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Value Relevance and Integrated Reporting Sustainability Approach: Evidence from Listed Non-Financial Companies in Australia

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Abstract: The purpose of the study is to investigate the impact of Integrated Reporting on value performance of listed companies in Australia based on the adoption of the King III report. The study considers 38 non-financial companies for a period of time ranging from 2008 to 2020. The technique employed for analysis is sub- divided into three parts: firstly, the research compares the market valuation coefficients of summary accounting information over a three-year period before the adoption of IR (2008-2010) against the first three years (2011- 2013) after the mandatory IR adoption and then compares it with the current period (2014-2020) to ascertain any improvement, deterioration, similarities or differences in the IR adoption system. Secondly, a System GMM regression analysis was applied to ascertain the impact of IR on value relevance and sustainability on Australian listed companies. During the period of pre- adoption of the King III report, there were no significant relationship between book value of equity and equity and did not influence the value relevance of Australian markets since the King III report was not yet introduced in the accounting system of entities during that period. Secondly, during the period of adoption of the King III report, similar results were exhibited in terms of magnitude and direction during the pre- adoption of the report. BE and EAR are found to be negative and insignificant to value relevance. During the post- period of the implementation of the report, a downfall in the level of net assets and leverage was pointed out. Australian firms might employ internal financing to finance their operations and investments. The findings support evidence of (Marx and Mohammadali- Haji, 2014; Babourdakos, 2016). Further, Australian companies experienced risk disclosures, challenges and uncertainties that they might encounter in the future but also find new mitigation techniques to diminish them. Ultimately, a drop in the value relevance of net assets might be occurred by risk disclosures for instance credit risk or business risks. Regarding sustainability performance, during the adoption of King III report, there was no relationship between sustainability and market value information. Hence, theoretically speaking, it can be deduced that the principles regarding sustainability reporting were complex and unclear compared to financial reporting. However, the post adoption of King III stated that sustainability impacted positively on market value which explicated the variation in stock market prices and hence was value relevant in supporting the shareholders' value-enhancing role of corporate sustainability (Ali & Jadoon, 2022). The unique of this study emanates from that both a contextual and methodological aspect employing the System GMM for conducting panel analysis.

Keywords: Integrated reporting, Value performance, King III report, Australia companies.

Introduction

The world's economy is continuously changing as companies face global competition, technology innovations and increase deregulation in response to financial and governance crises. The accounting profession has challenged the traditional financial business reporting model, arguing that it does not adequately satisfy the information needs of stakeholders for assessing a company's past and future performance (Flower, 2015). Meanwhile, society is questioning the basic reason for an organisation's existence to create wealth—because

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this narrow focus excludes creating value or justice for people, society and the environment (Gray, 2006). In response to these concerns, corporate reporting is transforming, and voluntary reporting is increasing to provide more useful information and corporate transparency and accountability.

To out step, the traditional corporate reporting limitations and respond to the evolving stakeholders' needs, the Global Reporting Initiative and the Prince of Wales' Accounting for Sustainability Project founded the IIRC in December 2010. The purpose was to create a globally accepted reporting framework that provides guidelines on integrating financial, social, environmental and governance information in a clear, concise and comparable format (GRI, 2012). Later, the council issued its first version of the IR framework in December 2013 that rapidly gained the attention of practitioners and academics. The primary aim of IR is to "improve the quality of information available to providers of financial capital to enable more efficient and productive allocation of capital" (IIRC, 2013, p. 4).

Furthermore, the IR framework emphasizes the short, medium and long-term consequences of an extensive set of capitals. The IIRC's particular approach relies on reporting on six capitals defined as "stocks of value that are increased, decreased or transformed through the activities and outputs of the organization" (IIRC, 2013, p. 11). The framework distinguishes six categories of capitals – financial, manufactured, intellectual, human, social and relationship and natural to explain how business activities consume capitals as inputs and transform them in outputs that generate outcomes expressed in terms of effects on the capitals (IIRC, 2013). As at 2020, 70 countries were already regulating the signposting and implementation of the principles of IR. These are South Africa, Brazil, Malaysia, Netherlands, UK, China, Japan, India, Sri Lanka, Sweden, Turkey, Philippines, Luxemburg, New Zealand and lately Australia.

IR is described 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, p. 7). An integrated report is not a mere summary of information already provided through other means of reporting. On the contrary, it provides a "holistic view of a firm's value creation by connecting previously disconnected pieces of information that refer to the combination, interrelatedness, and dependencies of a wide range of ''capitals" such as financial, human, social, and natural capital".

