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The Mediating Role of the Firm Image in the Relationship Between Integrated Reporting and Firm Value in GCC Countries

Mohammed Saleem Alatawi [1,2,*], Zaidi Mat Daud [1] and Jalila Johari [1]

[1] School of Business & Economics, Universiti Putra Malaysia, Serdang 43400, Malaysia; mrzaidi@upm.edu.my (Z.M.D.); jjohari@upm.edu.my (J.J.)
[2] Faculty of Business Administration, School of Business & Economics, University of Tabuk, Tabuk 47512, Saudi Arabia
* Correspondence: mso.alatawi@ut.edu.sa

Abstract

In the context of the GCC, the adoption of integrated reporting (IR) remains limited, due in part to weak regulatory enforcement, a lack of awareness of the strategic benefits of IR, and a strong focus on short-term financial results. This limited reporting context presents a significant challenge for firms to credibly demonstrate their value to the market and attract potential investors, thus communicating long-term value. Given these limitations, this study considers how IR contributes to firm value, but also examines the mediating role that firm image (FI) plays in this relationship as a reputational construct representing stakeholder perspectives of a firm's transparency and accountability. The research employs a quantitative methodology, analysing secondary data from corporate governance and integrated reports spanning 2017–2018 to 2022–2023. Findings indicate a positive and robust relationship between integrated reporting and the firm's value, which was assessed using Tobin's Q. The findings highlight the significant mediating role of firm image, illustrating how IR practices, via increased transparency, accountability, and sustainability, enhance firm value. This study provides significant insights for researchers, policymakers, and corporate managers, highlighting the strategic relevance of IR in the GCC region. The findings demonstrate that integrated reporting improves transparency, accountability, and sustainability, thereby assisting corporate managers in utilising IR to enhance firm image and facilitate value creation. Policymakers can utilise these insights to develop regulatory frameworks that promote integrated reporting practices, thereby enhancing transparency and sustainable growth within the corporate sector.

Keywords: integrated reporting; firm value; firm image; International Integrated Reporting Framework; system GMM

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1. Introduction

Integrated reporting (IR) is one of the main revolutionised methods that has been advanced over the years for corporate reporting. IR aims to adapt to the continuous change among stakeholders as the demand for a more connected and sustainable approach is increasingly growing. The advantage of IR, as compared to that of other reporting methods, is the ability to create a holistic approach to the firm's value (FV) through the combination of non-financial and financial data. Furthermore, several crucial features are highlighted by IR, such as the behaviour of stakeholders, the interference of the environment, and social, policy, and governance. Moreover, IR creates a balance in the firm's importance between

the firm's financial performance and the longevity of the FV sustainability (IIRC, 2018; Maroun, 2017).

IR can make the firm more accountable, confident among its stakeholders, and transparent, thus increasing the firm's importance. IR also ensures that the decision-making by the organisation can help endorse responsibility toward society as well as decent behaviour (KPMG, 2020; Kassai & Carvalho, 2016). Although IR is a well-established method to assess how the firm performs all over the world, this method is not widely used in the Gulf Cooperation Council (GCC) countries so far (Buallay, 2019). One major barrier is the ignorance of the benefits of IR inside companies. Many businesses do not know the values of IR or its ability to increase transparency, involvement of stakeholders, and long-term value generation (Ahmed et al., 2021). Furthermore, the corporate culture in the GCC is mostly focused on short-term financial performance, which directly runs counter to the thorough, long-term viewpoint that IR supports (Buallay, 2019; Pham & Tran, 2020). This short-term approach discourages businesses from making investments in integrated reporting systems. Furthermore, the general acceptance of IR is hampered by the lack of strong legislative backing and direction (Ahmed et al., 2021; KPMG, 2020).

Numerous researchers have explored the effect of IR on FV, yielding inconclusive results. For instance, some researchers have determined that IR positively affects firm value, indicating that increased transparency and comprehensive disclosure bolster investor confidence and market performance (Buys et al., 2009; Arguelles et al., 2015; Barth et al., 2017; Iyoha et al., 2017; Zhou et al., 2017). Some researchers have highlighted the detrimental consequences of IR on the cost of debt, emphasising that IR can provide sufficient evidence of value within the debt market beyond what financial reports provide (Gerwanski, 2020; Muttakin et al., 2020). Conversely, other researchers revealed no substantial connection between the FV and IR, suggesting that the advantages of IR may not be consistently experienced across distinct companies (Soumillion, 2018; Bijlmakers, 2018). These conflicting findings emphasise the need for further investigation to find the relationship between FV and IR. Therefore, further research is necessary to fill this gap in the literature. Yet, another investigation reported that the connection between IR and FV can be influenced by FI having a mediation effect (Pham & Tran, 2020). When the company has a good reputation due to transparent and ethical management, this can strengthen the stakeholders' trust and result in increasing the FV. Business firms often face a negative reputation in the GCC region, which can be attributed to insufficient disclosure of information as well as poor social and environmental regulation (Ahmed et al., 2021). These issues can be resolved using the IR method of reporting, which can help improve FI as well as increase the FV sustainability.

Several studies investigated the relationship between the FV and IR in different countries; however, their findings are inconclusive (Barth et al., 2017; Giorgino et al., 2017). These inconsistent results highlight the necessity for further research to determine the link between IR and firm value. This is especially so in the GCC setting, where there is still limited adoption of IR and corporate reporting practices are far from homogenous across countries. In contrast to regions with well-established IR systems, the GCC is marked by changing regulatory landscapes, family-run corporate setups, and a short-term goal orientation of ensuring financial gains (Ahmed et al., 2021; KPMG, 2020). Such contextual factors could further veil the real impact of IR on firm value, emphasising the need for a region-specific investigation. Thus, exploring this link under the distinct socioeconomic and institutional context of the GCC is timely and necessary. Furthermore, although the direct connection between IR and firm value is still up for debate, it has recently been acknowledged that intermediate constructs such as FI could be essential in building this association. In the GCC, FI can be an important factor, which is particularly problematic for firms experiencing reputation issues related to limited transparency, no

social responsibility, and weak stakeholder engagement (Pham & Tran, 2020; Ahmed et al., 2021). If an organisation has FI that is based on credible, ethical, and sustainable disclosures through IR practices, this firm can build trust with stakeholders, sustain longer-term investors, and improve market perceptions. Thus, examining FI as a mediator is important for representing the indirect value-creating pathway of IR in the GCC context. Accordingly, the following research questions are raised:

- RQ 1: What is the impact of integrated reporting on firm value for companies listed on GCC stock exchanges?
- RQ 2: How does firm image mediate the relationship between integrated reporting and firm value for companies listed on GCC stock exchanges?

Thus, this study is conducted to answer these research questions by following two main objectives as described below:

- RO 1: To examine how integrated reporting affects firm value for companies listed on GCC stock exchanges, taking into account all companies that regularly publish integrated reports.
- RO 2: To investigate the mediating function of the firm image in the relationship between integrated reporting and firm value for companies listed on GCC stock exchanges and to determine if firms with a better image encounter favourable effects on such a relationship.

The ability of IR to resolve the translucence issue in the GCC's business firms was the main motivation to conduct this study, taking into account an increasing interest worldwide in conducting a sustainable business. IR can enhance stakeholder confidence and management; therefore, it is important to implement it, especially after the recent revolution of incorporating the IFRS standard into the IR framework. In addition, it is crucial to comprehend how IR can impact FV as business firms are moving toward sustainable and socially responsible developments.

This study, by looking at the mediating role of FI in the association between IR and FV, can enhance the current research. This study adds significantly to the body of knowledge on firm value and integrated reporting. Although previous studies have mostly concentrated on the relationship between IR and FV, this research deepens this comprehension by using the firm image as a mediating component, providing a more sophisticated viewpoint on how IR improves firm value. This study addresses a significant research need, especially within the GCC area, where the adoption of IR is still developing and empirical evidence of its impact is limited. Moreover, in contrast to other studies that predominantly utilise traditional regression models, our research adopts the system generalised method of moments (GMM) technique, adeptly mitigating endogeneity issues and ensuring more reliable and resilient results. By highlighting the strategic significance of IR in boosting the company image, encouraging investor confidence, and eventually raising firm valuation, the current study has practical implications for corporate managers and policymakers in addition to its theoretical contributions. The findings of the present study underscore the necessity for policymakers to establish legislative frameworks that promote the use of IR to enhance transparency and accountability within the business sector. By clearly delineating these contributions, this research can add to the existing literature as well as offer practical insights for firms and regulators, underscoring the increasing significance of IR in contemporary practices of corporate governance. It offers insights relevant to the GCC where IR adoption is impacted by cultural, legal, and governance issues. This study offers practical insights to policymakers, corporate executives, and scholars who want to encourage sustainable and open business practices in the GCC by providing a comprehensive understanding of how IR can improve FV and FI.

2. Theoretical Foundation

2.1. Stakeholder Theory

Stakeholder theory states that businesses are there to serve more than just shareholders. Investors, staff members, clients, communities, and regulators who are influenced by the company's decisions are all considered stakeholders (Freeman, 1984). For companies to generate long-term value, they must attend to the requirements and expectations of these varied groups. Since IR offers an inclusive perspective of the firm's approach, governance, and impact on society and the environment, it is consistent with stakeholder theory. By transparently resolving stakeholder concerns, IR cultivates trust and strengthens connections with stakeholders, which potentially results in enhanced loyalty, less risk, and greater FV.

Stakeholder theory, in the context of integrated reporting, has demonstrated its ability to connect firm value creation with firm performance in the emerging empirical literature. To illustrate, Vitolla et al. (2020) show that more relevant and robust IR that provides explicit disclosures related to stakeholders is positively associated with valuing the firm. Similarly, Dey (2020) analysis of integrated reporting, related to dimensions of both financial and non-financial reporting, demonstrated its ability to support investors' belief in the firm's transparency and accountability to their stakeholders and, thus, promoted stakeholder engagement, improving direct firm value and market-based performance. Overall, these studies have highlighted that firms, and their accounting practices, deemed appropriate by the firms' various stakeholders, can create competitive advantages through transparency and reduced information asymmetry, thereby increasing actual and perceived firm value long term. Therefore, stakeholder theory is in a unique position to theorise on the strategic importance of the role of IR in value creation and performance on behalf of firms, in business realities of the GCC (and elsewhere) when stakeholder guidance is being revised and changed and stakeholder expectations evolve as a direct result of governance structures and ability to create alignment with stakeholder expectations through integrated reports.

