

The Role of Integrated Reporting Quality and Sustainability Governance in Stakeholder Value Creation

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ABSTRACT

Integrated reporting (IR) drives firms to concentrate on creating value in the longer term, directing them to have a more inclusive and convincing management-driven approach to value creation. Earlier evidence indicates that 79% of the IR adopters realized an enhancement in their board's understanding of value creation. Whilst many studies on IR adoption, issues on IR quality (IRQ) have been neglected. The role of IRQ is crucial as it reflects corporate accountability and transparency. Hence, firms with high IRQ may create high stakeholder value. However, the extent to which IRQ contributes to value creation is less established, and prior studies rarely assess the role of IRQ in stakeholder value creation (SVC). Thus, the present study aims to fill this gap. As not all stakeholders are interested in short-term measures, firms might establish the key driving force, such as a sustainability committee, to materialize the sustainability agenda. Hence, this study examines the moderating role of sustainability governance (SG) of 238 listed companies that adopted IR between 2018 and 2020. The result indicates a significant and positive relationship between IRQ and SVC. Additional analysis showed that IRQ is significantly and positively associated with return on assets and non-financial value creation. However, the analysis revealed that SG did not reinforce the positive impact of IRQ on SVC. This paper highlights the importance of discharging high-quality IR to the investors and other stakeholders to communicate the firms' relevant issues, competencies, strategies, and prospects that underpin the firm's ability to deliver value. The results may shed some light on the SG's role in managing the sustainability agenda that influence the creation of valuable outcomes for the stakeholders. Regulators, practitioners, firms, and scholars might be interested in the discovered findings and the proposed SVC index.

Keywords: Integrated reporting; integrated reporting quality; value creation; stakeholder value; sustainability governance

INTRODUCTION

Integrated reporting (IR) brings together various corporate information that shows the connectivity of business performance, strategic objectives, governance, risks, and organizational prospects. Transforming how firms view value creation is one of the aims of IR (International Federation of Accountants [IFAC] 2015). The changes in corporate behaviour drive firms to extend their focus on creating not only financial value but also non-financial value for their stakeholders (International Integrated Reporting Council [IIRC] 2021). Firms were found to have heightened views of strategies, resource allocation decisions, and business models when employing IR (IFAC 2015). This innovative reporting tool is regarded as an important source of value creation (Mervelskemper & Streit 2017) as it assists firms in adapting to changing business expectations and drives firms to deliver extensive value to their stakeholders. As signalling theory suggests, firms employ corporate disclosure as a powerful signalling instrument (Ching & Gerab 2017) as it may affect the information receivers' choice of purchases, investment, and employment (Connelly et al. 2011), thus influencing the extent of value creation.

There is a misconception that IR adoption and IR quality (IRQ) are similar. However, Velte (2021) highlighted that they are considered different. IR adoption reflects embracing the IR practice, while IRQ indicates the level of adherence of the integrated reports with the IIRC framework (Iredele 2019). As such, integrated reports that significantly comply with the framework are regarded as high-quality reports, and vice versa (Barth et al. 2017). Therefore, firms with high IRQ may lead to high confidence among investors and other stakeholders, which in the end, will increase their financial and non-financial value creation. However, prior studies rarely examine from the IRQ perspective (et al. 2020), contributing to the scant empirical evidence and perspective. Additionally, existing literature mostly associates IRQ with firm value creation, for instance, cash flows, liquidity (Barth et al. 2017), financing cost, revenue growth (Anifowose et al. 2020), and share price (Melegy & Alain 2020). This stream of research suggests a significant abandonment of the broader conception of value creation, specifically stakeholders value creation (SVC).

According to Haksever, Chaganti and Cook (2004), firms should balance the value creation for all stakeholders as stakeholders have significant influence over the firm's survival and success. Fulfilling just the financial needs of shareholders is no longer adequate as what materials for the stakeholders are not purely

economic value but other intangible and non-financial units (Deloitte 2013). Shareholders are fundamentally interested in the 'firms' financial achievements, while non-shareholders are captivated by the sound social performance. Thus, financial and non-financial value seems to be the most suitable representation of value creation (Faizah et al. 2016). This guides the present study to suggest a notion of SVC that promotes the generation of financial and non-financial benefits for all stakeholders.

However, we believe the ability of firms to create long-term value creation is also influenced by the firms' sustainability governance (SG), which is consistent with Hopkins (2009). This governance system emphasized incorporating environmental and social concerns into business strategies while improving the engagement with numerous stakeholders (Le Roux & Pretorius 2019). Inarguably, the world is now facing numerous significant issues of unsustainable behaviour, social pressure, and critical biodiversity loss (Kopnina 2020) that affect the fulfilment of stakeholders' interests. Therefore, in coping with the intense social pressures from society and market players, firms need to strengthen their governance structure that is orientated on sustainability motives (Doni et al. 2022). Moreover, as team production theory promotes, if the firms wish to retain all team members, they need to ensure the well-being of their stakeholders and avoid any credible threat that may weaken their relationship with the stakeholders (Kaufman & Englander 2005). Consequently, rather than just fulfilling the legal obligations and lessening adverse outcomes, SG moves to produce significant favourable impacts that benefit the planet and its people (Dyllick & Muff 2015).