The potential impact of IR on the relevance of financial reporting is also recognized by scholars such as Eccles and Saltzman (2011) who argue that if firms report their financial results without taking into account the impact of their operations on their external environment, it is highly questionable whether their financial performance is fairly presented on their financial statements. In addition, Cho et al. (2013), Eccles and Serafeim (2011), and Middleton (2015) second that requiring the adoption of an IR approach will further improve reporting quality. Nevertheless, whether the relevance of financial information is indeed enhanced by putting financial reporting into a mandatory integrated perspective, while applying the same accounting standards, it is an open empirical question (Solomon & Maroun, 2012). Initially, Integrating Report comes from the implementation of the King Report on Governance for South Africa 2009 by (King III) published by the Institute of Directors in South Africa. He emphasizes on the significance of IR to actors of the capital markets and on its positive and negative impact on an economy. In other words, King III stipulated that IR could help investors to conduct more adequate informed assessments of companies' market value and based on sustainability. Sustainability reporting is the disclosure of environmental, social and governance (ESG) goals. It also involves the communication of a progress state towards these objectives.

Previous studies about the impact of sustainability reporting on the relevance of financial reporting have shown that albeit sustainability reporting affects the market valuation implications of financial reporting, this effect is not necessarily positive. Carnevale and Mazzuca (2014) found that European banks that disclose sustainability information exhibit a lower value relevance of their net assets than banks that do not disclose such information, whereas earnings value relevance does not differ between the two groups. Lastly, Cormier and Magnan (2007) found that environmental reporting positively affects firms' earnings valuation multiple in a group of Canadian, French, and German firms. Based on the previous discussion, the purpose of this study is to empirically examine whether the IIRC Framework stance that an IR approach enhances the usefulness to investors of financial information holds. In order to do so, we set the following research question:

R.Q. Has the value relevance of summary accounting information (i.e. book value of equity and earnings) of firms listed on the Australian Stock Exchange enhanced after the mandatory adoption of an Integrated Reporting?

Australia is a relatively open, trade-exposed economy. This means that changes in other countries' demand for Australian goods and services can have significant implications for the economy. As of 2021, Australia was the 12^{th} largest national economy by nominal GDP Gross Domestic Product) that is 3.8% respectively (OECD, 2021). According to KPMG, more than 70% of Australia listed and non- listed institutions are concentrating their reporting based on long term value by employing the main principles of Integrated Reporting. IR communicates better their business strategies and how they can create value to the shareholders, customers, employees, regulators and other key stakeholders. Further, corporate reporting in Australia is considered to act as an holistic approach in terms of corporate purpose and commitment for a positive impact backed by targets, progress and actions that will turn into rewards for instance, enhanced cash flows, retention of high caliber staff and operational efficiencies to support sustainable growth (KPMG, 2021).

The aim of the study is to investigate on the impact of IR on value relevance of non- financial and non- utilities institution listed on the stock exchange of Australia for a six year period spanning from 2013 to 2019. The rationale is to ascertain whether the value relevance of summary accounting information has improved after the mandatory adoption of IR approach by measuring the relationship between the level of IR compliance and the capitalized market value of the firms (market value) across Australian stock exchange market. In addition, the findings can be of interest to accounting standards setters like the International Accounting Standards Board (IASB) and other financial reporting leaders such as the Financial Accounting Standards Board (FASB) by exhibiting the impact of IR on the accounting information calculated by using International Financial Reporting Standards (IFRS). According to the author's knowledge, no study has been conducted on this research till present. Hence, this paper is considered to be one among the first studies performed in the context of the Australian market. In other words, this research significantly contributes to the existing literature by synthesizing knowledge and providing a discussion on conducted research on the impact of integrated reporting on value relevance, offering academic researchers and other financial stakeholders updated analysis to support and debate on the employment of IR and its compulsory implementation in the Australian market.

Objectives of Study

1. To ascertain the influence of IR on the value relevance of summary accounting information like book value of equity and earnings.
2. To measure the value relevance of quantitative sustainability information.
3. To test if quantitative sustainability information interacts with accounting information.

The remainder of this study is structured as follows:- Section two elaborates on the literature review and empirical evidences of the study. Section 3 stipulates the research methodology of the research. Section four emphazises on the empirical analysis results of the study and finally, the last section concludes the research.

Literature Review

Numerous researches have been conducted on financial reporting but to a lesser extent on IR due to its novelty. Presently, it is a conceptualization attracting more interest and the shift from a pure financial literature to one more inclined towards sustainability can be disclosed. There have been many discussions on the content and quality disclosures of an integrated report. Now, much debates are being carried out to ascertain the importance of Integrated reporting on financial information to which value is fostered, the linkage between financial and non- financial information and value creation is still being researched.

Integrating Reporting

Integrated reporting provides a conceptual framework for communicating long term value proposition to the market. Its objective is to promote trust in business, stimulating long-term investment, robust corporate governance and responsible capitalism which are at the top of business and government agendas (Deloitte, 2020). Haidari & Jones (2017) stipulated that integrated reporting is constructed on two perspectives: First, disconnected financial and sustainability reports do not communicate the way in which sustainability is strategically established. Second, traditional reporting in recognizing and proposing mechanisms to create value is considered to be inefficient and ineffective. Hence, the IIRC was created and fostered the integrated report to increase accountability, management and trust, as well as to improve the flow of information and the transparency of business. It is the IIRC role to promote the development opportunity of companies, guiding through the six capitals: financial capital, manufactured capital, human capital, intellectual capital, social capital and relationship and natural capital.

