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# Integrated Reporting as a Path to Value: The Moderating Role of CEO Integrity from the Indian Perspective

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**Abstract**

This study determines the role of integrated reporting (Int_Re) in affecting firm value and investigates how CEO integrity (CEOI) moderates this effect among firms listed on the Indian stock exchange. The sample consists of 150 firms listed on the Indian stock exchange who published an integrated report between the years of 2018–19 and 2022–23. This study relies on secondary data from company websites. The outcome of the multiple regression analysis reveals that there is a significant positive influence of Int_Re on firm value. The analysis also found that CEOI strengthens the relationship between Int_Re and firm value, attributable to ethical leadership exhibited by the CEO. There are some future practical implications that the study proposes: Indian firms need to engage in Int_Re practices to a greater extent; firms need to encourage ethical leadership at the executive level consistent with Int_Re; supervisory boards are limited by an obligation to monitor Int_Re adoption and CEO performance to keep the organization in line with its commitments to transparency, character, and sustainable value creation in the changing corporate governance landscape in India.

**Keywords:** India; CEO integrity; integrated reporting; firm value; system GMM

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## 1. Introduction

This study analyzes the effect of integrated reporting (Int_Re) on firm value, with emphasis on the moderating role of CEO integrity (CEOI) in the context of an emerging market, India. In emerging economies with high-paced development, Int_Re has emerged as a necessary strategy for companies aiming to increase accountability and transparency (Al Amosh et al., 2022). Being a relatively new type of corporate reporting, Int_Re paints a better picture of the value creation and performance of a company beyond financial performance into such areas as strategy, governance, risks, opportunities, environmental, and social impacts (Setia et al., 2024; Vitolla et al., 2019; Rizzato et al., 2024). Int_Re emphasizes that a firm's long-term value is not defined solely by its financial performance—it is built on its social and environmental contributions, stakeholder involvement, and potential to generate sustainable value in the long run (Vitolla et al., 2019; Rizzato et al., 2024). The International Integrated Reporting Council (IIRC) describes Int_Re as "*a process founded on integrated thinking that results in a periodic integrated report by an organisation about value creation over time and related communications regarding aspects of value creation*" (IIRC, 2018). An integrated report depicts an exhaustive overview of the company by connecting financial and non-financial data (Nazari et al., 2015; Vitolla et al., 2019).

As investors become increasingly diligent, the relevance of Int_Re for investors, especially in India, continues to grow because they want to know more about their performance and the long-term viability of their investments (Makri et al., 2024). Regulators in India have pushed for better reporting through Int_Re; for example, the Institute of Chartered Accountants of India (ICAI) and the Securities Exchange Board of India (SEBI) have endorsed the adoption of Int_Re. The SEBI issued its circular (Circular No: SEBI/HO/CFD/CMD/CIR/P/2017/10)[1], on 6 February 2017, whereby it recommended the voluntary use of Int_Re for the top 500 listed companies in India. Likewise, the ICAI also launched an Int_Re category, with respect to its Awards for Excellence in Financial Reporting, on 16 August 2018. CA. Naveen N D Gupta, President of the ICAI, mentioned that "*the introduction of the Integrated Reporting Category in the ICAI Awards will create awareness and encourage corporations in India to adopt integrated thinking and integrated reporting*[2]." These regulatory authorities believe that Int_Re may promote innovative strategies for companies and investors to determine long-term value creation, which can drive higher share prices, reduced capital costs, and more committed investor bases in the longer term (ICAI, 2018, see Note 2).

A firm is able to build confidence and trust with its stakeholders by providing them with a better picture of its performance and value generation. As a result, scholars are increasingly driven to empirically explore the significant impact of Int_Re on firm value. Accordingly, worldwide research has been conducted (Lee & Yeo, 2016; Barth et al., 2017; Giorgino et al., 2017; Dey, 2020; Arguelles et al., 2015; Mervelskemper & Streit, 2017). As per Pham and Tran (2020), CEOI, which pertains to the individual moral beliefs and ethical norms of CEOs, can be viewed as an important moderating factor that can assist further in enhancing the relationship between corporate financial reporting and firm value.

CEOI is increasingly an issue of concern in developing nations, where satisfying stakeholders with increased transparency through Int_Re remains a key challenge. As CEOs occupy the focal point of corporate governance and have direct impacts on transparency and stakeholder trust, their integrity is becoming increasingly important (Pham & Tran, 2020). It is crucial for any CEO to prioritize Int_Re in addressing stakeholder concerns and making themselves an asset to the business that adds to the company's value. Studies show that low integrity could weaken or undermine the positive influence of Int_Re on firm value. High integrity reflects positively on integrated reports and creates greater stakeholder engagement to positively understand corporate performance and ultimately firm value. This, in turn, brings about more stakeholder participation, improved understanding of business performance, and finally, increased firm value. A high-integrity CEO is also more prone to employ Int_Re to convey a firm's long-term value creation plan, synchronizing stakeholder expectations with firm objectives, facilitating growth and evolution, and promoting the best interests of the organization.