2.2. Legitimacy Theory

According to legitimacy theory, businesses adhere to a "social contract" with society, and their continued existence is reliant on how legitimate they are seen to be. The legitimacy theory states that a societal agreement occurs between any firm and the community, and this firm can remain in business as long as it is legitimate. This legitimacy can be maintained as long as the firm's actions follow the standards, values, and expectations of the community (Suchman, 1995).

IR bolsters legitimacy by responding to increasing demands for transparency, ethical conduct, and sustainability. Companies implementing IR exhibit conformity with society and regulatory standards, thereby augmenting their credibility. Enhanced legitimacy results in augmented stakeholder trust, elevated market confidence, and increased FV. An FI serves as an external manifestation of legitimacy. A positive image projection is more likely for a company whose IR strategies are considered legitimate. This favourable perception, consequently, enhances stakeholder confidence and elevates FV.

The study's premise is strengthened by legitimacy theory, which articulates how IR serves as a lever for firms that want to establish or grow their social licence to operate. In institutional contexts like the GCC, where there are changes in both regulatory requirements and stakeholder calls for transparency, the case may be that firms use legitimacy strategies to align with global standards or social values. By employing IR, firms can disclose their ethical behaviour, governance arrangements, and sustainability; this provides legitimacy-building opportunities and trust among stakeholders. The organisation's perceived legitimacy ultimately contributes to a positive organisation's image, boosting in-

vestor confidence and, ultimately, enabling the market to ascribe a valuation that measures up to that positive image. De Klerk and de Villiers (2012) argue that firms present enhanced disclosures because of their interpretation of legitimacy pressures, while Velte (2022) sees IR being used as a legitimacy gap mechanism for firms in developing economies in order for them to align their internal operations with their external expectations. In the context of the GCC, IR can enable firms to address the issues of 'opaque' governance as well as unprecedented and irregular communication, which enhances the firm's image and creates value for them in the long term (Ahmed et al., 2021; KPMG, 2020). If legitimacy theory is assessed with stakeholder theory and signalling theory, the theory perspectives provide a societal level view of how IR indirectly contributes to firm value through a positive value ascribed due to acceptance or improved reputation.

2.3. Signalling Theory

Signalling theory elucidates how corporations communicate information to mitigate information asymmetry with stakeholders. Companies utilise signals, such as integrated reporting, to convey their quality, performance, and dedication to stakeholders (Spence, 1973). IR is a strong indicator of a company's dedication to transparency, sustainability, and the generation of long-term value. By voluntarily implementing IR practices, firms distinguish themselves from competitors and convey credibility, attracting investors and other stakeholders like customers, NGOs, etc., augmenting FV. The capacity of a company to provide reliable signals via IR enhances its reputation among stakeholders. A robust FI, founded on perceived reliability, credibility, and transparency, bolsters stakeholder trust and eventually elevates firm valuation.

Signalling theory gives this study a conceptual value by detailing the process by which IR can serve as a purposeful tool of influence for external audiences, most obviously in terms of firm image. In environments such as the GCC, firms operate at a disadvantage where regulatory transparency is limited, and information asymmetry is high. Secondly, if a firm wants to signal to stakeholders the way they want stakeholders to interpret their corporate intent and trustworthiness, IR becomes important for this purpose. By being transparent and signalling that they are capable of operating ethically, firms send positive signals about their strategic direction. Transparency in IR signals to external stakeholders a legitimate commitment to long-term performance, ethical governance, and a strategic direction, in line with sustainability principles. For external stakeholders, these signals represent the firm's credibility and accountability. These signals are vital to developing a positive and strong firm image that represents the intangible value of a firm, learned through the experience of how investors, consumers, and regulators evaluate the firm. The studies of Zhou et al. (2017) and Lee and Yeo (2016) show that perception forms part of the signalling effect of IR, with disclosure considered to include financial disclosures and also perceptions of corporate character and trustworthiness. Therefore, signalling theory is directly supportive of the role of mediating the firm image, represented in this study as the residual of the signals made explicit within IR. When considered in conjunction with stakeholder theory and legitimacy theory, signalling theory bolsters the argument that IR does not just provide information, it actively manages a reputation, connecting high-quality disclosure to value creation in the long term.

3. Literature Review and Hypotheses Development

3.1. Integrated Reporting and Firm Value

IR has evolved into a disruptive tool for corporate disclosure, converging non-financial and financial information to provide stakeholders with a holistic view of an FV-generating process. Biddle and Saudagaran (1991) conducted preliminary research that showed a

relationship between improved corporate disclosures and corporate growth, demonstrating the importance of a comprehensive disclosure, although limited to specific characteristics of disclosures. Using the modified Ohlson model, a study discussed how corporate responsibility reporting might influence the accessibility of information relevant for shareholders, which could inform FV (Buys et al., 2009). The authors noted that after improving disclosure standards, it was reported that the price of stocks of South African companies rose substantially. However, this research was limited, as the two-year timeline is too short a period to witness the impact of disclosures. Arguelles et al. (2015) were the first to use a modified Ohlson model that included proxies for some of the assets included in the IR framework. Both studies noted that companies producing high-quality reports did have stronger stock market performance, showing the benefits investors potentially see in formal reporting and, specifically, in both reporting and transparency. However, with Buys et al. (2009) sample size, we cannot generalize their findings. On the other hand, the findings of Arguelles et al. (2015) are also limited, as they are not without potential selection bias and they lack consideration of external market factors.

Multiple studies have shown a positive impact of FV on IR practices across numerous types of companies. South Africa provided unique findings through a study evaluating IR since accounting for IR is mandatory. The authors generated an IR quality measure based on a private dataset from a Big 4 accounting firm, EY. Using OLS, the authors discovered a positive relationship between expected future cash flows, liquidity, and IR quality for South African listed firms. The authors likely limited their study's span to three years (2011–2013), therefore potentially ignoring previous long-term trends and developments in IR and company value. The authors also failed to adequately address any potential endogeneity challenges, thus limiting the strength of their findings. Another South African study using panel data purportedly found that when using Tobin's Q to calculate FV, the IR practices also had strong correlations with Tobin's Q. This study used panel data and did not address any endogeneity issues. Another study examined the IR practices in Nigerian banks and found that continued usage of IR can develop stakeholders' confidence in the firm and increase FV (Iyoha et al., 2017). Their study relied on exploratory research based on the survey method; however, reliance on self-reporting can introduce response favouritism, plus the bank sector focus may not be representative of other sectors. Dey (2020) and Vitolla et al. (2020) highlighted the value of IR in improving market-to-book ratios and reducing the cost of equity capital, thereby supporting their benefit for business valuations. Dey (2020) used two-stage least squares estimation based on non-financial data; however, the disadvantage was that the study findings were limited to non-financial companies only, while Vitolla et al. used a simple linear multiple regression model without considering autocorrelation or potential for endogeneity. Velte (2022) used a GLS random effects (RE) estimator with clustered standard errors (Huber–White sandwich estimator) and found that improved reporting helped investors develop more accurate forecasts, thereby improving the market value of a firm. Zhou et al. (2017) utilised the OLS model and then Heckman's two-stage analysis as a robustness check and found that IR brings a significant improvement to understanding the financial future of the firm, highlighting its role in affecting stakeholders' perceptions and creating trust.

Despite the compelling evidence of the benefits of IR, other research offers contradictory evidence that indicates that the relationship might be conditional on certain factors. Based on the pooled OLS model, Soumillion (2018) and Bijlmakers (2018) claimed to find no substantial relationship between FV and IR in the South African and European contexts. Wahl et al. (2019) used the OLS model and argued that voluntary disclosure will provide very little additional benefits for organisations that are considered very transparent. Gerwanski (2020) used pooled OLS and random GLS regressions using robust standard

errors to examine the relationship between the cost of debt and IR. In Gerwanski's study's European sample (covering 2196 firm-year data from 2015 to 2017), IR significantly lowered a company's cost of debt. The results of later moderation studies indicate that this effect (a) is significantly higher for firms with poor ESG performance and (b) only holds for firms operating in environmentally sensitive industries (Gerwanski, 2020). Muttakin et al. (2020) used 847 firm-year observations on non-financial companies listed on the Johannesburg Stock Exchange (JSE) between 2009 and 2015. Their findings suggest that companies with integrated reporting maintained lower levels of debt than other companies that did not provide IR. It was also found that there is an inverse relationship between the cost of debt and financial reporting quality, and integrated reports assist in amplifying this interconnectedness. The findings mean that the integrated report added value in making the information available about the company on the capital market and in the debt market, which is worth more than the financial reports.

IR practice has specific importance to the GCC region, given that it has its own unique socioeconomic-related aspects. Investors have insufficient confidence in GCC region companies because of the lack of accountability as most companies follow a family-owned model and unstandardised rules and regulations. However, recent policies in the GCC region focus on making the economy, as well as businesses, more diversified and sustainable, and IR practice becomes a solution to improve transparency and increase FV. Thus, the following hypothesis is proposed for empirical testing:

H1. *There is a positive relationship between IR and FV in the GCC countries.*

3.2. Mediating Role of Firm Image

The concept of FI plays a critical role in the effectiveness of IR for increasing FV. A company's image consists of the views of various stakeholders toward the firm's perception of quality, ethical standards, and beliefs. Stakeholder theory argues that addressing stakeholder concerns and demonstrating transparency through IR builds stakeholder relationships, which improves the firm's reputation and financial outcomes (Soumillion, 2018). This means that having a strong FI improves the benefits obtained from IR while serving as an important bridge between transparency and FV.