In addition, SG assists the firm in establishing good relationship and trust among the stakeholders (Rinaldi 2019), which encourage a business model that represent the interests of a more comprehensive array of constituents. Team production theory also accentuates the firm to balance the interests of the shareholders and other stakeholders, particularly if it plans to keep everyone in the team (Blair & Stout 1999). The above points, in sum, portray that SG aids firms in solving those problems faced in the corporate world, encourages consideration of parties having a stake in the firms, and supports the firm in attaining competitive advantage. This critical role is anticipated to boost the function of IRQ in producing multiple benefits for all stakeholders. However, this role has not been tested before.

Thus, this study aims to examine the relationship between IRQ and SVC. This examination is vital as evidence of how IRQ may impact value creation is scarce. Besides, the extant literature is primarily confined to the impact of IRQ on firm value creation. Due to that, a broader perspective of whether IRQ may contribute to favourable outcomes for all stakeholders appears significant. Likewise, the existing research mostly focuses on South Africa due to its mandatory adoption setting (Cortesi & Vena 2019). Enlarging the study environment by including all adopters may offer valuable insight and better generalization of the findings. The second objective of this study is to investigate whether SG can strengthen the relationship between IRQ and SVC. SG has the potential to enhance the relationship between IRQ and SVC. SG provides competency for the firms to committedly respond to the rising accountability pressures among society and market players (Doni et al. 2022). As a result, firms with better sustainability performance may signal their sound practices via quality disclosure (Al-Shaer 2020) to boost their image and reputation, thus influencing the firm's tendency to satisfy the needs of all stakeholders. Moreover, mere corporate social responsibility (CSR) initiatives might not be reliably interpretable; hence firms need to broadly explain how their sustainability practices may lead to value creation (Mervelskemper & Streit 2017).

This study contributes to the body of knowledge and practical sides. Firstly, this study offered an overview of SVC in the context of IR adopters and enhanced the understanding of the nature of value, expanding from mere concentration on financial value to numerous forms of non-financial value. Besides, IRQ's role in promoting value creation for all stakeholders can also be verified. This study also brings to light the effective function of SG in serving the interests of the broader stakeholders. Scholars may consider the content proposed in the SVC index in understanding the conception of value creation. Practically, the contribution is rendered by releasing the extent to which firms create value for their stakeholders and the state of integrated reports' disclosure quality. Firms may also gain a better understanding of the enforcement of SG. Consequently, our findings can support firms in applying the most suitable strategies for developing their stakeholder engagement and outcomes. Those interested in IR, such as the IIRC, Securities Commission, government bodies, and potential adopters, may find this study beneficial in grasping the state of social commitment and reporting environment.

The remainder of this paper is organized as follows. Section 2 briefly discusses the review of the literature and the hypotheses development. Section 3 elaborates in detail the research methodology. Section 4 reports the empirical findings and discussion, while Section 5 concludes the paper.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

IRQ AND SVC

Eccles and Saltzman (2011) posit that firms that utilize IR may experience substantial enrichment in decision-making, especially regarding resource allocation, superior relationships with the stakeholders, and lower

reputational risk. Prior studies also report evidence of the positive impacts of IR on various forms of value creation. It was found that the publication of quality integrated reports positively contributes to liquidity and future cash flows (Barth et al. 2017). A positive relationship with liquidity suggests that corporate reporting weakens information asymmetries, adverse selection, and monitoring costs, which results in market stimulation. Further, the positive relationship between IR and future cash flows proves that comprehensive disclosure facilitates internal decision-making, eventually increasing future cash flows (Barth et al. 2017). Anifowose et al. (2020) demonstrated that firms publishing quality integrated capital reporting are rewarded for increased revenue growth. Credible disclosure has poured customers' trust into the firms' products or services, leading to increased revenue growth. Mans-Kemp and Van der Lugt (2020) showed that IRQ enhances ESG scores, while et al. (2020) revealed a positive IRQ relationship with market liquidity and a negative relationship with earning forecast error.

In contrast to the above findings, prior studies also report no correlation between IRQ and cost of capital (Barth et al. 2017). Anifowose et al. (2020) also revealed that good capital reporting does not significantly influence the cost of financing. Additionally, firms that issued high-quality integrated reports were not rewarded in terms of return on assets and Tobin's Q (Mans-Kemp & Van der Lugt 2020). All these findings signify the role of IRQ in creating and sometimes destroying values, with previous empirical findings that are primarily financial-oriented. Regardless, prior studies, in summary, exhibit that IRQ offers firms monetary and non-monetary benefits through enhanced business transparency, better investment decisions, efficient capital allocation, and better profit management. Based on this rationale, the present study proposed the following hypothesis:

H₁ There is a positive relationship between IRQ and SVC

THE MODERATING ROLE OF SG

In line with Rinaldi (2019) and Salvioni et al. (2016), this study defines SG as a structure that proposes the board concentrates on the ESG matters associated with the well-being of all stakeholders. To tackle global issues and satisfy the legitimate needs of multiple stakeholders, firms need to have specific governance committed to managing the sustainability agenda. Due to the intricate nature of SG, the board of directors should be the key driving force in materializing stakeholder capitalism via sustainability strategies (Salvioni et al. 2016). These authors highlighted that the board needs to maintain proper dialogue with stakeholders, ensure the integration of sustainability practices into corporate activities, generate wealth, preserve the right of employees and societies, and protect nature.