In India, where integrated reporting is emerging and governance structures are undergoing significant reforms, CEO integrity will play a significant role in moderating the link between Int_Re and firm value. Those with higher integrity are more likely to assure the integrated reports are transparent, credible, and progressively aligned with strategic goals, contributing to sustainable growth, and thereby their attributes could enhance the value of Int_Re in firm valuation. In contrast, at lower levels of integrity, Int_Re would run the risk of being viewed as superficial and if Int_Re is viewed as a symbol rather than a real contribution to value creation, it would be less valuable as an attribute. Thus, we expect CEO integrity to be an important contextual factor that determines how well Int_Re contributes to firm value in an emerging market context like India.

While Int_Re has come under the international spotlight as a revolutionary method of corporate disclosure, its function in a newly industrializing country such as India, characterized by a distinct political and socioeconomic context, is less researched. In contrast with earlier studies, this study targets the Indian economy, where it explores how Int_Re influences firm value within a market is experiencing high-speed economic diversification and rising demand for sustainable behaviors. Also, this research exclusively examines the moderating role of CEOI on the Int_Re-firm value relationship—providing new perspectives on how ethical leadership improves Int_Re outcomes. The model adds to corporate governance research by providing practical insights that are significant for India's differentiated economic environment.

In spite of increasing global interest in the benefits of Int_Re, empirical research conducted for India is limited. The majority of past research measures the effect of Int_Re on firm value without accounting for leadership characteristics such as CEOI and this creates a significant gap in the existing literature. By closing this gap, the current study shows how CEOI moderates the association between Int_Re and firm value, thus contributing to theoretical insight and filling an important gap in the corporate reporting and governance literature in India.

The determination of the study is in response to the factors driving sustainability and governance in India from a regulatory position, and an increased stakeholder appetite for transparency, with the aim of supporting firms to leverage Int_Re and CEOI to fulfill stakeholder demand and create long-term value. The findings offer guidance to policy makers in India about leadership integrity and alignment with transparency standards to remain competitive and sustainable. Despite some evidence existing which explores the impact of Int_Re on firm value in India, to the best of our knowledge no study has empirically examined the moderating influence of CEOI.

Therefore, to address this research gap, the following research questions have been formulated:

RQ1: What is the impact of Int_Re on firm value for companies listed on the Bombay Stock Exchange?

RQ2: Does CEOI moderate the relationship between Int_Re and firm value within the context of companies listed on the Bombay Stock Exchange?

To fulfill the above research questions, the following research objectives are raised:

RO1: To examine the impact of Int_Re on firm value in the context of companies listed on the Bombay Stock Exchange.

RO2: To examine the moderating role of CEOI in the relationship between Int_Re and firm value in the context of companies listed on the Bombay Stock Exchange.

The research significantly contributes to the disciplines of corporate governance and sustainability by emphasizing the significance of CEOI and Int_Re in enhancing firm value. The credibility of a business and investor attraction are greatly influenced by accountability and transparency, which are fostered by Int_Re techniques that provide a thorough view of both financial and non-financial performance. In addition, the investigation emphasizes the importance of the supervisory board's role in regulating the Int_Re practices and the integrity of the CEO, as the latter is linked to effective resource management and ethical leadership. The research provides practical insights for boards looking to detect inefficiencies or unethical actions by using the asset utilization ratio as a metric of CEOI. This research underscores the significance of aligning Int_Re practices with executive leadership to promote long-term value creation and enhance stakeholder trust.

The outcome of the study provides empirical evidence that Int_Re impacts firm value, therefore verifying its importance as a necessary driver of transparency and credibility in the Indian context. Moreover, the findings show a significant moderating role of CEOI, hence strengthening the impact of Int_Re on firm value. This emphasizes the need for moral and ethical leadership in building stakeholder confidence and optimizing the resource economy, thereby promoting sustainable value creation. The results underscore the twofold relevance of using Int_Re practices and retaining high standards of CEOI, hence providing insightful knowledge for investors, company executives, legislators, and stakeholders at large.