The idea of integrated reporting is considered as a mixture of existing information through financial and non-financial information. There is a construction of accounts in line with the discourse of corporate policies that must be aligned with the mission-vision-values of any organisation and industry. In short, integrated reporting is an image to capture tangible and intangible aspects of the business model. The hegemony of integrated reporting has the potential to influence people, transform behaviors, if there is a high standard of excellence both in the compiled elaboration of the essence and in the visual aspect.

Practical Guidance for Integrated Reporting Implementation

PwC, (2015) reported that creating the jump from old-style annual financial reports to IR reports is inspiring as the amount of information to be involved will support managers concentrate their strategies primarily in a way that gain value for shareholders, through screening the value creation procedures, and eventually reporting their performance externally. The applied directions for the IR reporting have to be grounded on a roadmap to ameliorate how to analyse and target the wider value drivers that create the base of integrated reporting to generate benefits for all stakeholders. Some businesses have a qualitative considerations of how benefits are created for its shareholders as the value formation process is subject to 7 associated main streams: (1) investors, (2) their key messages, (3) hazard, (4) tactic, (5) benefit drivers (what actions influence the attainment of strategic goals), (6) performance and (7) effect (PwC, 2015).

Sustainability

Sustainability reporting is the disclosure of environmental, social and governance (ESG) goals. It also includes the communication of a progress state towards these objectives. There is increased emphasis on sustainability and its inseparable interface with strategy and control. King III calls for integrated reporting (reporting of financial information with sustainability issues of social, economic and environmental impacts) and advises that the audit committee engage an external assurance provider to provide assurance over material aspects of the sustainability reporting in the integrated report.

Environmental, Social and Governance Principles

Sustainability reporting is concentrated on the aspect of environmental, social and governance known as ESG principles. ESG is a framework that helps stakeholders understand how an organization manages risks and opportunities around sustainability issues. ESG has evolved from other historical movements that focused on health and safety issues, pollution reduction, and corporate philanthropy. It has modified how capital allocation decisions are made by many of the largest financial services firms and asset managers worldwide. Fatemi *et al.* (2018) reported that ESG disclosures might enhance firm value and diminish it as well. Too much of disclosure can also weaken its effects on valuation; lengthy disclosures on ESG strengths is clarified as a justification for an overinvestment on sustainable activities while lengthy disclosures on ESG concerns is elucidated as a way to legitimize the firms' behavior, thus providing a valid commitment to modify their actions and overcome the concerns.

Effect on Value relevance of Integrated Reporting

Accounting information is value relevant if there is a predictive linkage between accounting numbers and share market prices (Ali & Hwang, 2000). The relationship between accounting figures and share values are well documented in the literature with varying degrees of reported association. For instance, Lev and Sougiannis (1996) found a positive association between research and development capitalization and share price. Research focusing on the value relevance of accounting information under IR so far has been very limited. Cortesi and Vena (2019) look into a sample of voluntary adopters of IR and find that IR enhances corporate disclosure and reduces information asymmetries.Cortesi and Vena(2019) also reported an increase in the quality of reported earnings under IR. They employ the traditional linear model to lead to their findings. Baboukardos and Rimmel

(2016) investigated on whether the value relevance of summary accounting information such as book value per share of equity and earnings, of firms listed in the JSE, enhance after the mandatory adoption of integrated reporting in 2010. Baboukardos and Rimmel (2016) "documented change in the value relevance of IR before and after implementation using linear models and three-year before and after implementation window". Their findings indicated that value relevance of earnings has boosted but the value relevance of net assets had decreased. However, their limitation is that the time window used is very narrow and they used traditional linear models (Barth, Li, & McClure, 2017) to show the relationship between market price per share and book value per share and other accounting variables

H_1 = Integrated reporting has a significant positive effect on value relevance and sustainability.

Empirical Evidences on Integrated Reporting and Firm Valuation

Previous empirical evidences were concentrated on the effect of integrated reported and firm valuation and these are outlined as follows:

Lee et al. (2015) ascertained the linkage between Integrated Reporting and firm valuation. Employing a sample of listed firms in South Africa, we examine the association between cross-sectional variation in Integrated Reporting disclosures and firm valuation in the period after the implementation of Integrated Reporting. The estimates found that firm valuation is positively related to Integrated Reporting disclosures. This result suggested that on average, the benefits of Integrated Reporting exceed its costs. Garcia-Sánchez and Noguera-Gámez, (2017); Gianfelici et al., (2018) posited that "non-financial information disclosure is commonly unregulated and not homogeneous, because of the absence of reporting criteria and the absenteeism of guiding legislation. IR has been developed as a stage on the way to an improved process of reporting, which include the needs for a speedily shifting from traditional ways of reporting (Steyn, 2014)".

