FIRM VALUE AND INTEGRATED REPORTING QUALITY OF SOUTH AFRICAN LISTED FIRMS

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ABSTRACT

Integrated reporting is mandatory for companies listed on the Johannesburg Stock Exchange (JSE). Despite this requirement, companies still exercise discretion about what to disclose, and this gives rise to variation in quality of integrated reports released by these companies. Given the relevance of quality integrated reports to providers of capitals and the associated economic benefits, empirical study of this nature becomes necessary to establish this link in the South African context. The paper examines the value relevance of integrated reporting quality (IRQ) of South African listed firms. Specifically, if any difference exists in the value of firms with high IRQ and those with low IRQ. Integrated reporting <IR> began in South Africa, and the country has equally contributed significantly to its development worldwide. JSE listed companies that have been made to adopt this reporting system on "apply and explain" basis provides the setting for this study. The study utilises data for a sample comprising 100 firms - year observation of 20 firms listed on the JSE between 2013 and 2017. The variables used to determine IRQ were based on Ernst and Young Excellence in Integrated Reporting Awards annual rating. Other variable in the study includes Tobin's Q as a measure of firm value. Data analysis involves descriptive statistics and independent sample t-test with the aid of IBM SPSS version 21. We find that there is a statistical significant difference (P < 0.10) in firm value on the account of difference in integrated reporting quality. This signals the value adding effect of IRQ.

Keywords: Firms Value, Integrated Reports, Corporate Reporting, Listed Firms, Quality and Johannesburg Stock Exchange.

INTRODUCTION

Corporate reporting has proven to be an ever-evolving field in accounting as companies continually strive to improve communication with their stakeholders. Over time, investors and other stakeholders such as employees, governments, communities, and non-governmental organizations have relied on the traditional financial reporting model involving companies' annual reports to gather relevant information needed to monitor company's activities. The traditional efforts of relying on the annual reports for information seem to have failed to capture the economic implications of business innovations and economic changes in a timely way (Dube, 2018; Lee & Yeo, 2016; Healy & Palepu, 2001). In view of this, finding ways to achieve effective communication has become imperative for listed firms because of the need to meet the increasing information needs of all stakeholders. This has made sustainability disclosures to be regarded as one of the vital steps towards building *"sustainable capitalism"* where businesses focus on long-term value creation (Mathuva et al., 2019; Gore & Blood, 2012).

Importantly, stakeholders are aware of this demand for more sustainability disclosures. As a result, publicly listed companies have been under increasing pressure to improve the level

and quality of communication to all concerned groups. One of the important ways of achieving this is through the annual integrated report, which seeks to align relevant information about an organisation's strategy, governance systems, performance and future prospects in a way that reflects the economic, environmental and social impact it has on its operating environment PricewaterhouseCooper (PwC, 2013). The integrated reporting approach has therefore created a paradigm shift from the disaggregated old reporting pattern to a combined and more comprehensive reporting pattern involving a single set of report which provides financial and non-financial information in an integrated manner that enhances shareholders' understanding of the firm (Lee & Yeo, 2016).

Integrated reporting has become mandatory for listed firms in JSE (Baboukardos & Rimmel, 2016; De Villiers et al., 2014). The whole idea of this is based on the concept of value creation through integrated thinking throughout the organisation. The International Integrated Reporting Council's (IIRC) integrated reporting framework and the King III and King IV Codes in South Africa set out processes, including governance requirements, which encourage this type of *"integrated"* thinking (Adams, 2017). It makes sense to think that the purpose of <IR> by firms listed on the JSE therefore, is to demonstrate transparency and accountability through the disclosure of relevant information to meet the stakeholders' needs. In essence, this reduces the information gap between firms and stakeholders in tandem with the information asymmetry concept.

In describing the information asymmetry, Barth et al. (2017), posited that the information asymmetry exists between managers who have superior information about the firm and the outsiders such as investors who are at a disadvantage as a result of little or no information available to them. In this regard, disclosures of relevant and quality information in the integrated report provides a mechanism which those entrusted with governance could use to reduce information asymmetry with some unintended benefits such as the decreasing stakeholders' out-of-pocket monitoring cost.