## 2. Literature Review

### 2.1. Theoretical Perspective

#### 2.1.1. Signaling Theory and Legitimacy Theory

Signaling theory, initially introduced by Spence (1973), is a valuable theory for understanding how organizations release signals marking information to alleviate situations of asymmetric knowledge from management to external stakeholders. In information environments characterized by incomplete, low-quality information, organizations furnish credible signals to reflect their true quality, goals, or level of performance and facilitate external stakeholders (investors, customers, regulators, etc.) to be more informed with their decisions. The theory highlights that signals are observable and costly to imitate such that signals can be deemed useful because they signal true quality in a credible way. In the corporate communications industry, Int_Re can be regarded as a viable signaling mechanism to provide credible information about an organization's comprehensive financial and non-financial performance.

In relation to Int_Re, signaling theory is particularly relevant, as firms utilize integrated reports to signal transparency, accountability, and commitment to sustainability and governance. With Int_Re, firms send a positive message about their strategic intent to create long-term value by demonstrating responsible business practices and inclusiveness with multiple stakeholders. With a relatively higher level of disclosure, a firm can reduce some information asymmetry and build trust with investors and stakeholders, and in turn, increase firm value. Int_Re is thus a strategic tool for firms to distinguish themselves in competitive markets, by signaling superior management practices and sustainable business practices that align with stakeholder expectations (Connelly et al., 2011; Spence, 1973). This theoretical basis informs the study's possibility of exploring whether Int_Re can positively influence firm value through improved credibility and quality of corporate disclosures.

Signaling theory clarifies that firms utilize Int_Re as a reliable signal to decrease information asymmetry, communicate good quality of management, and enhance investor confidence to advance the value of firms (Spence, 1973; Lee & Yeo, 2016; Barth et al., 2017). In conjunction with legitimacy theory, it also emphasizes that firms are disclosing integrated reports to maintain congruity with established societal conventions, thereby ensuring legitimacy and sustaining their access to resources (Suchman, 1995; Deegan, 2002). These views suggest that Int_Re is an important market-loaded signal of transparent accountability but also represents a signal of societal legitimacy, which is vital in a country like India where governance and stakeholder expectations regarding holding firms accountable and responsible are still evolving. Both these theories provide a base for the study's possibility of examining whether Int_Re can enhance firm value by reducing information asymmetry as outlined in signaling theory, as well as by enhancing societal legitimacy with transparent and credible disclosures.

#### 2.1.2. Ethical Leadership Theory

The present research is based on ethical leadership theory, which asserts the value of good moral character and ethical decision-making by organizational leaders. Ethical leadership is operationalized as a manifestation of normatively expected behavior through personal behavior and interpersonal relationships and the encouragement of such behavior to followers by communication and reinforcement (Brown & Treviño, 2006). The theory holds that leaders who maintain integrity, fairness, and ethical conduct as a standard are role models who influence the morality of their organizations. In corporate reporting, this leadership makes transparency and accountability not merely procedural but rooted in the strategic philosophy of the organization.

Central to this theory is the CEO's position, and his or her ethical direction is of primary importance in shaping organizational behavior and disclosure practices. Ethical leaders are supposed to ensure trust, fairness, and accountability within the organization (Brown & Mitchell, 2010), and integrity becomes the moral compass of organizational decision-making (Ciulla, 1995). Applied to the Int_Re domain, ethical leadership theory lends credence to the argument that CEOs with strong integrity are likely to espouse substantively significant, integrated disclosure that reflects long-term value creation over short-term interests. CEOI based on ethical leadership can therefore be perceived as a moderating element that strengthens the credibility, salience, and effect of Int_Re on firm value.

### 2.2. Empirical Studies and Hypotheses Development

#### 2.2.1. Integrated Reporting and Firm Value

Int_Re is a new and comprehensive system of facilitating the communication of integrated financial and non-financial data, in a manner that conveys an overall view of a firm's performance. Int_Re is grounded in its capacity to bring true transparency, accountability, and communication to stakeholders, which creates a longer more considerable impact on the valuation of a firm. An ample number of empirical studies have evaluated the relationship between Int_Re and firm value, the majority of which suggest a positive relationship.

Biddle and Saudagaran (1991) provided early evidence of the connection between corporate reporting and firm performance suggesting that more comprehensive reporting leads to positive growth of firms. Further support is provided by De Klerk and de Villiers (2012) who studied the 100 largest companies in South Africa and found that increased disclosure leads to shared value improvement, which suggests that investors prefer increased transparency. In accordance with previous studies, Buys et al. (2009) and Arguelles et al. (2015) also identified a positive relationship between integrated report quality and firm market value in South Africa and worldwide.