Several articles have studied the role of FI on FV. It was shown that positive status companies, on average, have more sales and return on investments, i.e., a positive perception improves financial performance directly (Freeman, 1984). Rindova et al. (2005) found similar results in their study, showing that consumers are willing to pay higher prices for products from firms that have a strong public image (Suchman, 1995). Cabral (2012) substantiated this notion, stating that positive reputations are positively correlated with customer satisfaction and performance across the organisation (Spence, 1973). These articles together highlight the significant role FI plays in building stakeholder trust and enhancing FV.

The role of FI extends beyond direct effects and is often investigated as a mediating or moderating variable. The literature examining the relationship between corporate social responsibility (CSR) and firm performance gives indications of FI's mediating role. It is argued that CSR activities lead to improvements in FI and, ultimately, in positive economic returns (Galbreath & Shum, 2012; Saeidi et al., 2015). Lai et al. (2010) argued that firm reputation was a vital mediating factor in the relationship between brand performance and CSR (Lai et al., 2010). This would indicate that possessing a favourable FI is important for translating disclosures and ethical activities into tangible economic value.

Within the domain of IR, a strong FI enables the deliverables of comprehensive and transparent disclosures to be amplified. Building FI leads to the encouragement of reliability and commitment with stakeholders. The ability to build FI positively affects market

perceptions and increases consumer demand, thereby enhancing the economic value of FI. It was found that high-quality integrated reports led to increased economic value, specifically aligned to future financial performance, when a company was considered reputable and credible (Barth et al., 2017; Zhou et al., 2017). This supports the notion that FI delivers a moderation effect on how IR covaries with FV, if FI is positive.

Examining the moderating effect of FI is important in the GCC context where transparency and sustainability are moving up the agenda. As GCC economies diversify and adopt international reporting standards, companies face new challenges in meeting stakeholder expectations in their business practices. Also, while the cultural and economic setting is unique to the region, there is limited empirical research that has examined how FI affects the relationships among IR and FV. Filling this gap will provide valuable information about how IR practices can be used to enhance firm reputation and value in the rapidly developing business landscape of the GCC. Thus, not only does FI reinforce the potential for direct benefits of IR, but it also acts as a significant moderator of the indirect relationship between IR and FV. FI represents the development of stakeholder trust and perceptions, whereby it has the potential to enhance the benefits of transparency and responsible governance. Given the interactions between FI, IR, and FV, there is an imperative for further empirical work, focusing on the GCC to expand understanding of these relationships with the intent of providing actionable recommendations for firms to develop a better market position. Consequently, the following hypothesis is proposed for empirical validation:

H2. *The relationship between FV and IR is positively mediated by FI.*

4. Data and Methodology

4.1. Source of Data, Study Period, and Sample Size

The study is based on secondary data collected from the integrated reports and governance reports of companies listed on the stock exchanges of the respective GCC countries: Saudi Arabia, United Arab Emirates, Bahrain, Qatar, Oman, and Kuwait. These reports, available in both Arabic and English on the companies' official websites, encompass the financial years 2017–2018 to 2022–2023, providing a six-year dataset for analysis. Although certain companies, such as Abdullah Al Othaim Markets Company and the National Shipping Company of Saudi Arabia, have been publishing IR since 2013–2014, the proliferation of IR practices in the GCC gained momentum beginning in 2017–2018, as indicated in the KPMG (2020) survey report. This milestone year is designated as the reference year for the study.

The study population comprises all companies listed on the stock exchanges of the six GCC countries. To select the final sample of the study, a few criteria are considered. Such criteria encompass: (a) companies listed on the stock exchanges of the GCC nations; (b) companies that have consistently disseminated IR on their official websites throughout the study period, i.e., from 2017–2018 to 2022–2023; and (c) reports accessible in both Arabic and English. To ensure that the final sample was appropriate for the study, it was crucial to employ a systematic manual verification process. The official web pages of all individual firms were thoroughly examined to find integrated reports and corporate governance reports in all research years. Reports were examined year by year to make sure that nothing was missing. The researcher examined reports for bilingual availability (Arabic and English) to ensure that access was available. The final list excluded firms that were missing years, had broken links, or had incomplete reports. In addition, in order to reduce the reliability threats, entries were confirmed independently by a number of researchers.

The final sample consists of 177 companies that satisfy these criteria, ensuring a reliable and comprehensive dataset. These 177 companies comprise 15 from Bahrain, 20 from Qatar,

22 from Oman, 35 from the United Arab Emirates, 49 from Saudi Arabia, and 36 from Kuwait. The dataset comprises 1062 firm-year observations (177 firms over six years), rendering it sufficiently robust for comprehensive analyses. The sample represents a wide variety of industry variations, including financial services, energy, real estate, industry, and consumer goods. In addition, it represents large publicly listed firms and mid-sized publicly listed firms, which offers a more balanced view of firm size variation in the region.

4.2. Measurements of the Variables

4.2.1. Dependent Variable

Tobin's Q (TQ) was used to measure the dependent variable in this study as it is the most common method for measuring FV (Cahan et al., 2015). For numerous reasons, Tobin's Q is considered to be a popular metric of firm value: unlike ROA and ROE, which are impacted by accounting standards, Tobin's Q depends on market values and, therefore, is less prone to manipulation (De Klerk & de Villiers, 2012). It helps spot undervalued or overpriced companies, hence guiding investment decisions; higher Tobin's Q points to possible future investment and growth prospects (Iyoha et al., 2017; Lee & Yeo, 2016).

TQ is computed by the market value of equity plus the book value of total liabilities divided by total assets (Lee & Yeo, 2016). This indicator demonstrates a company's ability to augment the market value of its resources. Several researchers have used TQ to investigate the connection between FV and the firm's disclosure (Arguelles et al., 2015; Iyoha et al., 2017; Lee & Yeo, 2016; De Klerk & de Villiers, 2012). The formula is shown below:

$$\textit{Tobin's Q} = \textit{(Market Value of Equity + Book Value of Total Debt)/Total Assets}$$

The market value of equity was computed as the closing stock price at the end of each financial year multiplied by the total number of outstanding shares. The book value of total debt and total assets was extracted from the company's annual financial statements. All financial data were manually collected from the audited annual reports available on the official websites of the selected firms for the study period.

Tobin's Q is a useful and accepted measurement of a firm's value, comparing the market value of a firm's equity and debt with the book value of a firm's total assets. It expresses how well a firm can use its assets to create market value. Tobin's Q values greater than 1 suggest that the market indicates it can create more market value than the cost of its assets, suggesting investor confidence in the firm's future performance. Tobin's Q does not focus on one dimension of a firm, the way accounting-based measures do; rather, it captures both tangible factors, as well as the intangible factors—reputation, governance, and transparency—making it best suited to assess whether IR creates value for the firm by enhancing trust from stakeholders and improving the firm's image.

4.2.2. Independent Variable

IR serves as the independent variable for this study. Content analysis has been increasingly embraced in previous research as a means of assessing integrated disclosures (Zhou et al., 2017; Lee & Yeo, 2016). This study uses content analysis of published integrated reports on the websites of the corresponding firms. Such analysis is grounded on the International Integrated Reporting Framework (IIRF) to measure IR. The following section offers a comprehensive elucidation of the content analysis process.

According to Krippendorff (1980), content analysis is a research method for drawing accurate and repeatable conclusions from data as related to their context. It entails classifying provided information into established categories to discern trends in published reports (Guthrie & Parker, 1990). The procedure necessitates the selection of a unit of analysis, which

prior research has delineated as sentences (Deegan & Gordon, 1996), paragraphs (Guthrie et al., 2004), segments of pages (Unerman, 2000), or words (Zeghal & Ahmed, 1990).

This study utilises IIRF for content analysis, employing its eight core elements, which are business model, governance, risks and opportunities, performance, outlook, external environment and organisational overview, strategy and resource allocation, and foundation for preparation and presentation as units of analysis. Utilising Al Amosh et al. (2022), the study incorporates a collection of 58 distinct items under these 8 core elements (Appendix A) to assess IR practices. Each item is evaluated by binary coding: a value of '1' is assigned if an item is disclosed, and '0' if it is not. Accordingly, the disclosure index of each sample firm for each year is derived by using the following formula:

$$\text{IR Score}_j = \left(\frac{\sum_{i=1}^{n} X_{ij}}{N_j} \right) \times 100 \quad (1)$$

where IR Score$_j$ = disclosure score of IR for the jth firm; N_j = 58 (i.e., the maximum possible disclosure for the jth firm); X_{ij} = assumes the value 1 if the item is revealed in the report and 0 otherwise; i = is the item (i.e., specific item/information as shown in Appendix A).

4.2.3. Mediating Variable

In this study, firm image (FI) serves as the mediating variable. Receiving awards from prestigious organisations/institutions helps one evaluate the reputation of a company, as such honours show outside acknowledgement of the exceptional performance and successes of the company (Love et al., 2017). Information about award receipts is revealed in integrated reports; this study makes FI measurements using such disclosures, considering only companies that have clearly declared award-related information. Recipients of awards are usually held to high standards of evaluation, which include overall impact, performance, innovation, and corporate social responsibility. Acknowledgement from esteemed organisations indicates to stakeholders that the company complies with elevated standards and is an industry leader (Malmendier & Tate, 2009; Wade et al., 2006).

This acknowledgement boosts a firm's credibility and reputation while distinguishing it from competitors. This positive recognition has the potential to attract investors, clients, and talented individuals, thereby cementing the firm's reputation and stature within the industry (Roberts & Dowling, 2002). Awards are, therefore, used in this study as a proxy for FI, and they are quantified using binary coding: a value of "1" indicates that the firm has received an award, and "0" otherwise.