In view of the above, integrated reporting which reports on the six capitals (financial, manufactured, intellectual, human, social and relationship, and natural capital) has the potential to reduce information asymmetry about the capitals which affect firm value. Taking this into account, it could be argued that in an efficient stock market where all available pieces of information reflects in stock prices, a single disclosure containing financial and non-financial information should be value relevant to capital providers. Proponents of this view agree that <IR> improves the quality of information available to providers of financial capital to enable a more efficient and productive allocation of resources. The opponent view is based on the theories of proprietary disclosure costs, which suggests that it is costly when disclosure reveals proprietary information to competitors. In this instance, firms will disclose less, thereby making little or no information available to investors and in this case, firm valuation would be negatively related when compared with their integrated reports (Lee & Yeo, 2016).

Despite that <IR> is mandatory for all JSE listed companies through the adherence to IIRC's integrated reporting framework and the King IV Report on Corporate Governance, yet the International Integrated Reporting Framework (IIRF) allows discretion in terms of what companies choose to disclose which results in different levels of alignment with the Framework. No integrated reports of two companies are the same in size and quality. The relevance of quality of integrated reports in the value creation process and the perceived level of disparity in information disclosed are the basis for this study. Given this backdrop, this study utilises data from South Africa in seeking answer to the single research question in this study, which is:

Does a Firm on the JSE Differ in Value on the Account of Difference in Integrated Reporting Quality?

Based on the above question, the current paper contributes to integrated reporting literature mainly by highlighting the relevance of quality integrated reports to capital market participants who will normally attach more value to such reports. This value creating effect is an added motivation for firms to improve the quality of integrated reports released by them.

In answering the research questions, this paper utilises the Ernst & Young (EY) Excellence in Integrated Reporting Awards rating to determine the quality of integrated reports of sampled firms. A number of studies have frequently utilized the IIRC pilot programme and the EY annual integrated reporting rating data to draw sample in integrated reporting-related studies (Barth et al., 2017; Rivera-Arrubia et al., 2017). The IIRC featured over 100 firms in the pilot programme, and only 7 firms in South Africa participated in the programme. This study draws sample from the EY rating system because of the larger population, which comprises mainly of the top 100 firms that are listed on the JSE.

The rest of the study is structured as follows: the next section presents the literature review, theoretical framework and formulates the hypothesis of the study. This is followed by the method adopted. The result section presents the findings of the study and the conclusion section contains the concluding remarks and practical implications of the study.

LITERATURE REVIEW

An Overview of Integrated Reporting

<IR> is arguable a new approach to business reporting that is built around the organisation's strategy to create and sustain value in the short, medium and long term. This process results in the production of a periodic integrated reports, which according to the framework issued by the IIRC is defined as a *"concise communication about how an organization'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). The apparent purpose of the report as outlined in the framework is to provide both financial and non-financial information to all stakeholders including employees, customers, suppliers, business partners, local communities, legislators, regulators and policy-makers about how an organization creates value over time.

The traditional financial and sustainability reporting have been criticised because they appear to generally provide a backward-looking review of performance, and failed to make the link between sustainability issues and the organisation's core strategy (Akker, 2017; Serafeim, 2015). Generally, they are historical in nature and often, hardly communicate any other additional information, which may be deemed important when analysing future prospects of companies (Moloi & Barac, 2010; Dube, 2018). This criticism was also strengthened by the fact that there was a growing demand from investors for companies to produce reports, which also contained non-financial information, which would include, amongst other things; environmental, social and governance metrics (Dube, 2018). The integrated report has provided an alternative reporting framework, which appear to satisfy the variety of demands while also providing a concise communication about how an organization's strategy, governance, performance and prospects lead to the creation of value over the short, medium and long term (IIRC, 2013).