The extant literature proposed the establishment of a sustainability committee as one of the sustainability frameworks. This governance mechanism was applied in several studies (e.g. Malola & Maroun 2019; Wang et al. 2020). A sustainability committee is generally formed to assist the board in managing sustainability matters, crafting and monitoring sustainability strategies, observing compliance, and updating the board on those matters (Mackenzie 2007). Besides the sustainability committee, prior studies recommended another three SG mechanisms: executive compensation based on non-financial performance measures (Wang et al. 2020), sustainability vision or mission, and board sustainability experiences (Sahar et al. 2019). This governance structure may aid firms in articulating their capabilities and synergies via integrated reports, which drive the creation of distinct value for a broad spectrum of stakeholders.

SG enables firms to manage the stakeholders' aspirations (Rinaldi 2019). Firms that form sustainability committee was reported to generate better environmental and social performance (Li et al. 2022; Orazalin 2020). Besides, integrating non-financial metrics in executive compensation has helped firms improve long-term emphasis, corporate value, and social and environmental initiatives (Flammer et al. 2019). These conditions may validate the orientation of business models presented in the integrated reports, thus contributing to the attainment of broader stakeholder value. Moreover, the sustainability vision presents a preliminary idea of what the firms trust they need to do (Azlan et al. 2014), while a board with greater sustainability experience configures robust sustainability decision-making (Walls & Hoffman 2013). This suggests an alignment with the conviction of integrated reporting, making it feasible to create better conditions for value creation. Though SG was criticized for its symbolic presence and ineffective function (Chams & García-Blandón 2019), the empirical evidence are too little to stress clear tendencies. Hence, the current study filled the gap by hypothesizing that:

H₂ SG strengthens the relationship between IRQ and SVC

RESEARCH METHODOLOGY

POPULATION AND SAMPLE SELECTION

The sample for this study was collected from the IR Examples Database as these companies prepared their integrated reports based on the IIRC guidelines. This database classifies adopters into five regions: Africa, Asia,

Europe, Australasia, and America continents according to Our World in Data. Table 1 presents the sample selection procedure and its regional distribution as of 24 December 2022. From the initial population of 580 firms, this study further identified the sample based on several criteria. First, the companies are publicly listed to fit our research objective related to shareholder value creation (Cortesi & Vena 2019). Second, the companies consistently published an English-language integrated report throughout the study (2018 to 2020). Finally, financial institutions and real estate investment trusts (REITs) were excluded due to their diverse reporting practices (Amira et al. 2020). These lead to the final sample of 238 companies across five regions.

TABLE 1. Sample selection procedure

Particular/ Region	Africa	Asia	Europe	Australasia & America	Total
Total adopters listed in the IIRC database	188	147	192	53	580
Less: Unlisted or delisted firms	31	6	25	8	70
Less: Not adopting in the year of study	1	3	56	15	75
Less: Annual report not available	16	15	26	4	61
Less: Report not in English	-	-	7	3	10
Less: Financial institutions and REITs	55	35	26	10	126
Final sample	85	88	52	13	238
Total firm-year observations: 714					

Table 2 details the distribution of the sample firms by country. The table reports that the selected firms belong to 32 distinct countries, with a prevalence in South Africa (35.71%) and Japan (28.57%). These statistics are reasonable considering that South Africa is the pioneering country that mandated IR adoption (Dilling & Caykoylu 2019), while Japan is one of the countries actively promoting the communication of value-creation information via integrated reports (Anifowose et al. 2020). The remaining countries are represented by less than ten companies each. It should be noted that approximately 55.46 % of sample firms are from developed countries, and 53.78 % are from countries considered as implementing civil law. The prevalence of these countries is mainly because developed countries are more inclined to adopt IR (Jensen & Berg 2012), and those in civil law countries are more likely to supply comprehensive information to assist the stakeholders in making informed decisions (Vitolla et al. 2020).

TABLE 2. Sample distribution by country

Number	Country	Frequencies	
		Firms	Percentage
1.	South Africa	85	35.71
2.	Japan	68	28.57
3.	Italy	8	3.36
4.	Spain	7	2.94
5.	United Kingdom	7	2.94
6.	Netherlands	5	2.10
7.	Switzerland	5	2.10
8.	Brazil	4	1.68
9.	France	4	1.68
10.	Sweden	4	1.68
11.	South Korea	4	1.68
12.	Sri Lanka	4	1.68
13.	United States	4	1.68
14.	China	3	1.26
15.	Germany	3	1.26
16.	Finland	3	1.26
17.	Malaysia	3	1.26
18.	India	2	0.84
19.	New Zealand	2	0.84
20.	Argentina	1	0.42
21.	Australia	1	0.42
22.	Austria	1	0.42
23.	Belgium	1	0.42
24.	Colombia	1	0.42
25.	Croatia	1	0.42
26.	Denmark	1	0.42
27.	Greece	1	0.42
28.	Philippines	1	0.42
29.	Russia	1	0.42
30.	Singapore	1	0.42
31.	Thailand	1	0.42
32.	United Arab Emirates	1	0.42
	Total	238	100%

DATA COLLECTION AND ANALYSIS

To gain insight into the quality of integrated reports, the practice of SG, and the extent of SVC, this study performed a content analysis of the integrated reports. As Beattie (2005) emphasized, content analysis is commonly applied in the accounting literature, with over half of the researchers utilizing this method to assess corporate disclosure. The integrated reports were downloaded from the respective firm's websites, and we accepted all reports with titles of Integrated Report, Integrated Annual Report, and Annual Integrated Report (Oktorina et al. 2021). The regression analysis using the Stata Software Version 17 was used to test the hypotheses. Several regression assumptions were run to ensure the analysis was reliable and valid.