4.2.4. Control Variables

In light of earlier research, the current study also uses several control variables. These variables are firm size (FS) measured by the natural logarithm of the firm's total assets (Al Amosh et al., 2022), leverage (DE) measured by the debt/equity ratio (Permatasari & Narsa, 2022), gender diversity (GD) measured by the percentage of women directors to the total number of directors on the board of a firm (Nekhili et al., 2017; Haque, 2017), and gross domestic product (GDP) measured by the GDP value, which is collected from World Economic Forum's Global Competitive Reports from 2017–2018 to 2022–2023 (Pham & Tran, 2020; Falatifah & Hermawan, 2021). For better clarity, details of all the variables considered in this study are provided below:

Variable Name	Type	Measurement Method	Data Source
Firm Value (FV)	Dependent	Tobin's Q	Company Reports
Integrated Reporting (IR)	Independent	Content analysis based on IIRF	Company Reports
Firm Image (FI)	Mediating	Binary proxy (award recognition)	Company Reports
Control Variables	Control	Firm size (log of assets), leverage, GDP	Company Reports and GDP from the World Economic Forum's Global Competitive Reports

4.3. Empirical Model

The current study employs a three-step methodology to evaluate the mediating influence of FI on the association between IR and FV (TQ), adhering to the approaches established by Preacher and Hayes (2004) and Wu et al. (2020), in conjunction with the framework delineated by Sobel (1982, 1986) and Baron and Kenny (1986).

In the first phase, the possible influence of IR on TQ is examined and estimated using Model (1). The second stage assesses the association between the IR and FI via Model (2). In the final phase, the IR is examined in connection with TQ, while controlling for the mediator (FI), utilising Model (3). The models are estimated utilising the two-step system GMM method, which provides precise estimates while mitigating issues associated with the unit root property (Bond, 2002).

The two-step estimating method is utilised due to its markedly reduced asymptotic variance in comparison to the one-step method. The Sargan test is employed within the GMM framework to validate the instruments and assess over-identifying constraints. Furthermore, Arellano–Bond (AR) tests are performed to detect possible serial correlation in the idiosyncratic errors (Arellano & Bond, 1991). The consistency of the GMM estimates necessitates the lack of second-order serial correlation. Furthermore, acknowledging that FV and FI may show persistence over time, the study integrates the dynamic specification of the model by including the lagged value of the dependent variable.

The choice of using the two-step system GMM estimator is not only methodological but also conceptually consistent with the structure of the study and hypotheses. Since the research is examining the dynamic interaction between integrated reporting and firm value, and introduces the mediating construct of firm image, endogeneity issues are built in, specifically arising from the possibility of reverse causality and omitted variable bias. The character of the hypotheses (i.e., IR affects FV directly and indirectly through FI) suggests a temporal framework where historical firm action can impact future reporting and performance. GMM is hence appropriate since it captures these dynamics while adjusting for unobserved firm-specific effects and simultaneity bias. In addition, the application of lagged instruments enables more reliable estimation in panel data with a larger number of firms compared to the number of time periods, which characterises this investigation. This assures that the results are not only statistically robust but also conceptually relevant in validating the theoretical assumptions inherent in stakeholder, signalling, and legitimacy theories. These models are presented below:

$$TQ_{i,t} = \beta_0 + \beta_1 IR_{i,t} + \beta_2 FS_{i,t} + \beta_3 DE_{i,t} + \beta_4 IND_{i,t} + \beta_5 GD_{i,t} + \beta_6 GDP_{i,t} + \beta_7 Lag\_TQ_{i,t} + \omega_{i,t} + e_{i,t} \quad \text{(Model 1)}$$

$$FI_{i,t} = \alpha_0 + \alpha_1 IR_{i,t} + \alpha_2 FS_{i,t} + \alpha_3 DE_{i,t} + \alpha_4 IND_{i,t} + \alpha_5 GD_{i,t} + \alpha_6 GDP_{i,t} + \alpha_7 Lag\_FI_{i,t} + \omega_{i,t} + e_{i,t} \quad \text{(Model 2)}$$

$$TQ_{i,t} = \beta'_0 + \beta'_1 IR_{i,t} + \beta'_2 FI_{i,t} + \beta'_3 FS_{i,t} + \beta'_4 DE_{i,t} + \beta'_5 IND_{i,t} + \beta'_6 GD_{i,t} + \beta'_6 GDP_{i,t} + \beta'_7 Lag\_TQ_{i,t} + \omega_{i,t} + e_{i,t} \quad \text{(Model 3)}$$

where "t" is the time and "i" is the firm. $\omega_{i,t}$ and $e_{i,t}$ are the idiosyncratic error and firm-specific unobserved effect, respectively.

The mediating function of FI in the relationship between IR and TQ is analysed, as illustrated in Figure 1. To begin, Model (1), uses the coefficient β_1 to determine the total effect of integrated reporting (IR) on Tobin's Q (TQ). To continue with the mediational analysis, at least β_1 needs to be statistically significant; if it is not, then the mediational analysis would stop. If β_1 is statistically significant, the analysis will continue to Models (2), and (3) to find the indirect effect of IR on TQ through firm image (FI). In this case, if paths α_1 and β'_2 in Figure 2 are statistically significant and the direct effect (β'_1) is still statistically significant, then we can say there is a partial mediation effect (Preacher & Hayes, 2004). If paths α_1 and β'_2 are statistically significant but β'_1 is not statistically significant, the mediation analysis would identify a full mediation effect. On the other hand, if either path α_1 or β'_2 is not statistically significant, we cannot conclude there is a mediation effect from the path analysis alone. If either path α_1 or β'_2 is not statistically significant, we employ the Sobel test (Sobel, 1982) to see if the indirect effect of IR on TQ is significant. The Sobel test examines the significance of the product of paths α_1 and β'_2 from Figure 2. If the absolute z-value is above 0.97, there is a significant mediation effect. If the absolute z-value is below 0.97, then we would not conclude that there is a significant mediation effect.

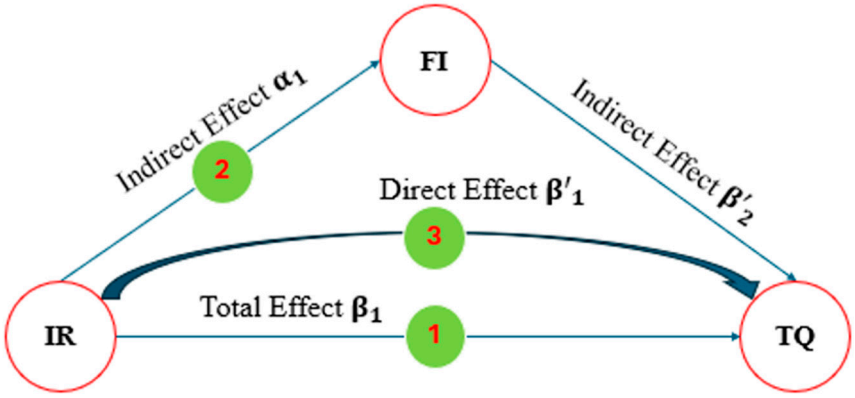

Figure 1. Mediation model.

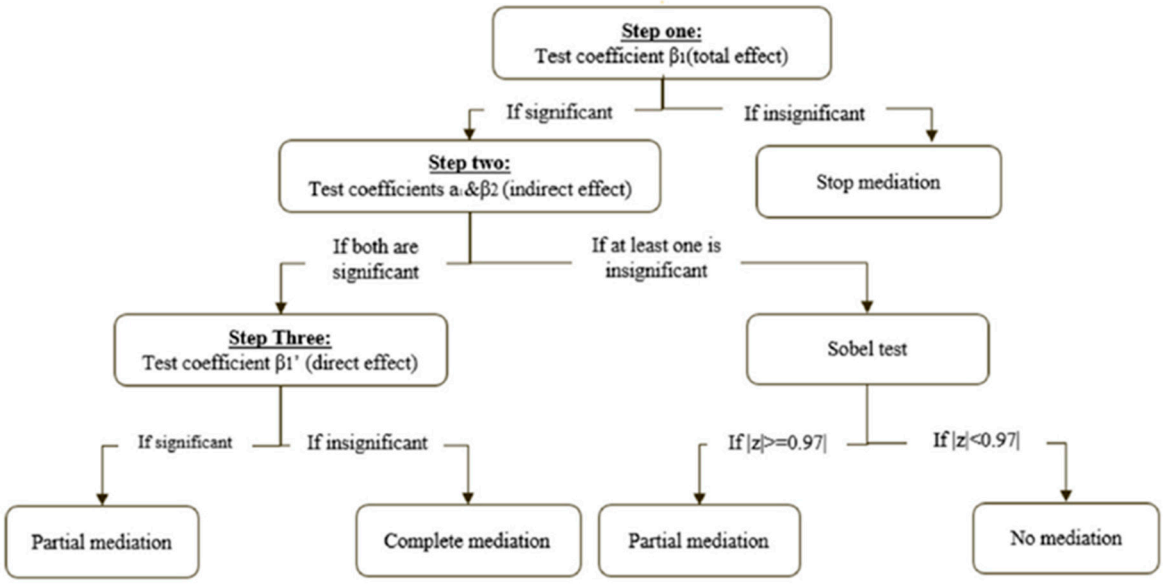

Figure 2. Three-step mediation procedure.

5. Empirical Results and Discussion

5.1. Descriptive Statistics

The descriptive statistics for the variables under investigation are shown in Table 1. The IR score varies from a minimum of 0.090 to a maximum of 0.900, with an average of 0.485, signifying that sample firms, on average, disclose 48% of the information outlined in the IR framework. The low standard deviation of 0.161 indicates negligible variability in IR scores. Cronbach's alpha value of such a score is found to be more than 0.8, indicating that these scores are reliable according to Nunnally's (1978) reliability criteria. The average DE ratio is 0.578, suggesting that, on average, the sampled firms had less debt in comparison to equity. The standard deviation and range are minimal, indicating restricted variability. FS exhibits a mean of 6.915 and a standard deviation of 2.112, reflecting substantial variability. The FS spans from 0.460 to 13.390, indicating that the sample firm encompasses both small and large firms.

Table 1. Descriptive statistics.

Variables	Min.	Max.	Mean	Std. Dev.	Skew.	Kurto.
IR	0.090	0.900	0.485	0.161	0.156	−0.940
DE	0.000	5.000	0.578	0.791	0.897	1.257
FS	0.460	13.390	6.915	2.112	0.508	0.170
GDP	3.540	7.010	5.506	1.002	−0.178	−1.079
IND	0.032	0.425	0.333	0.077	0.093	1.896
GD	0.000	28.570	7.998	2.284	0.390	0.213
FI	0.000	1.000	0.350	0.479	0.607	−1.635
TQ	0.010	18.780	1.530	2.446	1.062	1.993

Note: Number of observations is 1062.