Integrated Reporting (IR) has gained significant importance in recent years since the formation of the IIRC (De Villiers et al., 2014). The IIRC is a global coalition of regulators, investors, companies, standard setters, accountants, and NGOs, created in July 2010 to embed <IR> into mainstream business practices in the public and private sectors. In December 2013, the IIRC released the IIRF following the three years of development. The IIRF focuses on *"value creation"* by organisations, and *"capitals"* used to create value overtime and it defines the global guiding principles and content to be included in an integrated report (IIRC, 2013). Globally, IIRC has attracted world-leading organizations into its business network such as Unilever, HSBC, Deutsche Bank, Hyundai, Microsoft, PepsiCo, National Australia Bank and Tata Steel, which are all among major companies in the IIRC Pilot Programme (Lee & Yeo 2016).

Prior to the release of the framework by IIRC, South Africa's integrated reporting journey dates back to the post-independence period of 1994 when there was need to help build public confidence in businesses (Institute of Directors, 1994). This led to the release of the first King report in 1994 known as King, which advocated for corporations to disclose non-financial information and take a balance approach to business involving all stakeholders (Moloi & Barac 2010; Institute of Directors, 1994). Later, King II was published in 2002, which demanded an inclusive approach involving relevant stakeholders and broadens the responsibility of a company beyond financial results to include social and environmental dimensions (Moloi & Barac, 2010. In 2009, King III was issued and this report provided a holistic and integrated representation of the company's performance in terms of both its finance and sustainability (Moloi, 2015). The King III adopted the concept of *"apply or explain"* principle which was a departure from the previous reports which had adopted the *"comply or else"* principle. Again, in 2016 the King IV came into existence and it moved away from the *"apply or explain"* to now *"apply and explain"* (World Business Council on Sustainable Development, 2014).

Following South Africa's journey towards building public confidence in businesses, in March 2014, the Integrated Reporting Council (IRC) of South Africa endorsed the IIRF when it argued that this process provided a unified and clear guidance on what to include in the integrated report (World Business Council on Sustainable Development, 2014). To date, both the King Reports on Corporate Governance and IIRC Framework became a listing requirement for all companies listed on the JSE (Melloni et al., 2017; Zhou et al., 2017; Baboukardos & Rimmel, 2016; Barth et al., 2017; Lee & Yeo, 2016; De Villiers et al., 2014).

Integrated Reporting Quality (IRQ)

Integrated reporting quality (IRQ) conceptually refers to the degree of compliance of integrated reports with the provision of relevant framework. In this regard, Dube (2018) as well as Barth et al. (2017) argues that a high degree of compliance can be translated as a high-quality integrated reports and a low degree of compliance can be translated as a low-quality integrated reports. Although <IR> has become a listing requirement for all companies listed on the JSE, the framework does not prescribe specific key performance indicators (KPIs), measurement methods or the disclosure of individual matters. Those responsible for the preparation and presentation of the integrated reports need to exercise judgement, given the specific circumstances of the organisation, to determine which matters are materials, and how these are disclosed on the integrated reports (IIRC, 2013).

It is clear in this concession that companies have discretion in terms of what they choose to disclose, which results in different levels of alignment between integrated reports and the framework. Given this discretion, the degree of disclosures will vary from one firm to another. Some of the available studies have shown that there is lack of quality in certain aspects of integrated reports produced by firms. For instance, a study by PWC, which reviewed the top 40 JSE companies with reference to quality of reporting, found a striking weakness in the rate at which companies repeated information. The trend shows some sort of rephrasing or repetition of same piece of information while excluding certain items of social, environmental and ethical information (PwC, 2013,; Solomon & Maroun, 2012). As such, a motivation is required so that firms can increase their degree of compliance, thus ensuring high quality integrated reports. This motivation is in the form of empirical evidence seeking to determine whether firm producing higher quality integrated reports gain economic benefits over firm that produce lower quality integrated reports.