In a landmark paper, Lee and Yeo (2016) investigated South African companies and found evidence of a strong positive relationship between firm value and Int_Re quality using OLS regression. In addition, the relationship was strongest in firms that had complex business models. This finding highlights that Int_Re facilitates a cogent explanation of the value-creating process of these firms and enhances the confidence of investors. In support of this, Barth et al. (2017) examined several of the top South African listed companies and found that Int_Re quality increases firm value signaling liquidity and expected future cash flows. This may suggest that the market is willing to reward better transparency, along with a greater orientation towards long-term sustainability. Zhou et al. (2017) came to similar conclusions with insights collected from 443 firm-year observations on the Johannesburg Stock Exchange. His study provided evidence that integrated reports are more beneficial for investors forecasting a company's future financial performance compared to traditional reporting forms. With additional evidence, Pavlopoulos et al. (2019) conducted cross-country panel regression analysis on European firms and found that with improvement in Int_Re quality, there was an increase in market valuation. These findings confirm the overall portability of Int_Re's value relevance regardless of the institutional context.

Empirical evidence also indicates that Int_Re may strengthen market responses and forecast accuracy. For example, Bernardi and Stark (2016) articulated that mandatory Int_Re improved the accuracy of analysts' earnings forecasts with greater environmental disclosures. Cosma et al. (2018) and Sofian (2019) additionally substantiated that socially responsible corporate firms awarded Int_Re-related awards received positive stock market responses and demonstrated improved Tobin's Q. Again, in Egypt, El-Deeb (2019) conducted regression analysis with an Int_Re compliance index for EGX30 firms between 2012 to 2017 and found that Int_Re positively affected firm value (using market capitalization) and firm performance (using ROE and debt ratio).

Recent evidence including that from Makri and Kabra (2023) demonstrated that Int_Re adoption has a significantly positive effect on the firm value of Indian firms. In 2023, Soriya and Rastogi also found similar results in the context of firm performance (measured by ROA) after carrying out manual content analysis of 93 integrated reports from NSE-listed companies from 2017 to 2020. However, they failed to encounter any statistically significant effect of Int_Re on firm value (measured by Tobin's Q). Again, Bansal (2025) found that Indian firms utilize Int_Re in steering away from observable earnings management disclosures toward legitimization-oriented disclosures, describing a strategic shift in corporate behavior. Hichri and Alqatan (2024), by utilizing Feasible Generalized Least Squares (FGLS), also found that Int_Re had a strong positive association with firm value after analyzing 300 international firms from 2010 to 2019. Further validating this stance, Asadi et al. (2024) studied 1,195 firm-year observations based on a variety of countries from 2018 to 2022 and found Int_Re quality to be positively associated with firm value, but primarily in country jurisdictions where Int_Re was mandatory. Mansor et al. (2024) found similar results, establishing that Int_Re creates added value within 714 publicly-listed firms on an international level. Hurghiș et al. (2024) targeted European countries and found that Int_Re lowers analyst forecasting errors—but only partially. Their results, primarily, show that Int_Re can be helpful in creating transparency but its efficacy in improving market predictability is moderated by complementary institutional factors such as regulatory enforcement or investor sophistication. Finally, in a study of the interaction between ESG (environmental, social, and governance) disclosures and Int_Re quality, Abdelmoneim and El-Deeb (2024) researched 34 non-financial Egyptian enterprises from 2015 to 2021; the results emphasized the utility of board attributes in the moderation of the reports, focusing particularly on board gender diversity and size. The study found a significant positive association between ESG disclosures and Int_Re quality, reinforcing the importance of governance characteristics in realizing the benefits and added value of an Int_Re initiative.

Despite this evidence, there are a number of empirical studies that show that Int_Re does not positively influence firm value. For example, Soumillion (2018) found no statistically significant relationship between adopting Int_Re and market valuation in their study of 63 firms in South Africa. Also, Bijlmakers (2018) reported no significant relationship with Int_Re in a European data set, and Nurkumalasari et al. (2019) reported no significant relationship with Int_Re in their study of Asian firms. The results appear to suggest that the effects of Int_Re are context-bound and may depend on firm size, industry, level of investor awareness, or regulatory context. But Wahl et al. (2019) undertook a lengthy and detailed assessment of the voluntary uptake of Int_Re and found that these disclosures have no effect on both analyst forecast uncertainty and firm value. They note that disclosures under Int_Re may not provide additional value for already transparent firms if the financial information is already of a high quality. Ribeiro et al. (2024) specifically evaluated the relevance of Int_Re for investment decision-making in Brazil and found that professional investors do not actively use disclosures in integrated reports as part of their assessment in determining their investment decisions, which contributes to further discrepancies that potentially exist between disclosure and use of disclosure.