The GDP exhibits a mean of 5.506 and a standard deviation of 1.002, indicating substantial variability. The percentage of INDs on a board varies, with an average of 0.333, a minimum of 0.032, and a maximum of 0.425, meaning that INDs make up 33% of the board on average. The average GD on boards is 8%, with a standard deviation of 2.284. The range spans from 0 (showing no women directors) to 28.570, signifying that certain boards exhibit substantial representation of women. The FI has a mean value of 0.35, indicating that 35% of the firms in the sample have been awarded by esteemed organisations, with a standard deviation of 0.479. TQ has an average value of 1.530, indicating that companies are appraised at 1.53 times their total assets. The standard deviation of 2.446 and a range of 0.010 to 18.780 signify considerable variability in market prices. Finally, the skewness and kurtosis values for all variables lie within the permissible range of −2 to +2 (George & Mallery, 2010), affirming that the data are normally distributed.

5.2. Correlation Matrix

The assumption that the explanatory variables are independent is essential to the linear model's validity. Severe multicollinearity has the potential to increase the standard errors of computed coefficients. When two or more independent variables in a multiple regression model exhibit a strong association, this is known as multicollinearity. Table 2 displays the results of the calculation of a typical Pearson bivariate correlation matrix used to identify multicollinearity in this study. Pearson's correlation evaluates how strongly two variables have a linear relationship, with values ranging between −1 and +1. A perfect positive linear relationship is indicated by a correlation of +1, whereas −1 denotes a perfect negative linear relationship. Anderson et al. (1996) indicate that correlations of +/− 0.7 or greater may indicate multicollinearity problems in the regression model (Anderson et al.,

1996). The correlation matrix in Table 2 indicates that no correlations reach or exceed (+/−) 0.7, suggesting that multicollinearity is not a concern.

Table 2. Descriptive statistics.

Variables	VIF	IR	DE	TQ	FS	GDP	IND	GD	FI
IR	1.13	1							
DE	1.2	0.16 **	1						
TQ	0.11	0.01	−0.07	1					
FS	3.56	0.01	0.26 **	0.21 **	1				
GDP	1.59	0.02	0.08 **	0.13	0.26 **	1			
IND	1.21	0.01	−0.08 **	0.01	−0.06 *	0.19 **	1		
GD	1.17	0.062 *	−0.04	0.04	0.09 **	−0.05	0.25 **	1	
FI	3.24	0.06	0.08 *	0	0.08 *	0.15 **	0.05	−0.10 **	1

Note: * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Additionally, the variance inflation factor (VIF) is computed to assess the multicollinearity problem. A VIF larger than 10 indicates significant multicollinearity issues for the associated independent variable, according to Gujarati and Porter (2003). All of the variables' VIF values stay below 10, as shown in Table 2, indicating no serious collinearity problems.

5.3. Results and Discussion

This study examines the impact of IR on FV, considering the mediating effect of FI, utilising a system GMM model. Table 3 summarises the results of Models 1, 2, and 3. The results from Model 1 demonstrate that the coefficient for IR (β_1 = 1.321) is positive and statistically significant at the 5% level. This indicates that IR significantly enhances FV, as assessed by TQ, within the framework of GCC countries. The results of this study conform to earlier findings (Iyoha et al., 2017; Lee & Yeo, 2016; Cosma et al., 2018), showing that companies with better IR quality tend to have higher market valuation due to greater transparency (Lee & Yeo, 2016). Similarly, IR helps reduce information asymmetry and enhances investor trust, ultimately increasing firm value (Iyoha et al., 2017). Firms that adopt IR strategies often attract long-term investors, leading to improved financial performance (Cosma et al., 2018). While previous studies have focused on broader markets, the current study specifically examines the GCC context, where IR adoption is still evolving. Unlike markets with well-established IR frameworks, GCC firms face regulatory and awareness challenges, making the positive impact of IR on firm value even more significant. This notable relationship can be interpreted in a meaningful way in relation to stakeholder theory and legitimacy theory. As stated by stakeholder theory, when a firm produces transparent and accountable reporting such as IR, they are meeting the information needs of various stakeholders, and any information asymmetries have been reduced—trust has been created—showing that perceived risk is limited. This also helps sustain long-term stakeholder relationships, which positively impacts firm value. Legitimacy theory supports this by elucidating how IR provides firms with the opportunity to detract from normative pressures of society and its intended evolving norms toward institutional expectations. Notably, in the context of the GCC, where formal accountability systems are still developing, IR acts as a platform through which social acceptance and regulatory favour are gained, both of which are used by investors to substantially impact their confidence about their investments in the firm and their future and the financial accounting valuation of the firm.

Table 3. System GMM results.

Variables	Model 1 Dependent Variable: (TQ)			Model 2 Dependent Variable: (FI)			Model 3 Dependent Variable: (TQ)		
	Coeff.	Std. Error	Z-Stats.	Coeff.	Std. Error	Z-Stats.	Coeff.	Std. Error	Z-Stats.
Const.	7.526	2.065	3.644 ***	−0.844	0.304	−2.780 ***	9.354	0.925	10.113 ***
FI	-	-	-	-	-	-	0.212 [β'_2]	0.103	2.058 **
IR	1.321 [β_1]	0.529	2.496 **	0.215 [α_1]	0.130	1.660 *	1.220 [β'_1]	0.371	3.288 ***
FS	1.004	0.302	3.324 ***	0.042	0.024	1.710 *	1.174	0.104	11.300 ***
DE	−0.135	0.138	−0.983	0.038	0.065	0.580	−0.135	0.092	−1.471
IND	1.205	1.576	0.765	1.609	0.660	2.440 **	1.772	1.437	1.233
GD	0.023	0.046	0.490	−0.011	0.010	−1.110	0.047	0.039	1.205
GDP	0.063	0.053	1.182	0.069	0.061	1.130	0.484	0.314	1.540
Lag_TQ	0.276	0.092	2.997 ***	-	-	-	0.276	0.092	2.997 ***
Lag_FI	-	-	-	−0.058	0.037	−1.570	-	-	-
Sargan test: (p-value)		0.234			0.338			0.213	
Hansen test: (p-value)		0.111			0.154			0.220	
AR (1):		0.130			0.187			0.120	
AR (2):		0.195			0.139			0.264	
Wald ($\mathcal{X}^2$)		0.000			0.000			0.000	
Mediation Effect based on the Outcome of Models 1, 2 and 3									
Coefficients are significant	β_1 = 1.321 **; α_1 = 0.215 *; β'_2 = 0.212 **; β'_1 = 1.220 ***								
Sobel test	No Sobel test is required.								
Mediation Effect	Partial								

Note: Sargan test (p-value): H0: instruments are valid; Hansen test (p-value): H0: instruments are valid; Wald ($\mathcal{X}^2$): predictive power of the model; AR (1): first-order autocorrelation test: H0: no autocorrelation; AR (2): second-order autocorrelation test: H0: no autocorrelation; ***, ** and * indicates significance at 1, 5 and 10%, respectively; (7) N = 1061.

In Model 2, the indirect effect of IR on FI is positive and statistically significant at the 10% level (α_1 = 0.215). This indicates that IR substantially improves a firm's reputation through the promotion of accountability and transparency. IR provides a thorough overview of financial and non-financial performance, encompassing environmental, social, and governance aspects, thereby fostering stakeholder trust and confidence. The statement underscores the firm's dedication to sustainability and ethical practices, distinguishing it from competitors and bolstering its reputation among stakeholders, such as customers and investors. The positive and statistically significant impact of IR on FI in this study is consistent with prior research (Galbreath & Shum, 2012; Saeidi et al., 2015; Lai et al., 2010; Fombrun, 2005). Like CSR, which improves financial performance and reputation, IR is very vital in forming a company image. Previous research shows that company reputation moderates the association between CSR and financial performance; thus, reputation and customer satisfaction enhance the CSR-FP relationship (Galbreath & Shum, 2012; Saeidi et al., 2015). Similarly, IR promotes transparency and stakeholder confidence, therefore strengthening the reputation of a business in line with CSR programs.

Moreover, studies have revealed that ethical business conduct improves corporate reputation, hence strengthening brand performance and competitive advantage (Lai et al., 2010). Furthermore, strategic projects like CSR help build a strong company reputation by increasing stakeholder confidence and business success (Fombrun, 2005). This research expands these ideas by showing that, especially for GCC companies whose reputation creation depends on transparency and stakeholder involvement, IR, like CSR, greatly influences corporate image.

Model 3 highlights the important relationship among IR, FI, and TQ. The findings demonstrate a notable indirect effect of FI on TQ (β'_2 = 0.212) in conjunction with the direct effect of IR on TQ (β'_1 = 1.520). The results from Models 1, 2, and 3 indicate a significant association between FI, IR, and TQ. The direct effect of IR on TQ (β'_1) is less than the total effect (β_1), suggesting that FI has a positive influence on TQ. This indicates that FI partially mediates the relationship between IR and TQ, supported by the significant coefficients

of β_1, α_1, β'_1, and β'_2 in the models. Integrated reporting promotes disclosure quality, transparency, and responsibility, thus strengthening the impression of the company among the stakeholders. A good company image increases investor confidence, draws possible business partners, and improves market reputation—all of which help raise the firm's value. Companies that actively publish integrated reports in the GCC, where IR adoption is still under development, show their dedication to governance, sustainability, and long-term value generation. Their market performance and valuation are improved by this better image. Signalling theory and legitimacy theory provide strong support for the mediating role of the firm image. In an information asymmetric context, such as in the GCC, signalling theory asserts that firms use voluntary disclosures such as IR in order to signal their quality, transparency, and forward-looking intention to stakeholders. Information about quality and transparency is the signals that shape stakeholders' perceptions of the firm and create a favourable firm image, which, in turn, represents the perception of the firm's credibility and trustworthiness. Legitimacy theory also helps understand how firm image contributes to reputation building, particularly when IR practices are used to echo societal expectations of ethical behaviours. A firm that is viewed as having a credible and legitimate image can have that image preserved as a reputational asset that fosters trust from stakeholders and indirectly increases firm value.