Integrated Reporting Quality and Firm Value

There seems to be a clear alignment between the aims of IR and stakeholders needs. In the case of investors, for instance; Lee & Yeo (2016) observes that as providers of capital to a firm, integrated reports will improve the quality of information available to them which will enable them the capability to conduct a more efficient and productive capital allocation. This highlights the valuation and stewardship role of accounting information. By means of regulated financial reports such as the integrated report, the entity reporting allows capital providers to value investment opportunities and to monitor the use of their invested capital (Beyer et al., 2010). Beyond these needs, the demand for reporting non-financial information had increased in recent times (Dhaliwal et al., 2011; O'Donovan, 2002; Ioannou & Serafeim, 2015; Tschopp & Nastanski, 2014). From capital providers' perspective, providing non-financial information became a necessity for legitimacy purposes, and thereby contributing to the safeguarding of the continuity of organisations, particularly with the disclosure of information regarding environmental, social and governance (ESG) issues (van der Meijden, 2016).

The understanding that disclosure of financial and non-financial information both hold significant value for capital providers, and simultaneously providing them with both forms of information in a single comprehensive report is a great potential for creating *"value enhancing effect"* (Van der Meijden, 2016; Ioannou & Serafeim, 2015; Tschopp & Nastanski, 2014; Petersen & Plenborg, 2006). This is because provision of information on how ESG aspects are incorporated into an organisations business most likely supports capital providers' interest in making more effective capital allocation decisions. Arguably, by disclosing financial and non-financial information in a complementary manner enables capital providers to evaluate investment opportunities more effectively and to monitor the use of invested capital more intensively, these being the goal which integrated report seeks to achieve (van der Meijden, 2016; Beyer et al., 2010; Healy & Palepu, 2001; Petersen & Plenborg, 2006).

There are two competing views on the association between <IR> and firm valuation. According to Lee &Yeo (2016), the first view is that a positive association between <IR> and firm valuation is expected should <IR> be deemed beneficial to investors. Proponents of this view argue that integrated reporting improves the quality of information available to providers of financial capital to enable a more efficient and productive allocation of capital. This suggests that <IR> mitigates information asymmetry between corporate insiders and external providers of

capital and increases the decision usefulness for stakeholders. These proponents further assert the potential benefits of IR to include:

- A better articulation of organization strategy and how its business model responds to changes in the external environment and competitive landscape;
- A better articulation of specific risks and opportunities that affects the organization's ability to create value in the short, medium and long term;
- A better articulation of how the organization manages/mitigates key risks; creates value from key opportunities and the governance structure needed to support value creation;
- A focus not only on financial performance but also non-financial performance to meet key stakeholders' needs and interests;
- A focus on connectivity of information (such as how the organization links its strategy and resource allocation plans to external environmental forces, stakeholder engagement and risks and opportunities identified);
- A need for the organization to have more connected departments and break down organisational silos to produce a good integrated report;
- An improvement in internal processes (that presumably leads to efficiency and cost savings) as a result of integrated departments; and
- A lower cost of capital. According to IIRC, by providing material information in an integrated manner that is linked to value creation, integrated reporting reduces the information acquisition and processing costs of suppliers of external capital such as shareholders and debt holders (Barth et al. 2017; Lee & Yeo, 2016).

Barth et al. (2017) provided a practical view by asserting that the proponents of integrated reporting also argued that these reports can improve investors' ability to estimate future cash flows by improving the quality, range, and connectivity of data being produced. The study further posits that firm's reports are also used by shareholders to monitor managers and as such, higher quality reports should improve shareholders' monitoring ability and reduce the amount of firm cash flow that managers appropriate for themselves. Given this, disclosures could also improve investors' awareness of non-financial aspects of the firm, resulting in a larger investor base with increased risk sharing amongst investors. This is because investors only purchase stock that they know about because gathering and processing information about a firm is costly. Therefore, by providing a complete overview of a firm's activities, <IR> may help the firm expand its investor base, leading to a lower cost of capital. Finally, Barth et al. (2017) view <IR> as a tool that has potential to reduce parameter uncertainty and estimation risk due to the fact that IR intends to explain to providers of financial capital how a firm creates value over time in a concise manner by creating a holistic picture of the interrelatedness of the six capitals which a firm depends upon.