MEASUREMENT OF VARIABLES

STAKEHOLDER VALUE CREATION (SVC)

The SVC describes the firm's economic and social accountability to the broader stakeholders. Nevertheless, there is an absence of specific measurements for value creation. A survey conducted by Ernst and Young (EY) revealed that the respondents find it accommodating to have a framework for measuring value (EY 2021). As the firms are ideally responsible for serving multiple sets of needs beyond the restricted focus of their shareholders, it is thus appropriate to construct an SVC index that blends both financial and non-financial elements. Guided by the prescriptions of EY and IIRC (2013) in their Background Paper on Value Creation, the present study structurally developed the SVC index, which involved several stages.

In the first stage, we reviewed and analyzed 141 relevant value-creation materials gathered from Google search, Google Scholar, Scopus, and Web of Science databases (articles, technical reports, and books). Next, the criteria highlighted in these materials were classified according to the significant stakeholder group. Stage 3 involves identifying the specific value-creation attributes. In the fourth stage, we acquired and revised feedback from academic and industry experts. Ten experts participated in this process; two are employed in the United Kingdom, one in New Zealand, and seven are based in Malaysia. The experts comprise professors from higher learning institutions and officers from Big 4 Accounting Firms, professional accounting bodies, government-linked companies, non-profit organizations, and leading restaurant chain operators who are well-versed in stakeholder engagement and IR. Based on the experts' opinion, the index was finalized in Stage 5. Four major stakeholder groups were identified, with 16 value-creation attributes. Table 3 displays the SVC. The SVC score (SVCS) was calculated as the ratio of a firm's actual value creation score over the maximum potential score. The highest score is 16, while the lowest score is 0.

TABLE 3. SVC index

Stakeholder Group	Value Creation Attributes	Measurements	Score
1 Shareholders	Sound firm performance	a) Return on Assets (ROA): Net income/average assets	1 if ROA is above the sample median or 0 if otherwise
		b) Return on Equity (ROE): Net income/average shareholders' equity	1 if ROE is above the sample median or 0 if otherwise
	Technological advancement	Evidence of the use of advanced technology	1 if the firm uses advanced technology or 0 if otherwise
	Synergy creation	Evidence on the merger/acquisition / restructuring event/joint venture/strategic partnership	1 if merger/acquisition/restructuring/alliance occurs or 0 if otherwise.
2 Employees	Proper compensation	A proper employee compensation scheme is in place (bonuses, stock options, health insurance, pension plan, paid vacation time)	1 if the firm offers a proper compensation scheme or 0 if otherwise
	Talent retention	The availability of a talent retention plan	1 if the firm has a talent retention plan or 0 if otherwise
	Career and training development	The availability of career advancement and learning program	1 if the firm has a career advancement and learning program or 0 if otherwise
	Conducive working environment	A workplace wellness program is in place (workplace ethics and safety)	1 if the firm has a workplace wellness program or 0 if otherwise.
3 Customers	Quality products/service	Award/recognition for brand value	1 if the firm receives any brand award or 0 if otherwise
	Product/service innovation	Evidence on the introduction of new product/service	1 if there is a new product/service introduced or 0 if otherwise
	Upholding customer satisfaction	The existence of a customer satisfaction/loyalty program	1 if customer satisfaction/loyalty program exists or 0 if otherwise
	Customer relationship	On-going conversation/engagement with customers through the workshop,	1 if the firm actively engages with customers or 0 if otherwise.

4	Societies	management	sending surveys, or customer service	1 if there is a donation made to a charitable organization or 0 if otherwise
		Donations to charitable organization	Contribution made to charitable organization	
		Involvement in voluntary work	Participation in the community project	
		Sustainability concern	Awards / recognition for good sustainability practices	1 if the firm receives any award relating to sustainability practices or 0 if otherwise
		Job creation	The existence of job offering	1 if the firm provides job opportunities to the community or 0 if otherwise.

INTEGRATED REPORTING QUALITY (IRQ)

The present study measured IRQ based on the index developed by Kilic and Kuzey (2018). The index emphasizes seven Content Elements outlined in the 2013 IIRC Framework. It consists of 1) Organizational Overview and External Environment; 2) Governance; 3) Business Model; 4) Risks and Opportunities; 5) Strategy and Resource Allocation; 6) Performance; and 7) Outlook. Studies in the past have also adopted their disclosure checklist or applied the same disclosure approach offered by Kilic and Kuzey (2018) (Manes-Rossi et al. 2020). In performing the IRQ scoring, we adapted the scheme Oktorina et al. (2021) developed. Instead of using a binary score of 0 and 1 proposed by Kilic and Kuzey (2018), we used a score interval of 0-1-2 to render a better state of disclosure quality. A score of 0 was assigned for no disclosure, one (1) score for a brief mention of the disclosure items, and two (2) for detailed disclosure elaboration of information. With fifty disclosure items, a particular firm may attain a maximum of 100 (50 items x 2 points).