In addition to the complexity already identified, other researchers argue that Int_Re has a negative effect on firm value. For example, Gerwanski (2020) and Landau et al. (2020) both conducted studies examining firms in Europe and departed with the conclusion that increases in Int_Re disclosure were associated with lower firm values. The researchers express that increases in disclosure could potentially confound capital markets due to progressive overload or the company could be perceived as "greenwashing." Muttakin et al. (2020) also arrived at the same conclusion in the South African context, finding that Int_Re adoption, if viewed as merely a token act of compliance rather than substantive communication, would negatively correlate with firm value.

Putting these mixed results in the context of signaling theory provides a robust explanation for why Int_Re may have been found to improve firm value, to varying degrees, in some contexts but not others. Signaling theory suggests that firms use credible disclosures to impart an element of private information to external players and reduce information asymmetry with external stakeholders in order to enhance perceived quality (Spence, 1973). Dey (2020) and Vitolla et al. (2020) associated Int_Re with an improved market-to-book ratio and decreased cost of equity, further substantiating that markets viewed Int_Re as a strategic signal of low risk and long-term value. Overall, these results indicate the signaling value of Int_Re in shaping stakeholder perceptions and thus improving firm value. As Velte (2022) argues, improved report quality reduces investor uncertainty and increases capital market efficiency which produces better firm value. Firms that are socially and environmentally responsible attract long-term investors and benefits from these supportive customers, and this becomes a strategic asset over time—ultimately enhancing financial performance.

Though there is increasing global evidence to support the role of Int_Re in value creation, there is still limited empirical research in the context of India across different sectors and firm sizes. Although some recent studies have begun to explore Int_Re adoption and use in India, the practice is still relatively young compared to developed economies. With regulator endorsement by SEBI and stakeholder pressure to disclose more on ESG matters, Indian firms are adopting multiyear disclosures and are gradually moving towards Int_Re and disclosing in a more transparent way. The preliminary work describing Int_Re and its benefits and challenges means that it continues to evolve. Hence, the extent to which Int_Re creates value in the Indian context, characterized by heterogeneous governance procedures, behavioral awareness by investors, and altered disclosure regulations, requires further empirical research. Due to India's dynamic economy, rising sustainable focus, and recognition in global capital markets, Int_Re could provide the potential to evolve the value creation process. As firms face increasing pressure to indicate long-term strategic orientation and show social responsibility, Int_Re could provide a way to capture and communicate the value creation process in a wholesome and credible format. In both developed and emerging markets, the diverse stakeholders surrounding firms and their behaviors and expectations are evolving—particularly in India, where stakeholders seem to want greater transparency. In this context, this research proposes to empirically assess the relevance value of Int_Re among Indian firms based on the following hypothesis:

**H1.** *There is a positive influence of integrated reporting on firm value.*

#### 2.2.2. Moderating Role of CEO Integrity

At the top of an organization, the CEO, the most significant and senior member, is pivotal in specifying the ethical climate and strategy for the organization. Ethical leadership, which is executive integrity, provides a basis for corporate disclosure that strives beyond compliance. Ciulla (1995) and Resick et al. (2006) contend that ethical leadership is a direct result of individual moral character as well as capabilities to assess complex stakeholder issues and facilitate responsible corporate behavior. These abilities are essential to the legitimacy of Int_Re. In this respect, Brown and Mitchell (2010) note that ethical leadership fosters employee trust and organizational fairness, which are critical enablers of an institution as they pursue broader disclosure practices that can be deemed both fair and transparent.

Int_Re requires high accountability and ethical commitment because it involves the disclosure of both financial and non-financial information. It is likely that CEOs with solid ethical commitments, which also likely foster a culture of fairness, will establish Int_Re with strategic direction towards real performance as opposed to symbolic approaches or legitimization of performance. Mayer et al. (2012) and Kalshoven et al. (2011) included in their findings a similar case for how ethical leadership creates an internal context of fairness, role clarity, and accountability. Many driving factors for the quality and integrity of corporate disclosures are reasonably connected to fairness, role clarity, and accountability.

Ethical leadership theory posits that integrity transcends mere compliance with rules, encompassing a comprehensive dedication to honesty, moral principles, and genuine communication (Palanski & Yammarino, 2007; Verissimo & Lacerda, 2015). This broader understanding suggests that CEOs who exemplify integrity are more inclined to guarantee the authenticity of Int_Re, thereby enhancing its influence on stakeholder trust and firm value. The research conducted by Eisenbeiss et al. (2015) reinforces the notion that ethical leaders establish behavioral norms that promote organizational commitment to transparent and accountable behavior.

