality is also shown for the Outlook content element. A lower score in the Future Outlook (TOL) orientation confirms the finding by previous research (Stent & Dowler, 2015) that most companies' data lacks outlook orientation. Outlook orientation should provide a basis for readers to form their views on the business's long-term prospects. The information in this section is central to readers' understanding of business value. One of the most common concerns among IR responders is Future Outlook (IIRC, 2013). Although generally accepting the need for forward-oriented information, respondents expressed concerns over potential reputation and competitive risk, liability, difficulty, and complexity of providing what some see as forecasts.

The Organizational Overview (TOE) is among the highest average mean score for the disclosure quality (35.49). This is where the company introduced its organisation toward the users and contained information about geographical location, social factors, and environmental factors. This information combines quantitative, qualitative, and time orientation by discussing the past, present, and future orientation. The organisational overview is the area that is first discussed when the company introduces its background to the users. According to Lodhia (2015), an integrated report is a suitable venue for the organisation to articulate its vision, strategies, and business model as part of its customer's ethical context. This finding also confirms with Bhasin (2017a) that companies earlier focused on the operating context in preparing the integrated report.

The average score of TIRDQ is more than 200 (average score is 265 over 400 maximum score for the year 2014 to 2016) shows that the company which registers their annual report with the IIRC websites considerably follows the IR framework 2013 even the variation in their score is high. SR to Integrated Reporting change should not be an issue since companies continue with their existing

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reporting process. The transition from SR to Integrated Reporting did not uncover radical, transformative change to reporting processes, but instead incremental changes to processes and structures that previously supported SR (Stubbs & Higgins, 2018).

Mean-variance

This section discusses the variation of the TIRDQ index between the region and whether there are any differences in TIRDQ when IR companies are in the voluntary and mandatory regime. A one-way analysis of variance (ANOVA) compares the TIRDQ index and the region's effect between Africa, Europe, Asia, and North America.

The result from Table 4 shows no significant difference in the mean scores of TIRDQ between regions at F=0.902, p>0.05. Table 4 also showed no significant difference in the mean scores between voluntary and non-voluntary TIRDQ mean score (F=1.107, p>0.05). Comparing the TIRDQ index between regions is vital since this allows authorities to decide whether to implement IR reports on a mandatory or voluntary basis. The results show that North America and Africa have the highest IR disclosure quality compared with other regions. The mandatory regime for reporting IR did increase the quality of IR. Also, Africa is the first region to prepare an annual report before introducing the IR framework in 2013. African companies have more time to familiarise themselves with the requirements in preparing the IR.

Table 4. ANOVA

Region	Mean	N	SD	Min	Max
Africa	267.4	96	53.412	162	369
Europe	265.74	177	33.532	172	349
Asia	261.69	48	31.342	187	329
North America	267.59	27	46.14	167	370
South America	245	12	56.588	160	354
ANOVA (combined)	F=0.902	p=0.463			
Voluntary/Mandatory					
Voluntary	263.74	267	36.307	160	370
Mandatory	268.97	93	53.089	162	369
ANOVA (combined)	F=1.107	p=0.293			
Year					
2016	276.96	120	41	160	370
2015	261.92	120	42.868	167	369
2014	256.39	120	37.338	162	329
	F=8.302	p=0.000			
Tukey Test	Mean difference	p			
2016 and 2014	15.042*	0.012			
2016 and 2015	20.567*	0			

However, there is no difference in the TIRDQ index when comparing the voluntary and mandatory regimes of IR reporting. This result is consistent with Dumay et al. (2017). However, South Africa has a compulsory regulation for the IR, not all companies the following IR framework. There is

flexibility in reporting the IR report where companies can choose any framework that substantially aligns with the King IV Report's 16 corporate governance principles. Companies not reporting based on the IR framework only need to explain why they did not use it. Leniency in IR reporting leads to a variation in the IR report quality since managers have considerable discretion in reporting IR (Lee & Yeo, 2016). Besides, the IR Framework adopts a principle-based approach. Therefore, this could lead to various South African companies even it is a mandatory regime.

5. Conclusion

Given the new development of IR, García-Sánchez et al. (2013) emphasised that research should examine the actual contents of IR and the effect of this reporting strategy on performance or value. Studies also find that IR reports range in practices (Stent & Dowler, 2015) lengthy rather than concise and not following IR framework (Wild & van Staden, 2013). This finding confirms this study's results, showing that the TIRDQ index score varies between 360 to 160. Some IR reporters are still unable to explain the information concerning the Business Model and Future Outlook. However, the average TIRDQ index is more than average, showing that the company that registers their annual report with the IIRC websites follows the IR framework 2013 even though their score variations are high. Sustainability Reporting to Integrated Reporting change should not be an issue since companies continue their existing reporting process. The shift from Sustainability Reporting to Integrated Reporting did not uncover radical, transformative change to reporting processes, but instead incremental changes to processes and structures that previously supported sustainability reporting (Stubbs & Higgins, 2018). The IR score variation shows that there is still room for improvement to increase the IR report's quality since the IR report's analysis is from 2014 to 2016. The company might adapt to the changes in presenting its IR information, taking advantage of the learning curve.

Results show no difference in the quality of IR report between mandatory and voluntary IR reporting. Stubbs and Higgins (2018) find that stakeholders perceived that compulsory reporting could improve the company's reporting. There is a movement towards mandating IR as part of corporate reporting since South Africa has mandatorily required companies to report their annual report following IR framework 2013. The result from this study confirms with the previous research by Chersan (2017) that countries from the voluntary reporting regime, such as Asia and Europe, provide a high disclosure quality following GRI guidelines. As the voluntary reporting IR equivalently provides a high-quality IR following the IR framework, there will be no difference in mandating IR for companies in a voluntary setting.

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