El- Deeb et al. (2019) identified key challenges, opportunities, strengths and weaknesses to be experienced by companies listed in the stock exchange market (EGX30) within the integrated reporting (IR) implementation process. The study used data from the companies listed in EGX30 index in the Egyptian stock exchange market through the period 2012 to 2017. The findings supported the "positive correlation between the level of IR compliance and firm performance and value and the leverage level of the companies". The results suggested that "the implementation of the integrated reporting enhanced the companies' performance and value in the Egyptian stock exchange market".

Ika et al. (2019) applied the MRA (Moderated Regression Analysis) analysis to test hypotheses. Estimates illustrated that the significance of the five equations did not meet the significance level (α); hence, the research hypothesis was not accepted. It postulated that integrated reporting does not influence the value of the company. In addition, the complexity of the organization and external financing do not moderate the linkage between integrated reporting and firm value. These results imply that integrated reporting has not become a signal which is needed by stakeholders in the Asian region. Mishra et al. (2021) reported that the majority of companies have a positive opinion about IR and the three major components "impacting their perception are – concise reporting, effective and transparent reporting and finally, better decision-making".

Empirical Evidences on Integrated Reporting and Value Relevance in relation to Sustainability Performance

Previous empirical evidences were focussed on the effect of integrated reported and value relevance in relation to sustainability performance and these are outlined as follows:

Fernando et al. (2017) investigated the effect of Integrated Reporting (<IR>) on the relevance of accounting information: evidence from ASIA. By conducting regression analysis on firm-years from listed companies on The International Integrated Reporting Council between 3 years. <IR> is measured by coverage ration of keywords using NVIVO Software Version 11. The results shows that implementation of <IR> has no effect on the relevance of accounting information.

Cortesi and Vena (2019) analyzed the effects of IR voluntary adoption on a sample that spans 15 years, from 2003 to 2017, covering 636 companies from 57 countries. The results support the view that the IR (i) enhances corporate disclosure and reduces information asymmetries; (ii) increases the quality of reported earnings per share; (iii) does not positively influence the value relevance of book value; and it (iv) has marginally decreasing benefits. Lastly, the estimates (v) do not affect the geographical provenance and countries' economic structures and (vi) do not reveal clear-cut evidence on the relationship between the factors influencing adoption and greater benefits for companies mostly exposed to them.

Lebriez et al. (2019) investigated a sample of 1513 firm-year observations from 2004–2015. The findings demonstrated that organizations enhanced the value relevance of their ESG performance by adopting IR. Nevertheless, IR should not be adopted with the objective of outperforming competitors, as the study found no evidence that the value relevance of ESG performance is higher for organizations using IR than for non-IR users.

Cormier and Magnan (2007) suggest that the disclosure of environmental information by Canadian, German and French firms has positively shaped investors' view on the firms' reported earnings and their value. Clarskson et al. (2013) investigated the value relevance of environmental and social activities and also explored the demand and general interest of the equity market participants for such disclosures. The estimates mentioned that the disclosure of environmental and social activities were value relevant and the equity market participants were interested in and demand such information.

Kaspereit and Lopatta (2016) conducted a study on the value relevance of Corporate Sustainability as measured by the SAM sustainability ranking and sustainability reporting using the GRI framework for 600 largest European companies and the Feltham and Ohlson valuation model for the period 2001–2011. The authors reported a positive association between Corporate Sustainability and market value of companies.

Werastu et al. (2021) examined whether the sustainability report has value relevance for investors and affects the value of the company. Ohlson's multiple regression model is used as a method with 38 publicly listed companies in 2016-2019 as a sample. The results of the study show that investors use sustainability reports as value-added information in making investment decisions. Investors today are not only focused on short-term profits or company profits, but also the sustainability and long-term profits of the company in order to satisfy all stakeholders. The sustainability report made by the company is considered capable of being a material or aspect of consideration related to investments and helps indicate the long-term prospects of a company.

Ali and Jadoon (2022) investigated the value relevance of CSP using a sample of 113 firms belonging to twelve highly sustainable economies as ranked by the Global Sustainability Competiveness Index for the period 2015–2020. The results of the study reported that CSP significantly explicated the variation in stock market prices and hence was value relevant in supporting the shareholders' value-enhancing role of corporate sustainability.

Methodology

The purpose of the study is to investigate the impact of integrated reporting on value of listed companies in Australia. A data sample of 38 non- financial companies listed on the Australian Stock Exchange (ASE) spanning from 2008 to 2020 was selected. The reports were retrieved from the websites of the companies and Thomson Reuters Datastream. Firstly, the study is to examine whether the value relevance of summary accounting information of listed firms in ASE has enhanced after the adoption of an IR approach. To do so, the research compares the market valuation coefficients of summary accounting information over a three-year period before the adoption of IR against the first three years after the mandatory IR adoption and then compares it with the current period to ascertain any improvement, deterioration, similarities or differences in the IR adoption system. Hence, this study compares the value relevance of firms' summary accounting information for the period of 2008–2010 to that of the period 2011–2013 and then compares it again with the current time span that is of 2014-2020. System GMM was employed to conduct regression analysis.