The moderating effect of CEOI on corporate reporting outcomes is supported by empirical research. According to Pham and Tran (2020), when companies are run by CEOs who uphold high ethical standards, the positive correlation between CSR reporting and firm value is considerably reinforced. This implies that stakeholders view moral leadership as a sign of reliable reporting. Applying this reasoning to Int_Re, it makes sense to assume that companies with CEOs who have proven their integrity will have a stronger correlation between Int_Re and firm value. In these situations, stakeholders are more likely to believe the disclosures and see them as representing true strategic priorities as opposed to merely following the rules. Therefore, this study suggests that CEOI positively moderates the relationship between Int_Re and firm value. It is based on ethical leadership theory and is backed by empirical data. CEOI can be especially important in boosting the legitimacy and efficacy of Int_Re in countries like India, where disclosure standards are still developing and leadership is frequently used as a stand-in for governance quality.

**H2.** *CEO integrity positively moderates the relationship between integrated reporting and firm value.*

## 3. Data and Methodology

### *3.1. Population of the Study, Study Period, and Sample Size*

This study employs only secondary data through integrated reports and corporate governance reports that have been published on the official websites of publicly listed companies in India. All companies listed on the Bombay Stock Exchange (BSE) are included in the study population. The study period spans five financial years, from 2018–19 to 2022–23, a period in which significant changes occurred in how Indian firms disclose information about their finances. During the 2017–18 financial year, select Indian companies, including Mahindra & Mahindra, Tata Steel, JSW Steel, and Godrej voluntarily disclosed integrated reports[3]. During the 2018–19 financial year, Int_Re practices began to gain traction among Indian firms. Significant changes were taking place globally through a global campaign initiated by the IIRC.

In 2018–19, Int_Re practices had started to become popularized among Indian businesses. This change was initiated by a global initiative launched by the IIRC and stimulated by the increased attention of Indian regulatory authorities and professional bodies like SEBI and the ICAI. Therefore, 2018–19 is considered as the base year for the present study.

The final sample consists of 150 companies that were carefully chosen based on purposive sampling technique, i.e., whether or not integrated reports were available on their websites between 2018–19 and 2022–23. Companies that did not publish any integrated reports during this period were not considered in the study. This technique ensures that companies are consistently exhibiting a commitment to holistic thought and transparency in their reporting.

### *3.2. Measurements of the Variables*

#### 3.2.1. Dependent Variable

The study's dependent variable is firm value as indicated by MBR, which is a widely used measure (Laskar & Maji, 2016; Laskar, 2018). MBR is calculated by market-value of equity to book-value of equity. It is an important measure of firm value because it illustrates how the market relates the company's market value to its accounting value. Investors assume that a company with a higher MBR has better future growth and performance prospects than is indicated on the balance sheet. (Cahan et al., 2016).

#### 3.2.2. Independent Variable

In this study, Int_Re is the independent variable. Similar to previous studies (Lee & Yeo, 2016; Zhou et al., 2017), manual content analysis is used as the methodological approach to study Int_Re disclosure levels. The framework for measuring Int_Re is documented in the International Integrated Reporting Framework (IIRF), which outlines eight core components: organizational overview and external environment; governance; business model; risks and opportunities; strategy and resource allocation; performance; outlook; basis of preparation and presentation.

Drawing on an approach consistent with prior study, the study uses a list of 58 disclosure items for coding (Al Amosh et al., 2022). These items correspond directly with the eight IIRF elements, which allows for a comparison in terms of how much firms adhere to the Int_Re standards that have been adopted globally. Content analysis is carried out by using a binary coding system (0–1). A score of "1" will apply where firms disclose any of these 58 items and a score of "0" when no disclosure is made. This coding method allows for objectivity and uniformity across different firms in terms of quality and the comprehensiveness of their Int_Re.

Accordingly, the following formula is used to determine each sample firm's disclosure index for each year:

$$\mathbf{Int\_Re\ Score_j} = \left(\frac{\sum_{i=1}^{n} \mathbf{X_{ij}}}{\mathbf{N_j}}\right) \tag{1}$$

where, "Int_Re $\text{Score}_j$" denotes the disclosure score of Int_Re for the jth firm; "$X_{ij}$" assumes the value 0 if the item is not disclosed and 1 otherwise; "i" is the specific item (as shown in Appendix A and extracted from Al Amosh et al., 2022), and "$N_j$" is 58 (i.e., the maximum possible disclosure for the jth firm).