It is important to note that IR is anchored on value creation, which is reflected in its aim of communicating the numerous factors that influence the capability of the firms to create value over time (IIRC 2013). Hence, there is a tendency for IRQ disclosure items and SVC attributes to intersect. Hence, the present study ensures that the evaluation for both variables was segregated by linking the reported disclosure level to IRQ (to what extent firms report) and value creation achievement to SVC (what firms do).

SUSTAINABILITY GOVERNANCE (SG)

Four mechanisms were selected to signify SG: a sustainability committee, executive compensation based on non-financial performance measures, the integration of sustainability value into the firm's vision or mission, and the presence of directors with sustainability-related experiences. In tandem with prior studies, a composite score was employed to capture the overall strength of the governance system instead of assessing each mechanism separately (Wang et al. 2020). The sustainability committee was assigned a one (1) score if the sustainability/CSR/social and ethics/risk and audit committee exists and a 0 score if otherwise (Malola & Maroun 2019; Wang et al. 2020). Further, to measure the use of non-financial metrics in evaluating the performance of the executives, a one (1) score was assigned when the firm used both financial and non-financial measures in executives' compensation and 0 when the firm solely relied on financial measures. In this regard, executives refer to chief executive officers, executive vice presidents, senior managing directors, and managing directors (Cho et al. 2017).

We allocated a score of one (1) to measure sustainability-oriented vision or mission for firms that integrate their corporate vision or mission with sustainability value, and 0 if otherwise (Weng Foong et al. 2019). Finally, firms are entitled to a score of one (1) if the proportion of directors with sustainability-related experiences to total directors is above the sample median and 0 if otherwise. Building on the works of Amira et al. (2020), sustainability experiences refer to the director's current or past experiences associated with the sustainability initiative. It includes the directors' involvement in sustainability-related management, projects, or departments, particularly in governance, economics, CSR, society, environment, or accounting. The composite measure was computed by taking the proportion of the actual governance score to the maximum possible score (for example, if a firm attains two scores out of 4, then the computation is $2/4 \times 100 = 50\%$).

CONTROL VARIABLES

Additional factors may influence SVC. Therefore, several control variables were included in the regression models. Firstly, we included firm size, measured by a log of total assets. Larger firms carry out numerous activities that affect society's well-being (Kansal et al. 2014), and they may have more significant resources to be allocated for value-creation initiatives. Secondly, firm age may also influence its ability to serve its stakeholders. Mature firms may have an innovative way of doing things, are more capable and highly persistent, and can produce greater profitability (Rossi 2016), eventually contributing to SVC. Firm age was measured by the number of years since the firm's establishment. Additionally, we considered the influence of leverage on the creation of stakeholder value, proxied by the debt-to-equity ratio. Firms typically require a huge amount of capital to grow their business (Chang et al. 2019); hence having a high proportion of debt structure may permit firms to execute their strategies.

In line with Gong et al. (2018), we selected two proxies for a firm's growth opportunity: market-to-book ratio as a measure of firm growth and sales growth as a measure of revenue growth. Prior studies indicated that value creation depends greatly on growth opportunities (Iturriaga & Crisóstomo 2010), and sales goals typically guide the planning systems (Eliasson 1976). A country's economic development level is another factor that affects value creation. Firms operating in advanced economies countries have greater possession of intangible assets like innovation, reputation, and trust (Fasan et al. 2016), making them more capable of bringing valuable impact to their people. We employed the GDP growth rate to represent a country's economic development level. In addition, we also evaluated the impact of a country's legal system on SVC. As civil law countries are more stakeholder-oriented than common law countries (Vitolla et al. 2020), those firms doing business in civil law countries are more likely to be more motivated to satisfy their stakeholders. A dichotomous score of 1 was assigned for a firm that operates in a civil law country, and a 0 score if the firm operates in a common law country.

RESEARCH FINDINGS AND DISCUSSION

DESCRIPTIVE STATISTICS

Table 4 contains a summary of the descriptive statistics for all variables. The mean value of SVC was 0.751, with certain firms creating as low as 18.80% value, while some firms managed to satisfy all the needs of their stakeholders. The disclosure quality of integrated reports was relatively high at a mean of 0.740. The statistics for SG showed the partial practice of ESG-driven initiatives at an average of 0.560. Firms were significantly different in size, as seen in the variation between the minimum and maximum values. The sample firms were as young as four years and as mature as 203. The average leverage, firm growth, and sales growth values were 81.268, 2.213, and 5.647. The average GDP growth rate was -1.027, and approximately 54% of the sample firms originated from civil law countries.