In contrast to the above, the second view expects firm valuation to be negatively associated with <IR> if integrated reports are non-beneficial to stakeholders. This view is embedded in the theory of proprietary disclosure costs, which believes that it can be costly when proprietary information such as strategy, business models, opportunities and risks are revealed to competitors. Thus, if <IR> forces firm to adopt organisational processes that are costly to the firm as proposed by the theory of proprietary disclosure costs, then IR will negatively affect firm valuation (Lee & Yeo, 2016).

Theoretical Framework and Hypothesis Development

The theoretical approach to this study examines the relevance of agency theory and the voluntary disclosure theory. To start with, efficient market hypothesis (EMH) assumes that

markets are rational and prices of stocks fully reflect all available information (van der Meijden, 2016; Orlitzky, 2013), and provision of adequate information through quality integrated report therefore is essential for the functioning of an efficient capital market. From the agency theory perspective, firms with higher agency problem are more likely to disclose more information because of greater problem of information asymmetry (Frias-Aceituno et al., 2014). It is generally recognised that managers have insider information about investment opportunities, of which the outsiders who are the providers of capital are not aware. It therefore becomes difficult for the providers of capital to make informed assessment of the attractiveness of investment opportunities. This lack of adequate information is highly likely to create problem of information asymmetry and inefficient market. As a result of this, capital providers under-value highly profitable investments and over-value poorly profitable investments. Preparation of quality integrated reports therefore contributes in lowering the information asymmetry between managers and capital providers (van der Meijden, 2016).

Voluntary disclosure theory provides the theoretical base to explain the association between <IR> and firm value (Dube 2018). In an effort to reduce information asymmetry, companies expend extra resources to produce integrated reports that are more compliant with the Framework. This will improve the quality of their integrated reports and the reliability of information provided to investors, which will result in economic benefits. Therefore, by voluntarily producing higher-quality integrated reports, management may seek to influence share price valuations of their companies which can positively alter investor's perceptions about the value of their company's shares, thus stimulating investor's appetite. It is thus expected that higher-quality integrated reports, as a direct result of voluntary disclosure of extra information, will reduce information asymmetry to stakeholders, particularly investors, which will concomitantly result in improved firm valuation in terms of upward rise in share price valuations (Dube, 2018; Zhou et al., 2017; Allee & De Angelis, 2015).

Therefore, in the absence of a consensus on the association between firm valuation and <IR> as per earlier discussions, this paper assesses the rationale by means of empirically testing the extent to which integrated reporting quality is valued by the stock market. This leads to the formulation of the only hypothesis in this study:

H_{o1} *There is no significant difference in firm value on the account of difference in integrated reporting quality.*

RESEARCH METHOD

Sample

The population of the study consists of the top 100 listed companies in JSE based on their market capitalization as at 31st December, 2017. The top 100 companies represent 93% of the market capitalization of the JSE (EY 2018). Data was obtained from 20 of these listed companies from the integrated reports covering the period 2013 to 2017, and this gives total firm-year observations of 100. The sample selection was guided by the Ernst & Young Excellence in Integrated Reporting Awards which began in 2011, and the last award proceeding the time of this study was in 2018. Integrated reports for 2010 were awarded in 2011, and the reports for 2011 were awarded in 2012 and so on. Companies that ranked in the *"excellent"* and *"good"* categories in their integrated reporting from the inception of the awards in 2011 to 2017 were rated as firms with high integrated reporting quality (hereafter referred to as group 1), while

firms that ranked in the *"average"* and *"poor/more progress to be made"* were regarded as firms with low integrated reporting quality (hereafter referred to as group 2). The year 2013 was chosen as the base year for this study because majority of the companies that ranked within group 1 in 2017 did not qualify for inclusion in group 1 until 2013. The integrated reports of eleven (11) firms were consistently ranked in either *"excellent"* or *"good"* between 2013 and 2017, hence they are qualified for inclusion in group 1, while only ten (10) firms were consistently ranked as either *"average"* or *"poor/more progress to be made"* categories during the period, and they are qualified for inclusion in group 2. A matching criterion based on the number of firms in group 2 was used to standardize the number of firms from each group. This process gave rise to an equal number of firms resulting in 10 sampled firms in each group (See Appendix 1 for list of firms in each group). Table 1 presents the sectorial representation in the sample.