#### 3.2.3. Control Variables

To control for firm- and country-level factors affecting firm value, this study includes a number of control variables identified in previous research. Firm size (SIZE), represented as the natural logarithm of total assets, is a control because larger firms usually have more resources, are more visible to the public, and have a greater capacity for disclosure (Al Amosh et al., 2022). Board gender diversity (G-Div), as the percentage of women directors on the board, reflects the possible contribution of greater breadth of perspectives and decision-making (Kılıç & Kuzey, 2018). Independent directors (ID), calculated as the proportion of independent directors on the board, is a control since governance structures that are stronger improve transparency to shareholders and confidence in firm activities (Haque, 2017). At the financial level, leverage (D/E), represented as the debt equity ratio, reflects the effects of a firm's capital structure on risk and value (Al Amosh et al., 2022). Lastly, to reflect the macro-economies that shape market valuations, we include a measure of Gross Domestic Product (GDP) taken from the World Economic Forum's Global Competitiveness Reports (Pham & Tran, 2020).

#### 3.2.4. Moderating Variables

The phenomenon of CEOI, being the moderating variable of this research, lacks a universally accepted measure to date, as previously mentioned in recent studies (Pham & Tran, 2020). Based on agency theory, Jensen and Meckling (1976) and Jensen (1986) suggest that CEOs' opportunistic behavior can create agency costs, thus harming the interests of the shareholders negatively. Ang et al. (2000) suggested a way of measuring agency costs through the asset utilization ratio, which is calculated by dividing total revenues by total assets yearly. As argued by Ang et al. (2000) and Pham and Tran (2020), the ratio is a very good measure of CEOI as it indicates how assets are utilized to increase revenue. This ratio reflects how effectively a company's use of assets is generating income. In addition to efficiency, it also reflects the CEO's integrity in offering ethical use of the company's assets and making decisions that capture long-term value for the company. Therefore, following Ang et al. (2000) and Pham and Tran (2020), the present study also uses the asset utilization ratio as a proxy for CEOI.

### *3.3. Empirical Models*

To examine how Int_Re influences firm value and how CEOI moderates this relationship, this study employs system GMM (Generalized Methods of Moments) regression models. System GMM is a robust data analysis technique that deals with time-varying data to generate solutions for endogeneity issues. Through the use of lagged explanatory variables as instruments, the approach generates more robust parameter estimates.

*Impact of Integrated Reporting on Firm Value:*

$$\begin{aligned} \mathrm{MBR}_{i,t} = {} & \beta_0 + \beta_1 \mathrm{Lag\_MBR}_{i,t} + \beta_2 \mathrm{Int\_Re}_{i,t} + \beta_3 \mathrm{G-Div}_{i,t} + \beta_4 \mathrm{ID}_{i,t} + \beta_5 \mathrm{D/E}_{i,t} + \beta_6 \mathrm{GDP}_{i,t} + \beta_7 \mathrm{SIZE}_{i,t} + \omega_{i,t} \\ & + e_{i,t} \end{aligned} \tag{2}$$

*Moderating Effect of CEO Integrity:*

$$\begin{aligned} \mathrm{MBR}_{i,t} = {} & \alpha_0 + \alpha_1 \mathrm{Lag\_MBR}_{i,t} + \alpha_2 \mathrm{Int\_Re}_{i,t} + \alpha_3 \mathrm{CEOI}_{i,t} + \alpha_4 \mathrm{CEOI} * \mathrm{Int\_Re}_{i,t} + \alpha_5 \mathrm{G-Div}_{i,t} + \alpha_6 \mathrm{ID}_{i,t} \\ & + \alpha_7 \mathrm{D/E}_{i,t} + \alpha_8 \mathrm{GDP}_{i,t} + \alpha_9 \mathrm{SIZE}_{i,t} + \omega_{i,t} + e_{i,t} \end{aligned} \tag{3}$$

## 4. Results and Discussion

### *4.1. Descriptive Statistics*

An important precondition for regression analysis is an understanding of the distributional characteristics of the data, which is provided by descriptive statistics. Table 1 presents the descriptive statistics. The Int_Re score's minimum value is 0.086, its maximum value is 0.896, and its mean value is 0.493, as the table makes evident. The sample firms have disclosed, on average, 49% of the information outlined in the Int_Re framework. The data variability around the mean is low, as indicated by the Int_Re standard deviation, which is comparatively low at 0.159. Since the Cronbach's alpha score is greater than 0.83, the Int_Re score produced by the content analysis method is deemed reliable. A score of greater than 0.8 is considered good and reliable for additional analysis, according to Nunnally (1978). The sample firms have less debt than equity on average, as indicated by the mean D/E value of less than 1 (0.426). Additionally, the standard deviation and range are lower. The mean firm size (SIZE), as calculated by the natural log of total assets, is 5.215 (SD = 1.212), which also represents moderate variability around the mean. Likewise, the descriptive statistics show that the mean natural log of GDP is 2.254 (SD = 1.210) with a range of 1.402 (minimum) to 3.005 (maximum). Consequently, we observe moderate variability for GDP around the mean from relatively low GDP to relatively high GDP.