The mediator function of company image emphasises the strategic relevance of business reputation in converting IR activities into financial benefits. Emphasising the significance of developing a strong company image together with IR adoption to maximise its advantages in improving firm value, this insight is especially beneficial for legislators and corporate managers.

In Models 1 and 3, the control variables FS and the lagged value of TQ (Lag_TQ) exhibit positive and statistically significant relationships at the 1% level. Larger firms and the previous year's performance are significant factors in increasing FV. Larger firms, due to their substantial resources and market influence, are more capable of implementing effective IR practices and utilising them for strategic benefits. The commitments to transparency and sustainability exhibited through IR are particularly important for larger firms, as they encounter increased scrutiny from financiers and regulatory agencies. The positive impact of Lag_TQ indicates that a firm's historical performance serves as a reliable predictor of its future value, thereby reinforcing investor confidence and supporting a transparent, value-driven approach.

In Model 2, both FS and the IND exhibit a significant and favourable relationship with FI at the 10% and 5% significance levels, respectively. Larger firms possess more resources and a more prominent public profile, allowing for more effective adoption and promotion of IR practices, thereby enhancing their reputation. Furthermore, independent directors improve a company's reporting practices' credibility by ensuring fair and objective disclosures, building stakeholder trust, and enhancing the company's reputation.

Table 3 also presents some significant findings like the coefficients of the lagged dependent variables in all three models approaching unity, consistent with Roodman's (2009) assertion that these coefficients should converge and stay below one. Again, the lack of autocorrelation is evidenced by the insignificance of the AR (1) and AR (2) tests. The instruments' validity is also corroborated by the non-significant results of the Hansen and Sargan tests for over-identification. Further, the Wald chi-square values for all three models are statistically significant, indicating the models' predictive power. Thus, the findings confirm the reliability of system GMM models for decision-making.

5.3.1. Robustness Check

Further analysis is conducted to examine the effect of IR on FV, considering the mediating role of FI for robustness verification. This analysis utilises a panel data regression model, based on the Breusch and Pagan test and the Hausman test. Given the significance of both tests, the dynamic fixed effect regression model is utilised. The regression models' specific forms are presented below:

$$TQ_{i,t} = \beta_0 + \beta_1 IR_{i,t} + \beta_2 FS_{i,t} + \beta_3 DE_{i,t} + \beta_4 IND_{i,t} + \beta_5 GD_{i,t} + \beta_6 GDP_{i,t} + \beta_7 Lag\_TQ_{i,t} + e_{i,t} \quad \text{(Model 4)}$$

$$FI_{i,t} = \alpha_0 + \alpha_1 IR_{i,t} + \alpha_2 FS_{i,t} + \alpha_3 DE_{i,t} + \alpha_4 IND_{i,t} + \alpha_5 GD_{i,t} + \alpha_6 GDP_{i,t} + \alpha_7 Lag\_FI_{i,t} + e_{i,t} \quad \text{(Model 5)}$$

$$TQ_{i,t} = \beta'_0 + \beta'_1 IR_{i,t} + \beta'_2 FI_{i,t} + \beta'_3 FS_{i,t} + \beta'_4 DE_{i,t} + \beta'_5 IND_{i,t} + \beta'_6 GD_{i,t} + \beta'_6 GDP_{i,t} + \beta'_7 Lag\_TQ_{i,t} + e_{i,t} \quad \text{(Model 6)}$$

The estimate of the fixed effects model may be affected by two issues, such as serial correlation within the residual term and heteroscedasticity. These shortcomings can lead to erroneous standard errors for each regression coefficient (Gujarati & Porter, 2003). To address this issue, the current study employs a dynamic fixed-effect robust standard error regression model, which effectively accounts for potential heteroskedasticity and serial correlation in the dataset. Table 4 presents the results of regression models 4, 5, and 6. The results of Model 4, shown in Table 4, indicate that the coefficient of IR (β_1= 0.757) is positive and statistically significant at the 1% level, suggesting that the overall effect of IR significantly influences TQ.

Table 4. Dynamic fixed effect (robust standard error) model.

Variables	Model 1 Dependent Variable: (TQ)			Model 2 Dependent Variable: (FI)			Model 3 Dependent Variable: (TQ)		
	Coeff.	Robust Std. Error	Z-Stats.	Coeff.	Std. Error	Z-Stats.	Coeff.	Robust Std. Error	Z-Stats.
Const.	−0.379	0.225	−1.686 *	−0.160	0.235	−0.681	0.334	0.225	1.486
FI	-	-	-	-	-	-	0.050 [β'_2]	0.020	2.520 **
IR	0.757 [β_1]	0.106	7.155 ***	0.492 [α_1]	0.101	4.89 ***	0.463 [β'_1]	0.084	5.500 ***
FS	0.117	0.031	3.769 ***	0.021	0.009	2.431 **	0.173	0.037	4.675 ***
DE	0.019	0.028	0.675	0.075	0.051	1.470	0.119	0.078	1.525
IND	0.083	0.283	0.295	0.460	0.447	1.031	0.100	0.260	0.387
GD	0.021	0.009	2.432 **	−0.013	0.011	−1.169	0.024	0.009	2.538 **
GDP	0.161	0.115	1.395	0.133	0.092	1.446	0.067	0.049	1.367
Lag_TQ	0.351	0.110	3.190 ***	-	-	-	0.351	0.069	5.076 ***
Lag_FI	-	-	-	0.064	0.049	1.306	-	-	-
R^2 Overall		0.250			0.1630			0.254	
F-stats.		16.74 ***			22.788 ***			24.765 ***	
B-P test ($\mathcal{K}^2$)		203.967 ***			186.78 ***			198.324 ***	
Hausman test ($\mathcal{K}^2$)		131.728 ***			148.559 ***			138.226 ***	
DWH test of endogeneity:									
Durbin ($\mathcal{K}^2$)		1.762 (p = 0.172)			1.567 (p = 0.2153)			1.546 (p = 0.1257)	
Wu-Hausman (F-stats.)		1.812 (p = 0.1821)			2.814 (p = 0.1484)			1.683 (p = 0.1345)	
Mediation effect based on the outcome of Models 1, 2 and 3									
Coefficients are significant	β_1 = 0.757 ***; α_1 = 0.492 ***; β'_2 = 0.050 **; β'_1 = 0.463 ***								
Sobel test	No Sobel test is required.								
Mediation effect	Partial								

Note: Hausman (1978) test ($\mathcal{K}^2$): (H0: fixed-effect model is appropriate over random-effect); Breusch and Pagan's (1980) (B-P-test ($\mathcal{K}^2$)): (H0: pooled OLS model is appropriate over random effects model); F-statistic: goodness of fit; Durbin-Wu-Hausman test of endogeneity: (H0: no endogeneity); ***, ** and * indicates significance at 1, 5 and 10%, respectively; N = 1061.

Additionally, the results from Model 5 indicate that the coefficient of IR (α_1 = 0.492) is positive and statistically significant at the 1% level, suggesting that IR has a significant

positive effect on FI. The results of Model 6, as shown in Table 4, indicate a significant indirect effect of FI on TQ (β'_2 = 0.050) and a direct effect of IR on TQ (β'_1= 0.463). Similar to the results shown in Table 3, the findings in Table 4 indicate a significant association between FI, IR, and TQ. Consequently, the three-step procedure utilising models 4, 5, and 6 indicates that FI partially mediates the relationship between IR and TQ, as evidenced by the significant coefficients for β_1, α_1, β'_1, and β'_2.

In the control variables, FS and Lag_TQ exhibit positive significance in Models 4 and 6, while FS and IND show positive significance in Model 5. This study examines the potential endogeneity issue using the Durbin-Wu-Hausman test (Chmelarova & Hill, 2010) across Models 4, 5, and 6. Analysis reveals that both the Durbin chi-square and Wu-Hausman F-statistic values lack statistical significance. This observation indicates that there is currently no discernible influence of endogeneity in Models 4, 5, and 6. The substantial F-statistic and R^2 values indicate the predictive efficacy of Models 4, 5, and 6, thereby affirming the reliability of the dynamic fixed effect model's results. Finally, it is noteworthy that the outcomes regarding the impact of IR on TQ, with FI serving as a mediating variable, are consistent across both the system GMM and panel data models. Consequently, the results are robust, and both hypotheses (H1 and H2) are confirmed.

5.3.2. Implications of the Study

Theoretical Implication

This study contributes multiple important findings. This study expands and provides a more thorough analysis and empirical evidence regarding the connection between IR practices and FV compared with the previous research. The results of this study show that IR and FV are related and mediated by FI. This study demonstrates that the relationship between IR and FV is more intricate than previously acknowledged as it is mediated by FI. The findings are deemed more reliable than earlier research regarding the direct relationship between IR and TQ owing to the application of advanced methodologies, including a three-step mediation process and sophisticated regression techniques, such as the system GMM model. These approaches mitigate endogeneity issues and offer more detailed and reliable insights into the ways in which IR practices enhance FV.

This study demonstrates that the influence of IR on FV is mediated by FI. While numerous studies have acknowledged the mediating role of firm reputation in the relationship between CSR and firm performance, there is a paucity of evidence regarding how IR enhances FV via its impact on FI. This study addresses the gap by demonstrating that IR practices improve FI through the promotion of transparency, accountability, and sustainability, ultimately enhancing FV. Moreover, the findings of this study can be contextualised using the three important theoretical lenses underpinning this research. Stakeholder theory accentuates the role of IR as a method for firms to enhance accountability to their various stakeholders, including, but not limited to, employees, regulators, investors, and the community, through the reporting of transparent, integrated amounts of financial and non-financial information. This speaks directly to the finding of the role of IR in developing FI, as FI contributes to FV when IR is implemented successfully. Legitimacy theory indicates that firms that decide to engage with IR demonstrate responses to institutionally acceptable actions or activities by aligning with prevailing social norms, thus remaining in good standing of social legitimacy. Again, in the context of the GCC, where there is a particular flux or change to regulatory structures, in the UAE specifically, given existing institutional ambiguity or the legitimacy of engaging in integrated and reflective IR, this can provide firms with a distinct differential factor leading to subsequent long-term value-generating behaviours. Finally, signalling theory supports the premise that IR acts as a signal of organisational quality, sustainability, and ethical behaviour. IR provides firms

with a systematic approach and reduces information asymmetry, enabling firms to project a credible image to their investors and market participants through integrated, quality reporting, which will translate into FI as well as FV. These abstract views suggest that IR is not just a reporting process, but it is an important strategy with theoretical backing, and the theoretical connection to firm valuation is significant and meaningful for both theory and practice.