Conceptual Framework

With reference to the previous empirical studies namely Setia *et al*. (2015), the conceptual framework of the study has been drafted as follows:

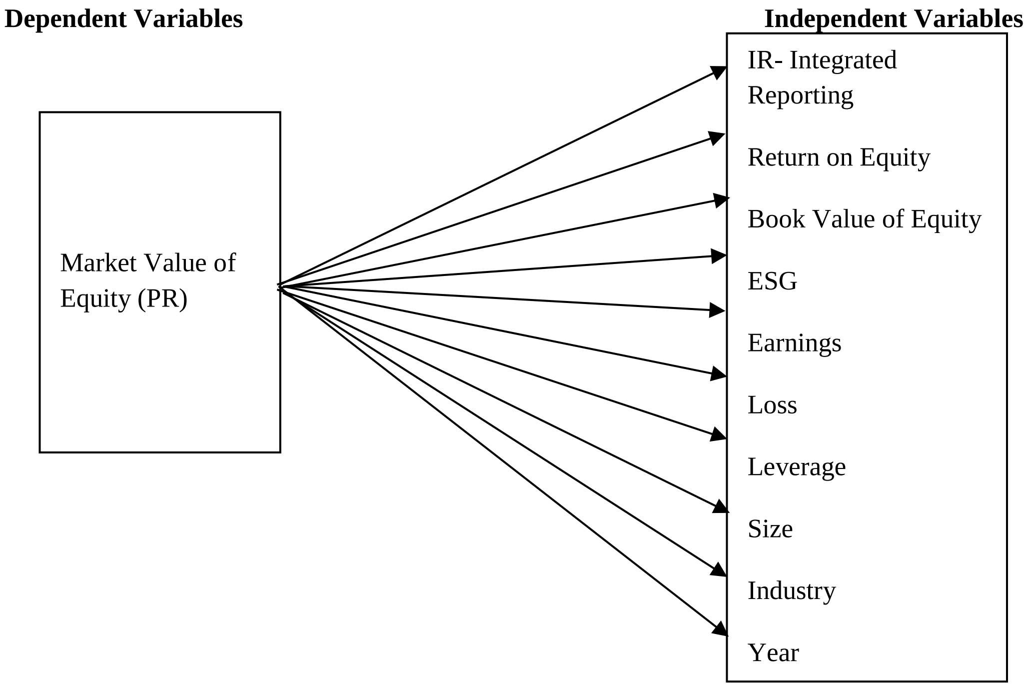

Figure 1. Conceptual framework of the study.

Econometric Measures

This study employs time series model to measure the impact of IR on firm value. Further, the technique utilized for analysis is concentrated on System GMM which has been adapted by (Johnston, 2005; Lourenco et al. 2014). Previous literature involving (Berthelot et al., 2012; Hassel et al., 2005; Johnston, 2005; Lourenco et al., 2014; Sinkin et al., 2008) adapted a linear price-level model linking a firm's market value of equity (MVE) with its book value of equity (BVE) and earnings (EAR) is employed . Based on former empirical evidences, the following econometric measure has been designed:-

$$\begin{aligned} PR_{it} = {} & \propto_0 + \propto_1 BVE_{it} + \propto_2 EAR_{it} + \propto_3 A4R_{it} + \propto_4 (A4R_{it} \times BVE_{it}) + \propto_5 (A4R_{it} \times EAR_{it}) \\ & + \propto_6 LOSS_{it} + \propto_7 (A4R_{it} \times LOSS_{it}) + \propto_8 LEV_{it} + \propto_9 ROE_{it} + \propto_{10} SIZE_{it} \\ & + \sum_{y=2008}^{y=2013} \alpha_{12y} YR_{it} + \varepsilon_{it} \end{aligned}$$

(Eq 1)

Requirements of Study

The three main variables (PR, BVE and EAR) are scaled by the number of common shares six months after the fiscal year end. (Dimitropoulos et al., 2013; Lang et al., 2003).

According to Barth et al.(2001), ‘‘.an accounting amount is defined as value relevant if it has a predicted association with equity market values" (Barth et al., 2001, pg. 79). Hence, BVE and EAR shall be value relevant if their coefficients are found to be significantly different than zero. BVE and EAR shall be significantly different prior to the adoption of IR and the years which immediately follows its adoption.

So, for such a comparison to be feasible, the above model shall be estimated by pooling observations from the entire period under examination (that is three years before and three years after IR adoption) and introducing a period binary variable D, which equals one for the period after IR adoption.

Binary variable D captures the mean change in the relation between market value and accounting variables after the adoption of IR.