TABLE 4. Descriptive statistics

Variables	Mean	Std. Dev.	Min	Max
SVC	0.751	0.145	0.188	1.000
IRQ	0.740	0.096	0.430	0.990
SG	0.560	0.250	0.000	1.000
Firm Size	25676329	53941796	13088	6.228e+08
Firm Age	66.466	43.021	4.000	203
Leverage	81.268	94.717	-249.060	794.430
Firm Growth	2.213	2.855	0.140	36.190
Sales Growth	5.647	21.327	-65.700	239.290
GDP Growth	-1.027	3.527	-10.800	6.700
Country Law	0.538	0.499	0.000	1.000

Where: SVC= Scores of SVC; IRQ= Scores of IRQ; SG= Composite scores of SG; Firm Size= Total assets in US Dollar; Firm Age= Number of firm's years since establishment; Leverage= Total liabilities divided by total assets; Firm Growth= Market-to-book ratio; Sales growth= Sales growth rate; GDP Growth= GDP growth rate; Country Law= Civil or common law

To better understand the extent to which firms are: 1) creating value for their stakeholders, 2) publishing quality integrated reports, and 3) considering the sustainability practices within their governance framework, we produced Table 5. As depicted, firms were seen to create greater value for their employees, and the least prioritized group was the customer group. The value creation trend was somewhat promising, with a slight increase throughout the three-year study period. This finding suggested that firms are moving from mere shareholder satisfaction to a broader conception of value satisfaction. Surprisingly, the sustainability concern consistently obtained the lowest score, and firms were discovered to focus more on their employees' competencies.

The statistics for IRQ implied an enhancement in the disclosure quality, which can be classified as an above-average quality level. Though firms were not wholly publishing the information as required by the IIRC, the disclosure quality level was still acceptable, given the lowest value that reaches nearly half of the total scores. Regardless, firms seem to neglect the connection between financial KPIs and other components of performance measures as they largely directed their disclosure on social matters and financial performance. Further, the composite score for SG has improved in three years. Moreover, a rising number of firms were forming a sustainability committee, linking their executive compensation with non-financial indicators, integrating corporate vision with sustainability goals, and appointing directors with sustainability experience.

TABLE 5. Detailed descriptive statistics for variables of interest

Particular/Year	2018	2019	2020
Value creation score based on stakeholder group (mean):			
Shareholders Value Creation	69%	69%	69%
Employees Value Creation	94%	97%	96%
Customers Value Creation	64%	63%	65%
Societies Value Creation	72%	71%	72%

Value creation score based on value creation item:			
Lowest: Sustainability Concern (I15)	44%	43%	39%
Highest: Career and Training Development (I7)	97%	98%	97%
IRQ score based on content elements (mean):			
Organizational Overview and External Environment	77%	81%	81%
Governance	83%	85%	86%
Business Model	73%	76%	78%
Risks and Opportunities	84%	88%	92%
Strategy and Resource Allocation	58%	62%	66%
Performance	55%	56%	56%
Outlook	65%	70%	72%
IRQ score based on disclosure item:			
Lowest: KPIs That Combine Financial Measures with Other Components	7%	8%	8%
Highest: Social Factors, Revenue and Cash Flows, Increase in Capitals	100%	100%	100%
Composite score of SG	52%	57%	59%
Statistics based on SG mechanisms:			
Sustainability Committee (%)	55%	67%	70%
Non-Financial Performance Measures (%)	49%	54%	60%
Sustainability Vision/Mission (%)	60%	60%	61%
Sustainability Experiences (%)	38%	39%	40%

CORRELATION MATRIX

We performed the Pearson correlation test and Variance Inflation Factor (VIF) to detect collinearity problems among datasets. Table 6 indicates that none of the correlation coefficients exceeded the suggested threshold of 0.80, indicating that multicollinearity was not a concern (Gujarati & Porte 2009). This was consistent with the VIF values for all variables, which fall below 10. The low VIF value, with a mean of 1.139, confirms the absence of multicollinearity.

DIAGNOSTIC TESTS

Before conducting regression analysis, we performed diagnostic tests to verify whether Ordinary Least Square (OLS) assumptions were satisfied. It involves checking the presence of heteroscedasticity, autocorrelation, and groupwise heteroscedasticity problems. The Breusch-Pagan, Wooldridge, and Modified Wald tests indicated the presence of these three problems. Consequently, the robust coefficient covariance method was used to rectify the problems (Gujarati 2004).

TABLE 6. Pairwise correlations and VIF

Variables	VIF	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) SVC		1.000									
(2) IRQ	1.104	0.155*	1.000								
(3) SG	1.077	0.100*	0.238*	1.000							
(4) Firm Size	1.308	-0.022	0.104*	-0.009	1.000						
(5) Firm Age	1.167	-0.062	0.133*	-0.023	0.157*	1.000					
(6) Leverage	1.087	0.044	0.020	0.002	0.245*	0.036	1.000				
(7) Firm Growth	1.037	0.190*	-0.047	-0.053	0.066	0.087	0.120*	1.000			
(8) Sales Growth	1.051	0.086	-0.042	-0.072	-0.034	-0.112*	-0.050	-0.014	1.000		
(9) GDP Growth	1.071	-0.008	-0.088	-0.078	0.164*	0.018	-0.039	0.082	0.120*	1.000	
(10) Country Law	1.354	-0.360*	0.102*	-0.036	0.404*	0.347*	0.116*	0.006	-0.150*	0.030	1.000

Note: Statistical significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

REGRESSION RESULTS

In panel data, Pooled OLS (POLs), Fixed Effect Model (FEM), and Random Effect Model (REM) can be utilized to estimate the model. Poolability F-test, Breusch and Pagan Lagrange Multiplier (BPLM) test and Hausman test were carried out to identify the suitable model for this study. Based on the Poolability F-test, it was observed that FEM was preferred over POLs, given the significant p-value. Further, the BPLM test showed that REM was better than POLs. The Hausman test was performed to conclude the preferred model between FEM and REM. The insignificant p-value under the Hausman test deduced that REM was the preferred model for this study. The decision remains even after conducting the Robust Hausman test using the Mundlak approach.