Table 1
SECTORIAL DISTRIBUTION OF FIRMS IN BOTH GROUPS

Industry	Total no of Companies	Firm year Observation
Industrial metal & mining	2	10
Tobacco	1	5
Life insurance	1	5
Non-life Insurance	1	5
Mining	2	10
Healthcare equipment & services	1	5
General industrial	1	5
General retailer	1	5
Chemical	2	10
Food producer	2	10
Financial services	6	30
	20	100

Data on IRQ

Data on IRQ is based on the result of the Ernst & Young annual rating of quality of the integrated reports of the top 100 firms that are listed on the JSE. Since 2011, Ernst & Young has ran a process that evaluates the IRs of the top 100 firms on the JSE against a list of criteria based on the IIRF (EY 2014, 2015, 2016, 2017, 2018). The scoring criteria cover the entire seven guiding principles and the eight content elements of the IIRC framework. Firms were ranked into four categories, namely; excellent, good, average and poor/progress to be made. In the study, a score was allocated accordingly; excellent – 4; good – 3; average – 2; and poor/progress to be made - 1. For the purpose of running the independent sample t- test, the four categories were classified into group 1 and 2 as earlier stated in this section.

Data on Firm value

In addition to data on IRQ, the study also obtained data on firm value using Tobin's Q. This is measured as market value of equity plus book value of total liabilities divided by total assets (Lee & Yeo 2015).

Descriptive statistics (frequency count, mean, standard deviation, minimum and maximum values) and a parametric inferential statistics (independent sample t test) were applied in the analysis. The data analysis is limited to independent sample t test because of the relatively

small sample size. The small sample size appears to be unavoidable because it is a function of the number of firms that were consistently ranked in either group 1 or 2 from the year of inception of the award to the time of this study. Data analysis was aided with the use of Microsoft Excel 2013 edition and IBM SPSS version 21.

ANALYSIS AND RESULTS

Descriptive Statistics

The result in Table 2 presents the descriptive statistics for the variables used in the regression model for sample of 20 companies with 100 total observations in the period of 2013-2017. Group 1 has a higher IRQ means of 3.260 compared to the IRQ mean score for group 2. Analysis of the Tobin's Q shows that Group 1 has an average of 1.0342 which is higher than the Tobin's Q average of 0.5638 for Group 2. As a rule of thumb, low Tobin's Q (between 0 and 1) means that, the cost to replace a firm's asset is greater than the value of its stock. This implies that stock is undervalued. Conversely, a higher Tobin's Q (greater than 1) shows that, the firm's stock is more expensive than the replacement cost of its asset; which implies that the firm's stock is overvalued. This, however, points to the possible higher stock value for Group 1 with higher integrated reporting quality compared to the group 2 with lower integrated reporting quality (See Table 2). This is in line with Mathuva et al. (2019); Barth et al. (2017) as well as Lee & Yeo (2015). There is no significant deviation from the mean score for both variables in both groups as indicated by the values of the standard deviation.

Table 2
DESCRIPTIVE STATISTICS FOR TOBIN'S Q AND IRQ

	N	Mean	Std. Dev	Minimum	Maximum
Group 1					
Tobin's Q	50	1.0342	1.7956	0.0000	10.1872
IRQ	50	3.260	0.4431	3.000	4.000
Group 2					
Tobin's Q	50	0.5638	0.4699	0.0045	1.5048
IRQ	50	1.460	0.5035	1.000	2.000

Inferential Statistics

Table 3 presents a differential analysis of paired sample means for both groups using the independent sampled t-test and test of difference between means of 10 groups with high integrated reporting quality and 10 groups with low integrated reporting quality from 2013 – 2017.