Explanation of Interaction of Variables

Most importantly for ouranalysis, in order to investigate whether there is a systematic difference in valuation of BVE and EAR between the two periods, the variable D to interact with BVE and EAR. Hence, the focus of our measurement is on coefficients alpha4 and alpha5: If these coefficients are found to be positive and significantly different than zero then it can be argued that the integrated reporting approach which was introduced has enhanced the relevance of summary accounting information on the ASE. Meanwhile, if they are found to be statistically significant negative, it can be inferred that BVE and EAR have partially lost their relevance. In case the coefficients of the two interaction terms are not found to be significantly different than zero, it can be argued that the new reporting regime has no impact on the market valuation of summary accounting information.

Explanation of Variables

All the variables which shall be included in this study are as follows:

Dependent Variable

Market Value of Equity (PR)

Market value of equity (Datastream item identifier: MV) six months after fiscal year-end scaled by the number of common shares (Datastream item identifier: NOSH).

Independent Variables

Book value of Equity (BVS)

Book value of equity (Datastream item identifier: WC03995) scaled by the number of common shares (Datastream item identifier: NOSH).

Earnings Per Share (EPS)

Earnings before interest and taxation (Datastream item identifier: WC18191) scaled by thenumber of common shares (Datastream item identifier: NOSH).

Loss

Binary variable which equals one if EPS is negative and zero otherwise

Leverage (LEV)

Firm's leverage computed as total liabilities (Datastream item identifier: WC03351) divided by total assets (Datastream item identifier: WC02999).

Return on Equity (ROE)

Firm's return on equity computed as earnings before interest and taxation (Datastreamitem identifier: WC18191) to book value of equity (Datastream item identifier: WC03995).

Size

Natural logarithm of total assets (Datastream item identifier: WC02999).

A4R

Overall equal weighted rate (on a% scale) that reflects a balanced view of a company's ESG performance (ASSET4 item identifier: A4IR). It is a score assigned to institutions according to their performance on the matters of ESG, thus representing a quantitative variable which considers for sustainability performance.

Multiplicative Regression Models

Based on Lubberink and Willett (2017), multiplicative regression models are adopted in this research to determine the value relevance of accounting information under IR. The use of multiplicative models in this thesis mitigates the shortcomings of existing additive-linear models. As shown by Lubberink and Willett (2020), the commonly used additive-linear form of the relationship between accounting values and market are logically incorrect and empirically inaccurate. Existing additive linear models fails to measure for scale and distributional form of accounting numbers are often not normal. This creates misunderstanding and confusion regarding the interpretation of the decision usefulness of accounting values when examined using traditional linear models. To resolve this issue, this logarithmic transformation is used in the analysis and log-linear multiplicative models are used to determine the value relevance of accounting information under IR. The log-linear transformation mitigates the scale problem of existing linear models by providing a scale free model that shows the relationship between different variables in the form of elasticities. This stipulates the change in value relevance of accounting information under IR in a more accurate and representative manner and provides valuable insights as to their decision usefulness.

Analysis

Table 1 reflects the descriptive statistics of the Australian market based on 387 observations respectively for a time frame of 13 years ranging from 2008 to 2020. According to this study, the mean and the standard deviation of the research variables fluctuate namely (IR_Score (3.61 and 1.31), Loss (4.92 and 199.50), finlev (0.60 and 0.23), ROE (0.49 and 1.22), Size (9.67 and 2.27). Further, the study reports that all variables have a positive mean with a positive kurtosis which states that the distribution of the data are leptokurtic resulting in higher peaks than expected from normal distribution. Moreover, it is observed that some of the variables are skewed to the right namely (IR_Score (0.54) and ROE (3.76) arising in an escalation in profitability among Australian firms. On the other hand, Loss (-6.12), Finlev (-0.34) and Size (-2) are skewed to the left.

Table 1. Descriptive statistics of the study

	TIME PERIOD	IR_SCORE	LOSS	FINLEV	ROE	SIZE
Mean	2008 - 2020	3.61	4.92	0.60	0.49	9.67
STD. Dev		1.31	199.50	0.23	1.22	2.27
Skewness		0.54	-6.12	-0.34	3.76	-2
Kurtosis		2.2	50.13	2.86	21.84	10.94
Jarque Bera		29.05	38231	7.66	6640.09	23.45
Obs		387	387	387	387	387

Table 2. Heteroskedasticity test

BREUSCH- GODFREY SERIAL CORRELATION LM TEST			
F-STATISTICS	814.04	PROB.F(3,379)	0.000
OBS*R-SQUARED	335	PROB. CHI- SQUARE(3)	0.000

Table 2 presents the Breusch – Godfrey Serial Correlation LM test for the presence of autocorrelation. The finding reveals that the probability values of 0.000 (1%) and 0.000 (1%) is greater than the critical value of 0.05 (5%). This implies that there is evidence for the presence of serial correlation.

Table 3: Ramsey reset test

	Value	Df	Prob.
F-STATISTICS	2.211	-3,379	0.086
Likelihood ratio	6.72	3	0.082

Table 3 illustrates the Ramsey Reset test for the presence of misspecification. The finding stipulates that the probability value of 2.21 (22.1%) is greater than the critical value of 0.05 (5%). So, it is observed that there is no non- linearity in the regression equation model and therefore, the linear model for integrated reported and value relevance of Australian listed companies is adequate.