THE RELATIONSHIP BETWEEN IRQ AND SVC

Hypothesis 1 posited a positive relationship between IRQ and SVC. Table 7 shows that IRQ positively correlated with SVC at a 1% significant level. The adjusted R² suggested that the model explained 22.3% of the variation in SVC. Moreover, the IRQ estimated coefficients indicated 0.258 basis points increase in the SVC. These findings inferred that firms could satisfy numerous stakeholders' needs due to the transparent and comprehensive disclosure of their integrated reports. Truthful disclosure has helped firms to deliver more insightful perspectives to the public (IIRC 2021), stimulate greater trust (Anifowose et al. 2020), and portray good organizational behaviours (Connelly et al. 2011), which eventually enable firms to acquire reputation and capabilities to generate greater wealth for their stakeholders. This positive finding extended the findings by Anifowose et al. (2020) and Mans-Kemp and Van der Lugt (2020). Anifowose et al. (2020) discovered that the publication of quality-integrated reports has contributed to firm value creation, while Mans-Kemp and Van der Lugt (2020) revealed an enhancement in sustainability performance. Therefore, hypothesis 1, which inferred a positive impact of IRQ on financial and non-financial value, was supported.

TABLE 7. One-way panel data regression estimates

DV: SVC	REM
	Robust Standard Errors (RSE)
IRQ	0.258*** (0.065)
SG	0.017 (0.023)
Firm Size	0.006** (0.003)
Firm Age	0.006 (0.010)
Leverage	0.079 (0.083)
Firm Growth	0.012*** (0.003)
Sales Growth	0.650** (0.262)
GDP Growth	-0.001 (0.001)
Country Law	-0.119*** (0.016)
Constant	-3.450* (2.027)
R-Squared	0.223
Observations	714

THE RELATIONSHIP BETWEEN IRQ AND SVC WITH THE MODERATION OF SG

Hypothesis 2 assumes that the relationship between IRQ and SVC can be strengthened with SG. et al. (2021) suggested that a direct association between the moderating variable and the dependent variable must first be established to model the moderating effect. Hence, this section was divided into two parts.

THE DIRECT RELATIONSHIP BETWEEN SG AND SVC

Table 8 presents an insignificant relationship between SG and SVC. The coefficient value was 0.017, while the robust standard error was 0.023. Ideally, boards are responsible for protecting their stakeholders' interests and well-being. However, this finding indicated a less influential role of the board in discharging their duties of serving the stakeholders. This finding posed a debatable proposition on the real intention of executing sustainability practices within firms. It somehow backed the claims made by prior researchers, which questioned the firms' genuine reason for practicing sustainability as they see it as just a symbolic presence in gaining a public reputation (Chams & García-Blandón 2019).

THE MODERATING EFFECT OF SG IN THE RELATIONSHIP BETWEEN IRQ AND SVC

Table 8 reports that SG did not intensify the relationship between IRQ and SVC. After inserting the SG into the regression model, it was revealed that the interaction effect of IRQ by SG was insignificant. It appeared that all IR adopters benefit equally from the IRQ regardless of the presence of SG and that IRQ per se was sufficient to help firms create value. Due to that, hypothesis 2 was not supported. This finding might be attributed to the ineffective role played by SG in assisting firms in achieving holistic value creation. With the unsupported findings,

it initiates a revisit on the role of SG in materializing the stakeholder capitalism goal.

TABLE 8. One-way panel data regression estimates for moderating hypothesis

DV: SVC	REM (RSE)	
	Without Moderator	With Moderator
IRQ	0.258*** (0.065)	0.188 (0.137)
SG	0.017 (0.023)	-0.079 (0.166)
IRQ*SG	-	0.133 (0.226)
Firm Size	0.006** (0.003)	0.006* (0.003)
Firm Age	0.006 (0.010)	0.006 (0.010)
Leverage	0.079 (0.083)	0.081 (0.083)
Firm Growth	0.012*** (0.003)	0.012*** (0.003)
Sales Growth	0.650** (0.262)	0.650** (0.262)
GDP Growth	-0.001 (0.001)	-0.001 (0.001)
Country Law	-0.119*** (0.016)	-0.118*** (0.016)
Constant	-3.450* (2.027)	-3.424* (2.013)
R-Squared	0.223	0.223

THE RELATIONSHIP BETWEEN CONTROL VARIABLES AND SVC

This study has seven control variables: firm size, age, leverage, firm growth, sales growth, country's development level, and country law. Table 7 indicates that the relationship between firm size and SVC was positive and significant at a 5% level. This endorsed the proposition that larger firms can conduct a series of beneficial agendas that impact the prosperity of societies (Kansal et al. 2014). However, Table 7 specifies that firm age and financial leverage were not significantly influenced SVC. It was also indicated that growth opportunities, represented by firm growth and sales growth, revealed a significant positive relationship with SVC at 1% and 5%, respectively. These findings corroborated the view that the ability of firms to create value is highly dependent on growth opportunities (Iturriaga & Crisóstomo 2010). Lastly, the association between a country's development level, the legal system, and SVC was negative, with the legal system revealing a significant relationship. This finding indicated that this is probably because advanced economies countries are committed to collective aims of gaining global competitive advantage rather than concentrating on the micro stakeholder aspect of the business.