Implications for Corporate Managers

The study's findings provide significant insights and practical advice for corporate managers looking to improve their firm's reputation and overall value. One of the important conclusions is that organisations are strongly encouraged to actively embrace and execute IR practices. This research highlights the important function of IR in enhancing FI and reputation, which are essential determinants of FV. Corporate managers must acknowledge that offering a comprehensive perspective on both financial and non-financial performance through IR practices enhances transparency and illustrates a company's dedication to accountability, sustainability, and responsible business practices.

Social, environmental, and governance considerations are given top priority by stakeholders and investors in the contemporary competitive market, and the adoption of IR practices can act as a significant differentiator. Through the integration of non-financial and financial performance into a report, businesses demonstrate to investors their commitment to long-term value generation, sustainability, and ethical practices. This fosters trust and increases stakeholder confidence, resulting in enhanced firm valuation.

Additionally, IR practices enable corporate managers to demonstrate their commitment to responsible governance and transparency, meeting the increasing calls for corporate accountability. Incorporating sustainability initiatives into reporting allows managers to establish their firms as leaders in corporate responsibility, thereby enhancing brand equity, fostering investor loyalty, and improving market performance. Corporate managers must prioritise the use of IR to enhance FV and secure a competitive advantage in a rapidly evolving business environment.

Practical Implications for Policy Makers

This study's findings offer several important implications for policymakers in GCC countries. To improve transparency and increase FV, policymakers should encourage the broad implementation of IR practices by mandating IR across various sectors. This will promote a business environment that emphasises accountability and sustainability. Additionally, promoting the adoption of comprehensive IR processes by companies can enhance their reputation and entice investors. Regulatory support and incentives, including training programs and tax benefits, will aid the transition to IR.

6. Concluding Remarks

This study looks at how IR and FV relate to each other for companies that are listed on GCC stock exchanges, emphasising the mediating role of FI. The study analyses secondary data using a quantitative methodology from corporate governance and integrated reports spanning 2017–2018 to 2022–2023. Results show that IR significantly and favourably affects FV, as measured by Tobin's Q. The findings emphasise the significant role of FI in mediating this relationship, illustrating how transparency, accountability, and sustainability in reporting enhance FV. This study highlights the significance of IR as a strategic instrument for firms in GCC countries, providing essential insights for researchers, policymakers, and corporate managers.

From a theoretical standpoint, this study contributes to the literature by teasing out the mediating effect of firm image on the relationship between integrated reporting and firm value, an area lacking in the empirical literature and particularly in the realm of the GCC. From a methodological viewpoint, we used not only a three-step mediation process but also operations that employed system GMM estimation; both emphasise the robustness of our findings by addressing endogeneity concerns. From a practical perspective, it will provide managers with useful contributions to help manage their reputations and firm values through integrated reporting practices. For policymakers and above, our findings emphasise the importance of promoting integrated reporting acceptance as a lever for creating corporate transparency, trust among stakeholders, and, ultimately, sustainable value across emerging markets. Additionally, promoting the adoption of comprehensive IR processes by companies can enhance their reputation and entice investors. Regulatory support and incentives, including training programs and tax benefits, will aid the transition to IR.

This study is limited by the exclusive reliance on Tobin's Q metric to assess FV. Future research may incorporate additional metrics, including the market-to-book ratio and economic value added, to enhance the comprehensiveness of the assessment. The lack of industry-specific analyses restricts the study's capacity to consider sectoral variations in the relation between IR and FV. Again, the measurement of integrated reporting using content analysis over numerous years was a labourious endeavour. This study utilised the IR measurement items established by Al Amosh et al. (2022) within the IIRF framework to ensure consistency and reliability. Nevertheless, the absence of widely standardised guidelines may add a degree of subjectivity to this technique. Nonetheless, the chosen approach corresponds with existing research and offers a systematic foundation for assessing IR disclosures. Future research may focus on conducting investigations specific to various sectors. Last but not least, investigating the factors that influence IR practices in the GCC would offer a more profound understanding of the incentives and difficulties businesses face when implementing IR, promoting more effective decision-making and sustainable reporting methods. Further, this study uses content analysis of integrated reports to develop a proxy for FI, but this is a limitation at times when employing a perception-based construct from stakeholder observation, and it is recommended that researchers supplement this approach with alternative and more dynamic measures of FI: the ranking of the firm's reputation (for instance, by means of indices such as Forbes or Brand Finance), third-party ESG reputation scoring, sentiment analysis of media coverage, and narratives from sites, such as social media. These methods may potentially be better suited for obtaining a more complete and externally validated view of firm image, as a part of a more vigorous mediation analysis in future research.

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Appendix A

Disclosure Items
A. Organisational overview and external environment
OE1 The nature of the organisation's work and the circumstances in which it operates OE2 Mission and vision of the organisation. OE3 Culture, morals, and values. OE4 Ownership and operating structure. OE5 Competitive environment of the organisation. OE6 The most important factors influencing the external environment OE7 Needs of stakeholders. OE8 Economic conditions in which the organisation operates. OE9 Market forces. OE10 Impact of technological changes. OE11 Demographic and societal issues. OE12 Environmental challenges faced by the organisation OE13 The legislative and regulatory environment in which the organisation operates. OE14 The political situation in the countries in which the organisation operates.
B. Governance
GO1 Disclose how the governance structure contributes to creating value for the organisation. GO2 Disclose the characteristics of the organisation's leadership structure. GO3 The processes on which the organisation builds its strategic decisions and organisational culture. GO4 Procedures for the impact and monitoring of strategic direction of the organisation. GO5 The reflection of organisational culture, its values and ethics in its use and its impact on capital. GO6 Promote and encourage innovation by governance officials. GO7 Whether the organisation is implementing governance practices that exceed legal requirements GO8 Relationship of wages and incentives provided to create value for the organisation.
C. Business model
BM1 A diagram showing the main elements of the organisation. BM2 Identify the basic elements of the business model. BM3 Show how the key inputs relate to the capitals on which the organisation depends. BM4 Disclose inputs that contribute to creating value for the organisation. BM5 The extent to which the organisation is distinguished in the market (e.g., product differentiation, market segmentation, marketing). BM6 The degree of adoption of the business model on revenue generation. BM7 The extent to which the business model adapts to changes. BM8 Approach to innovation. BM9 Organisation initiatives such as (staff training, process improvement). BM10 Organisation outputs of products, services, and by-products such as waste and emission of gases. BM11 Internal results such as organisational reputation, job loyalty, income, and cash flow. BM12 External results such as (customer satisfaction, tax payment, brand loyalty, social and environmental impacts). BM13 Positive results lead to maximising capital and creating value. BM14 Negative results leading to capital reduction and lack of value.
D. Risks and opportunities
RO1 Disclose the risks that affect the organisation's ability to create value. RO2 Sources of risk, whether internal or external. RO3 Procedures taken to address the risks to which the organisation is exposed.

E. Strategy and resource allocation
SR1 Strategic objectives of the organisation. SR2 The organisation's current strategies or intends to implement. SR3 Resources allocated for the implementation of the strategy. SR4 Measure achievements and goals. SR5 Factors influencing the granting of a competitive advantage to the organisation (innovation, intellectual capital exploitation, evolution of the organisation and social and environmental considerations).
F. Performance
PE1 Quantitative indicators related to objectives, opportunities and risks. PE2 The positive and negative effects of the organisation on capital. PE3 Organisation's response to stakeholder needs. PE4 Linking previous and current performance. PE5 Key performance indicators that combine financial measures and other components.
G. Outlook
OL1 Outlook of the organisation about the external environment. OL2 Impact of the external environment on the organisation. OL3 Organisation's preparedness to respond to challenges that could occur. OL4 The impact of the external environment, risks and opportunities on achieving the organisation's strategic objectives. OL5 The availability of financial and natural resources that support the institution's ability to create value in the future. OL6 Disclosure of the organisation's expectations in accordance with regulatory or legal requirements.
H. Basis of preparation and presentation
BP1 Summary of the process of determining the material importance of the organisation (such as determining the role of those responsible for governance and staff who prioritize of material matters). BP2 A description of the reporting boundary and how it has been determined. BP3 Summary of the significant frameworks and methods used to quantify or evaluate material matters included in the report (e.g., the applicable financial reporting standards used for compiling financial information, a company-defined formula for measuring customer satisfaction, or an industry-based framework for evaluating risks).

References

Ahmed, A. H., Elmaghrabi, M. E., Dunne, T., & Hussainey, K. (2021). Gaining momentum: Towards integrated reporting practices in Gulf Cooperation Council countries. *Business Strategy and Development*, *4*, 78–93. [CrossRef]

Al Amosh, H., Khatib, S. F. A., & Hussainey, K. (2022). The financial determinants of integrated reporting disclosure by Jordanian companies. *Journal of Risk & Financial Management*, *15*(9), 1–20.

Anderson, E. M., Bohon, L. M., & Berrigan, L. P. (1996). Factor structure of the private self-consciousness scale. *Journal of Personality Assessment*, *66*(1), 144–152. [CrossRef] [PubMed]

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, *58*(2), 277–297. [CrossRef]

Arguelles, L., Balatbat, M. C., & Green, W. (2015). Is there an association between integrated reporting and the cost of equity capital? *Journal of International Financial Management & Accounting*, *26*(1), 1–33.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182. [CrossRef]

Barth, M. E., Cahan, S. F., Chen, L., & Venter, E. R. (2017). The economic consequences associated with integrated report quality: Capital market and real effects. *Accounting, Organizations and Society*, *62*, 43–64. [CrossRef]

Biddle, G. C., & Saudagaran, S. M. (1991). Foreign stock listings: Benefits, costs, and the accounting policy dilemma. *Accounting Horizons*, *5*(3), 69–81.