Table 4. Regression analysis - System GMM results of the study

Integrated reportıng and fırm valuatıon- australıan markets			
Model 1	2008-2010	2011-2013	2014-2020
C	-937.45	-922.24	257.97
BE	-0.000	-0.000	-0.000***
EAR	-0.001***	-0.000	0.000*
IR Score	2.045**	2.580**	0.547
AR4ESGBVE	-3.69E-08	7.97E-06	3.31E-05*
AR4ESGEAR	0.000	0.000	-0.000
LOSS	5.193*	8.975	-1.132
AR4ESGLOSS	-1.642	-2.229*	-0.207
FIN. LEV	-1.11	0.42	-9.273***
ROE	3.376***	3.810***	3.433***
SIZE	1.789***	1.624***	2.990***
Year	0.452	0.447	-0.137
J- Statistics	1.48E-25	0.000	1.62E-29

(Author's computation)

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels respectively.

Table 4 represents the estimates based on the System GMM model for three consecutive periods namely 2008-2010, 2011-2013 and 2014- 2020. The study is motivated by the recent developments in IR and specifically by the release of the IIRC Framework and the mandatory adoption of the King III Report in the Australian Stock Markets, as well as the calls for a closer investigation of the usefulness of IR to capital markets participants (Babourkados, 2016). Hence, the study examines whether the value relevance of summary accounting information of listed firms in ASE has enhanced after the adoption of an IR approach. To do so, the research compares the market valuation coefficients of summary accounting information over a three-year period before the adoption of IR against the first three years after the mandatory IR adoption and then compares it with the current period to ascertain any improvement, deterioration, similarities or differences in the IR adoption system. Secondly, if the coefficient of ESG is found to be statistically significantly different from zero, it can be deduced that quantitative sustainability information affects market valuation. In addition, ESG is allowed to interact with BVE and EAR to obtain ESG×BVE and ESG×EAR. If the coefficients of these variables are significantly different than zero, it is understood that quantitative sustainability information interacts with accounting information.

The estimates are explained as follows:-

Period 2008-2010

The regression findings illustrate that during the first three years of pre adoption of the King III report. First of all, the results of the variables namely BE and the interaction of (A4Loss) are negatively and statistically significant with value relevance of net assets. Nonetheless, BE is negatively related to value relevance but it is insignificant. In other words, this reflects that the book value of equity and earnings do not affect the value relevance of net assets of firms on the Australian markets since the King III report was not yet implemented in the accounting system of companies during that period. Based on Collins et al. (1999), earnings are the value-relevant factor in profit firms, while book value of equity is relevant in loss firms. Moreover, Papadaki and Siougle (2007) established a verified negative relation between price and earnings for loss firms and a positive relation between price and earnings for profit firms. As a result, negative earnings bring about the shift in focus from earnings to book value and thus serve as a proxy for liquidation option. Conversely, ROE and size are positively and statistically significant to value relevance indicating that ROE influences the market valuation of firms even before the adoption of the report. According to Collins et al. (1997, firm size is identified with the usefulness of earnings and book value. Companies that are large and have complicated structures will be able to adopt more sophisticated governance structures and disclose more information compared to small size companies.

Period 2011-2013

Secondly, during the period of adoption of the King III report, it is observed that the study presents similar results in terms of magnitude and direction as compared during the pre- adoption of the report. However, BE and EAR are found to be negative and insignificant to value relevance. Concentrating on the aspect of ROE, a strong significant increase in the valuation coefficient from the first period of King III adoption report. Now, focusing on the interaction between sustainability performance information and summary accounting information, it is observed that net assets and sustainability (BE and A4R) and (EAR and A4R) are positively but insignificant. The estimates might indicate that theoretically the principles regarding sustainability reporting are complex and unclear compared to financial reporting (IDSA, 2009, principle 9.3). Ultimately, this can implicate a lack of interaction between sustainability performance figures and accounting information. The results are in accordance with Fernando *et al.* (2017) which obtained no significant interaction between accounting information and scores given to qualitative information provided on the integrated reports of Asian firms.

Contrarily, during the adoption of the report, ROE and size still present similar estimates as during the pre-adoption of the report. The variables are positively and statistically significant to value relevance indicating that ROE influences the market valuation of firms during the adoption of the report. Here, size is considered to affect book value of large size companies as these entities have the capacity in terms of capital and assets to adopt sophisticated governance structures. Therefore, companies will not have difficulties to implement these systems into their organizational structure and management. The estimates are in conformance with Appah and Onowah (2021).