ADDITIONAL ANALYSIS

An additional analysis was conducted to examine the impact of IRQ and SG on SVC. We divided SVC into three, i.e. ROA, ROE, and non-financial value creation (NFVC). Table 9 reveals that IRQ was positively and significantly related to ROA and NFVC. These findings validated the affirmation that IR produces value-adding effects (Mervelskemper & Streit 2017; Moloi & Iredele 2020) due to its ascendancy in minimizing information asymmetry (Cortesi & Vena 2019), enhancing decision-making (Barth et al. 2017), and explaining the value contribution of sustainability practices (Mervelskemper & Streit 2017). Despite these, the inclusion of SG into all three models still failed to find any moderating influence given the insignificant interaction term. Thus, the present study cannot verify the proposed moderating role of SG.

TABLE 9. One-way panel data regression estimates for various forms of value creation

DV: SVC	ROA (Without Moderator)	ROA (With Moderator)	ROE (Without Moderator)	ROE (With Moderator)	NFVC (Without Moderator)	NFVC (With Moderator)
IRQ	0.006** (0.003)	0.002 (0.005)	0.002 (0.009)	0.005 (0.011)	0.262*** (0.072)	0.251* (0.145)
SG	-0.001 (0.001)	-0.007 (0.006)	-0.004 (0.003)	-0.001 (0.016)	0.011 (0.023)	-0.004 (0.176)
IRQ*SG	-	0.008 (0.008)	-	-0.004 (0.022)	-	0.020 (0.237)
Firm Size	0.000 (0.000)	0.000 (0.000)	0.001** (0.000)	0.001** (0.000)	0.001 (0.003)	0.001 (0.003)
Firm Age	0.000 (0.000)	0.000 (0.000)	0.001 (0.001)	0.001 (0.001)	0.008 (0.010)	0.008 (0.010)
Leverage	-0.015***	-0.015***	-0.026*	-0.026*	0.177**	0.177**

	(0.003)	(0.003)	(0.015)	(0.015)	(0.085)	(0.085)
Firm Growth	0.001***	0.001***	0.004***	0.004***	0.003	0.003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.003)	(0.003)
Sales Growth	0.060**	0.060**	0.167**	0.167**	0.373*	0.373*
	(0.027)	(0.027)	(0.065)	(0.065)	(0.218)	(0.218)
GDP Growth	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Country Law	0.000	0.000	0.002	0.002	-0.122***	-0.122***
	(0.001)	(0.001)	(0.002)	(0.002)	(0.016)	(0.016)
Constant	6.516***	6.519***	5.794***	5.792***	-2.959*	-2.956*
	(0.170)	(0.169)	(0.411)	(0.412)	(1.762)	(1.757)
R-Squared	0.266	0.267	0.276	0.276	0.198	0.198

CONCLUSION

The objective of this study was to examine the role of IRQ in SVC. Further, we tested whether the presence of SG influences this relationship. The examination relied on 238 companies from Africa, Asia, Europe, America, and Australasia adopting IR. Utilizing the integrated reports, this study performed the content analysis covering 2018 to 2020. The descriptive statistic showed that the level of stakeholder value created by the firm was above average, specifically at 75%. The disclosure quality of integrated reports also reflected a moderate quality, at a median of 74%. Using the REM, we found the relationship between IRQ and SVC was significant and positive. Nevertheless, we found no strengthening impact of SG on this relationship. Overall, our results verified the value-creating role of IR, and these findings echoed team production and signalling theories predictions. Our finding triggers, in particular, the actual role of SG in entertaining the interests of multiple stakeholders.

The present study provides important theoretical and practical implications. Firstly, the current study extends the existing literature by implying IRQ as an important source of SVC. Rather than associating IRQ with financial and firm value creation, this study suggests that IRQ goes beyond this narrowed viewpoint. From the practical perspective, as the IIRC emphasized, IR is a strategic tool that offers firms a better view of the actual value they bring to the public. This study's findings also imply that IR aids firms in improving their understanding of stakeholders' needs, which consequently advances the value creation capabilities. The strategic information presented in the integrated reports depicts the firms' strengths while reducing future uncertainties, thus creating greater opportunities for value creation. Additionally, it is rendered that firms need to ensure effective implementation of SG to earn its greatest benefits. The IIRC and other regulatory bodies may utilize our research evidence in motivating and assisting IR adopters in preparing good integrated reports and implementing effective SG.

Our mere focus on IR and SG as a determinant of value creation cannot capture all the complexities of fulfilling the mounting interests of all stakeholders. Future research may consider other factors that may be influential in boosting the value-creation capabilities of the firms. Besides, the SVC index proposed by this study consists of only 16 key attributes covering four major stakeholder groups. Future studies could refine our proposed index by utilizing more detailed measures and including more stakeholder groups. In addition, the IRQ and SVC data were extracted from the same source (integrated reports), which may cause overlapping in the scoring. Thus, future studies may utilize another channel in accumulating the data. The findings of this study are also limited to three years. Given the new IR framework released in 2021, future studies could consider extending the period to observe any changes in reporting behaviour and value creation trends. Given the unsupported result regarding the moderating role of SG, future studies may extensively examine, via a qualitative study, how this function is being exercised at a corporate level.

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