Table 3
INDEPENDENT SAMPLE T- TEST

Group	Observations	Mean	Variance
1	50	1.0342	3.224
2	50	0.5638	0.221
Hypothesized Mean Difference		0	
df		55.68	
t-Stat		1.792	
P (T<=t) two tail		0.079	
T Critical two-tail		1.671	

This is a statistical test of difference in means, necessary to investigate whether the difference in Tobin's Q average between the two groups is statistically significant to draw a conclusion and that the difference did not happen by chance. This is necessary to test the hypothesis of this study. The result discloses a difference that is statistically significant at $p < 0.10$ for a two-tailed test. This provides empirical result to reject the null hypothesis at 10% level of significance, thereby supporting the hypothesis that there is a significant difference in firm value on the account of difference in integrated reporting quality in line with Barth et al. (2017); Martinez (2016); Lee & Yeo (2015) and Dube (2018).

CONCLUSION AND RECOMMENDATIONS

The findings of this study suggest that there is a significant difference in firm value on the account of difference in <IR> quality. This signals that the extent to which <IR> provides pertinent information is proportional and/or directly related to investors' confidence in the entity, which holistically has a value -adding effect for firms. This is in line with the agency theory, which advocates for preparation of quality integrated reports in order to lower the information asymmetry between managers and capital providers. It is also in line with the voluntary disclosure theory, which claims that higher-quality integrated report, as a direct result of voluntary disclosure of extra information, will reduce information asymmetry to stakeholders, particularly investors, which will concomitantly result in improved firm valuation in terms of upward rise in share price valuations.

As observed, the Tobin's Q value for the group with higher integrated reporting quality shows a marginal increase from 1. A value significantly higher than one is expected as an indication of high market value for the firm. In this study, the Tobin's Q average for group 1 is indicated at 1.0342. This shows that the firm's stock is not so much expensive than the replacement cost of its asset. An evidence indicating that the values of firms in group 1 are not at their optimal level yet. This is also evident in the statistical significance of the difference in the Tobin's Q average between the groups. The result does not show a statistical significant difference at 95% confidence level, only at 90%. Although a number of factors may have accounted for the Tobin's Q value reported for group 1, but it also points to the overall low quality of the integrated reports released by South African firms. If the information in an integrated report supports capital providers in making more effective capital allocation decisions, one expects that capital providers positively value organisations that intend to adopt high quality integrated reporting.

This is one of the early evidences of the comparative analysis in relation to <IR> studies. Based on these findings, the present study posits that the integrated reports released by JSE listed firms are not of high quality standard as indicated in a similar study in (PwC, 2013). This study therefore contributes to extant literature on the value relevance of <IRQ> by highlighting the value creating effect of quality-integrated reports as an added motivation for firms to improve the quality of integrated reports released by them.

The main practical implications of this study centres around a call to improve on the quality of integrated reports released by all JSE listed firms. At present, integrated reporting is mandated for firms listed on the JSE, and those responsible for the preparation and presentation of the integrated reports are permitted to exercise their judgement in its adoption. Although this is in line with the principle-based ideology of the integrated reporting, policy makers and regulators are called upon to specify the minimum quality of disclosure expected. The Ernst & Young Excellence in Integrated Reporting Awards for the top 100 listed firm on the JSE can be

regarded as a market-based or persuasive approach to motivating firms to improve on the quality of information disclosed. A regulatory approach through the application of command and control instruments is required to mandate compliance with an acceptable level of quality disclosure. Improving the quality of information disclosed through the IR becomes important because the reliability of the corporate reporting system depends entirely on this, being the only means to guarantee the confidence of investors who have provided capital for the organization and who need such depth of disclosure to make informed investment decision.

The major limitation of this study is the relatively new concept of <IR> in the field of corporate reporting. Hence, this study is therefore limited by the period of observation (2013-2017) and the sample size on account of the number of companies that met the criteria for sample selection. Therefore, it should be regarded as an exploratory research, which is only intended to provide initial evidence on the value relevance of integrated reporting quality. The findings obtained should therefore be interpreted in this context. Further studies can extend this study by employing a more robust data in terms of sample size, accompany by improved data analysis, which determines the effect of IRQ on firm value. In addition, an explanatory factor influencing the level of integrated reporting quality is an area for further research.

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Competing Interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Authors' Contribution

The authors both made significant contributions to this article.

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