Bijlmakers, L. (2018). *The influence of integrated reporting on firm value*. Master of Science in Business Economics, University of Amsterdam.

Bond, S. R. (2002). Dynamic panel data models: A guide to micro data methods and practice. *Portuguese Economic Journal*, *1*, 141–162. [CrossRef]

Breusch, T. S., & Pagan, A. R. (1980). The Lagrange Multiplier Test and its Applications to Model Specification in Econometrics. *The Review of Economic Studies*, *47*(1), 239--253. [CrossRef]

Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality*, *30*(1), 98–115. [CrossRef]

Buys, P., Bosman, P., & Gloeck, J. D. (2009). The impact of IFRS on equity: The South African experience. *International Business & Economics Research Journal*, *7*(10), 1–12.

Cabral, L. (2012). *Reputation on the internet*. Oxford University Press.

Cahan, S. F., De Villiers, C., Jeter, D. C., Naiker, V., & Van Staden, C. J. (2015). Are CSR disclosures value relevant? Cross-country Evidence. *European Accounting Review*, *25*(3), 579–611. [CrossRef]

Chmelarova, V., & Hill, R. C. (2010). The Hausman pretest estimator. *Economics Letters*, *108*(1), 96–99. [CrossRef]

Cosma, S., Soana, M. G., & Venturelli, A. (2018). Does the market reward integrated report quality? *African Journal of Business Management*, *12*(4), 78–91.

De Klerk, M., & de Villiers, C. (2012). The value relevance of corporate responsibility reporting: South African evidence. *Meditari Accountancy Research*, *20*(1), 21–38. [CrossRef]

Deegan, C., & Gordon, B. (1996). A study of the environmental disclosure practices of australian corporations. *Accounting and Business Research*, *26*, 187–199. [CrossRef]

Dey, P. K. (2020). Integrated reporting and market valuation: Evidence from the banking industry. *Asian Journal of Accounting Research*, *5*(1), 77–88.

Falatifah, E. W., & Hermawan, A. (2021). Board of directors effectiveness, voluntary integrated reporting and cost of equity: Evidence from OECD countries. *International Journal of Business and Society*, *22*(1), 443–460. [CrossRef]

Fombrun, C. J. (2005). A world of reputation research, analysis and thinking—Building corporate reputation through CSR initiatives: Evolving standards. *Corporate Reputation Review*, *8*, 7–12. [CrossRef]

Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.

Galbreath, J., & Shum, P. (2012). Do customer satisfaction and reputation mediate the CSR–FP link? Evidence from Australia. *Australian Journal of Management*, *37*(2), 211–229. [CrossRef]

George, D., & Mallery, M. (2010). *SPSS for windows step by step: A simple guide and reference*. Pearson.

Gerwanski, J. (2020). Does it pay off? Integrated reporting and cost of debt: European evidence. *Corporate Social Responsibility and Environmental Management*, *27*, 2299–2319. [CrossRef]

Giorgino, M. C., Supino, E., & Barnabè, F. (2017). Corporate disclosure, materiality, and integrated report: An event study analysis. *Sustainability*, *9*(12), 2182. [CrossRef]

Gujarati, D. N., & Porter, D. C. (2003). *Basic econometrics*. McGrew Hill Book Co.

Guthrie, J., & Parker, L. (1990). Corporate social disclosure practice: A comparative international analysis. *Advances in Public Interest Accounting*, *3*, 159–175.

Guthrie, J., Petty, R., Yongvanich, K., & Ricceri, F. (2004). Using content analysis as a research method to inquire into intellectual capital reporting. *Journal of Intellectual Capital*, *5*(2), 282–293. [CrossRef]

Haque, F. (2017). The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms. *The British Accounting Review*, *49*(3), 347–364. [CrossRef]

Hausman, J. A. (1978). Specification Tests in Econometrics. *Econometrica*, *46*(6), 1251. [CrossRef]

IIRC. (2018). *Technical programme: Progress report*. Available online: https://integratedreporting.ifrs.org/wp-content/uploads/2018/10/Final_Online-Progress-Report.pdf (accessed on 30 October 2024).

Iyoha, F. O., Ojeka, S. A., & Ogundana, O. M. (2017). Bankers' perspectives on integrated reporting for value creation. *Banks and Bank Systems*, *12*(4), 122–131. [CrossRef]

Kassai, J. R., & Carvalho, N. (2016). Integrated reporting: When, why and how did it happen? In C. Mio (Ed.), *Integrated reporting*. Palgrave Macmillan.

KPMG. (2020). *The time has come: The KPMG survey of sustainability reporting 2020*. KPMG International. Available online: https://home.kpmg/xx/en/home/insights/2020/11/the-time-has-come-survey-of-sustainability-reporting.html (accessed on 1 December 2024).

Krippendorff, K. (1980). *Content analysis: An introduction to its methodology*. Sage Publications.

Lai, C. S., Chiu, C. J., Yang, C. F., & Pai, D. C. (2010). The effects of corporate social responsibility on brand performance: The mediating effect of industrial brand equity and corporate reputation. *Journal of Business Ethics*, *95*(3), 457–469. [CrossRef]

Lee, K. W., & Yeo, G. H. H. (2016). The association between integrated reporting and firm valuation. *Review of Quantitative Finance and Accounting*, *47*(4), 1221–1250. [CrossRef]

Love, E. G., Lim, J., & Bednar, M. K. (2017). The face of the firm: The influence of CEOs on corporate reputation. *Academy of Management Journal*, *60*(4), 1213–1217. [CrossRef]

Malmendier, U., & Tate, G. (2009). Superstar CEOs. *The Quarterly Journal of Economics*, *124*(4), 1593–1638. [CrossRef]

Maroun, W. (2017). Assuring the integrated report: Insights and recommendations from auditors and preparers. *The British Accounting Review*, *49*(3), 329–346. [CrossRef]

Muttakin, M. B., Mihret, D., Lemma, T. T., & Khan, A. (2020). Integrated reporting, financial reporting quality and cost of debt. *International Journal of Accounting & Information Management*, *28*(3), 517–534. [CrossRef]

Nekhili, M., Nagati, H., Chtioui, T., & Rebolledo, C. (2017). Corporate social responsibility disclosure and market value: Family versus nonfamily firms. *Journal of Business Research*, *77*, 41–52. [CrossRef]

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.

Permatasari, I., & Narsa, I. M. (2022). Sustainability reporting or integrated reporting: Which one is valuable for investors? *Journal of Accounting & Organizational Change*, *18*(5), 666–684.

Pham, H., & Tran, Q. (2020). CSR disclosure and firm performance: The mediating role of corporate reputation and moderating role of CEO integrity. *Journal of Business Research*, *120*, 127–136. [CrossRef]

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, *36*, 717–731.

Rindova, V. P., Williamson, I. O., Petkova, A. P., & Sever, J. M. (2005). Being good or being known: An empirical examination of the dimensions, antecedents, and consequences of organizational reputation. *Academy of Management Journal*, *48*(6), 1033–1049. [CrossRef]

Roberts, P. W., & Dowling, G. R. (2002). Corporate reputation and sustained superior financial performance. *Strategic Management Journal*, *23*(12), 1077–1093. [CrossRef]

Roodman, D. (2009). How to do Xtabond2: An introduction to difference and system GMM in stata. *The Stata Journal*, *9*(1), 86–136. [CrossRef]

Saeidi, S. P., Sofian, S., Saeidi, P., Saeidi, S. P., & Saaeidi, S. A. (2015). How does corporate social responsibility contribute to firm financial performance? The mediating role of competitive advantage, reputation, and customer satisfaction. *Journal of Business Research*, *68*(2), 341–350. [CrossRef]

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, *13*, 290–312. [CrossRef]

Sobel, M. E. (1986). Some new results on indirect effects and their standard errors in covariance structure models. *Sociological Methodology*, *16*, 159–186. [CrossRef]

Soumillion, V. (2018). *The value relevance of integrated reporting in South Africa*. Master of Science in Business Economics, University Gent.

Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, *87*(3), 355–374. [CrossRef]

Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *The Academy of Management Review*, *20*(3), 571–610. [CrossRef]

Unerman, J. (2000). Methodological issues—Reflections on quantification in corporate social reporting content analysis. *Accounting, Auditing & Accountability Journal*, *13*, 667–681.

Velte, P. (2022). Archival research on integrated reporting: A systematic review of main drivers and the impact of integrated reporting on firm value. *Journal of Management & Governance*, *26*(3), 997–1061.

Vitolla, F., Raimo, N., & Rubino, M. (2020). Board characteristics and integrated reporting quality: An agency theory perspective. *Corporate Social Responsibility and Environmental Management*, *27*(2), 1152–1163. [CrossRef]

Wade, J. B., Porac, J. F., Pollock, T. G., & Graffin, S. D. (2006). The burden of celebrity: The impact of CEO certification contests on CEO pay and performance. *Academy of Management Journal*, *49*, 643–660. [CrossRef]

Wahl, A., Charifzadeh, M., & Diefenbach, F. (2019). Voluntary adopters of integrated reporting–evidence on forecast accuracy and firm value. *Business Strategy and the Environment*, *28*(5), 939–953. [CrossRef]

Wu, M., Peng, F., Shan, Y. G., & Zhang, L. (2020). Litigation risk and firm performance: The effect of internal and external corporate governance. *Corporate Governance: An International Journal*, *28*(4), 210–239.

Zeghal, D., & Ahmed, S. A. (1990). Comparison of social responsibility information disclosure media used by Canadian firms. *Accounting, Auditing and Accountability Journal*, *3*(1), 38–53. [CrossRef]

Zhou, S., Simnett, R., & Green, W. (2017). Does integrated reporting matter to the capital market? *Abacus*, *53*(1), 94–132. [CrossRef]