Period 2014-2020

According to the advocates of the new reporting trend, the mandatory adoption of an IR approach is expected to improve reporting quality (Middleton, 2015; Babourkado, 2016) and specifically the value relevance of accounting information (Eccles and Saltzman, 2011; IIRC, 2013; IDSA, 2009). The study provides evidence that after the mandatory adoption of an IR approach under King III, a sharp increase of earnings' valuation coefficient and a slump in the value relevance of net assets is reported. These estimates hold across alternative samples, different time periods and different model specifications.

The regression estimates stipulate that during the first three years of King III adopting, investors added sustainability performance information when evaluating firms on the Australian Stock Market. The main effect of this relation is reported to be positive (3.433) and significant at the 1% level. Interestingly, when we turn our attention to the interaction between sustainability performance information and summary accounting information, it is posited that the coefficient of the interaction between net assets and sustainability performance (BVSxA4R) is positive (0.015) and significant. In this case, the results conform with Baboukardos and Rimmel (2016) who employed ASSET4 Ratings as a score for sustainability performance to conclude that the score evidently affects market valuation and it also interacts with accounting information for South African firms. Besides, this interaction was poorly significant that is at 10% significance level and their study considered only the three years period from 2011 to 2013. The results was also in conformance with Ali and Jadoon (2022) who reported that CSP significantly explicated the variation in stock market prices and hence was value relevant in supporting the shareholders' value-enhancing role of corporate sustainability. Nonetheless, the interaction between earnings and sustainability performance (EAR and A4R) is negative (-0.000) but insignificant.

Further, considering the identification and measurement of liabilities, it is pointed out that after the introduction of an IR approach in the Australian stock market, a downfall in the level of net assets and leverage makes sense. In other words, based on the introduction of King III adoption, companies in Australia experience risk disclosures, challenges and uncertainties that they might encounter in the future but also find new mitigation technique to reduce them. Hence, the decline in the value relevance of net assets might be caused by risk disclosures for instance credit risk or business risks. Moreover, it can be deduced that based on the reduction on leverage, Australian firms might employ more internal finance to finance their operations and investments. The findings support evidence of (Marx and Mohammadali- Haji, 2014; Babourdakos, 2016). Contrarily, the reduction of value relevance of net assets can be in favour of the IIRC to emphasize on the intellectual capitals namely human, social and natural capital. Ultimately, it is observed that even after the adoption of an IR approach, the valuation coefficient of net assets remain similar that is lower and higher as it was the case during the pre- adoption period of the King III adoption.

Conclusion

The purpose of the study is to investigate the impact of Integrating Reporting on value relevance of listed companies on the stock exchange of Australia. The analysis of the research was categorized taking into consideration three time periods namely: pre-adoption of the King III report, adoption of the IR report and post-adoption of the report. First of all, during the period of pre- adoption of the King III report, there were no significant relationship between book value of equity and equity and did not influence the value relevance of Australian markets since the King III report was not yet introduced in the accounting system of entities during that period. Secondly, during the period of adoption of the King III report, similar results were exhibited in terms of magnitude and direction during the pre- adoption of the report. BE and EAR are found to be negative and insignificant to value relevance. Concentrating on the aspect of ROE, a strong significant increase in the valuation coefficient from the first period of King III adoption report was observed. During the post- period of the implementation of the report, considering the identification and measurement of liabilities, a downfall in the level of net assets and leverage was pointed out. In other words, companies in Australia experienced risk disclosures, challenges and uncertainties that they might encounter in the future but also find new mitigation technique to diminish them. Consequently, a decline in the value relevance of net assets might be occured by risk disclosures for instance credit risk or business risks. Moreover, it can be deduced that based on the reduction on leverage, Australian firms might employ more internal finance to finance their operations and investments. The findings support evidence of (Marx and Mohammadali- Haji, 2014; Babourdakos, 2016). Secondly, regarding sustainability performance, it has been reported that during the adoption of King III report, there was no relationship between sustainability and market value information. Hence, theoretically speaking, it can be deduced that the principles regarding sustainability reporting were complex and unclear compared to financial reporting (IDSA, 2009, principle 9.3). However, the post adoption of King III stated that sustainability impacted positively on market value which indicated CSP significantly explicated the variation in stock market prices and hence was value relevant in supporting the shareholders' value-enhancing role of corporate sustainability (Ali and Jadoon, 2022).

Policy Implications of Study

The estimates of this study has implications on managers, regulatory authorities and practice in that Integrated Reporting will give managers, stakeholders, regulatory authorities, IIRC and accounting standard setters for instance the Accounting Standards Board better understanding of the extent to which reporting organizational overview and external environment, governance, business model, risk and opportunity, strategy and resource allocation, performance, outlook, basis of preparation and presentation in the determination of firm financial and non- financial performance. Further, it might also contribute to the academic and theoretical debate on IR on the Australian markets.

Limitations of Study

The generalisability of the estimates is also limited because of the employed measures. Any error in the original data could not be avoided nevertheless all data was gathered from reliable sources only. Moreover, although, the explanatory variables utilized in this study were employed by other researchers, it was observed that all the measured models have a very low explanatory power on the companies' performance.

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