**Table 1.** Descriptive statistics.

| Variables | Min | Max | Mean | Std Dev | Skew | Kurtosis |
|---|---|---|---|---|---|---|
| Int_Re | 0.086 | 0.897 | 0.493 | 0.159 | 0.085 | −0.934 |
| CEOI | 0.061 | 3.326 | 0.732 | 0.371 | 0.690 | 1.975 |
| MBR | 0.020 | 12.624 | 3.261 | 1.595 | 0.429 | 0.874 |
| GDP | 1.402 | 3.005 | 2.254 | 1.210 | −0.124 | −0.018 |
| ID | 0.024 | 0.415 | 0.332 | 0.148 | 0.157 | 1.629 |
| G-Div | 0.000 | 13.415 | 6.476 | 1.124 | 0.379 | 0.587 |
| D/E | 0.000 | 4.000 | 0.426 | 0.253 | 0.348 | 1.583 |
| SIZE | 0.386 | 9.875 | 5.215 | 1.212 | 0.421 | 0.234 |

Note: N = 750. Source: Author's computation.

Across all sample firms, the proportion of independent directors (ID) has a mean value of 0.332 meaning on average, 33% of directors were independent directors. The mean value of gender diversity (G-Div) is 6.476, which is the percentage of women directors on the board, which indicates that women were around 6% of members across each board. As indicated by the standard deviation being 1.124, there is moderately low variability around this average. Additionally, management efficiency (as measured by the asset utilization ratio) was used as a proxy to judge CEOI with a mean score of 0.732 which indicates an average measure of integrity of CEOs across the sample. This means that based on CEOI scores, there is a mixed-to-strong perception of how directors viewed their CEOs in managing assets with integrity, with low variation (standard deviation is 0.371). The wide variation is also confirmed by a range of measures from a minimum of 0.061 to a maximum of 3.326. Lastly, with a mean market-to-book ratio of 3.261, these companies are valued by the market at approximately 3.26-times their book value of equity on average. This signifies that investors expect significant future growth and earnings potential from these companies, which contributes to the current equity market values that far outweigh the accounting value of these companies. The standard deviation of 1.595 indicates that there is less variability in the MBR's values across the sample firms. The MBR values fluctuate between 0.020 to 12.624, indicating enormous differences in market valuations from low- to high-valued firms. Equally important, it is worth considering that the skewness and kurtosis values have relevant numerical values that are all relatively less than the absolute values of the critical values, i.e., −2 to +2 (George, 2011), indicating the data are normally distributed.

### *4.2. Multicollinearity Detection*

The independence of the explanatory variables is essential for the linear model's reliability because multicollinearity can cause standard errors to increase (Black, 2008). As can be seen in Table 2, multicollinearity is not an issue in this study because no Pearson correlation is greater than ±0.6 and all VIF values are less than 10 (Gujarati & Porter, 2009).

**Table 2.** Correlation matrix.

| Variables | VIF | Int_Re | D/E | MBR | SIZE | GDP | ID | G-Div | CEOI | CEOI × Int_Re |
|---|---|---|---|---|---|---|---|---|---|---|
| Int_Re | 1.28 | 1 | | | | | | | | |
| D/E | 1.34 | 0.12 * | 1 | | | | | | | |
| MBR | 1.09 | 0.18 ** | −0.04 | 1 | | | | | | |
| SIZE | 2.87 | 0.05 | 0.21 ** | 0.18 ** | 1 | | | | | |
| GDP | 1.66 | 0.03 | 0.09 * | 0.10 * | 0.24 ** | 1 | | | | |
| ID | 1.18 | 0.02 | −0.06 | 0.02 | −0.04 | 0.14 ** | 1 | | | |
| G-Div | 1.24 | 0.041 | −0.03 | 0.06 * | 0.08 * | −0.02 | 0.22 ** | 1 | | |
| CEOI | 2.31 | 0.04 | −0.04 | 0.07 | −0.02 | 0.03 | −0.01 | −0.04 | 1 | |
| CEOI × Int_Re | 1.92 | 0.47 ** | 0.10 * | 0.08 | 0.05 | −0.03 | 0.02 | 0.03 | 0.061 | 1 |

Note: ** and * mean correlation is significant at the 0.01 and 0.05 level (2-tailed), respectively. Source: Author's contribution.

### *4.3. Results and Discussions*

#### 4.3.1. Regression Results on the Impact of Int_Re on Firm Value

The results of the system GMM Equation (2) (Table 3) demonstrate that Int_Re ($\beta_2 = 1.257$, $p < 0.01$) has a significant and positive effect on firm value. This indicates firms practicing Int_Re successfully capture their value as it indicates they are better communicating their financial performance and their non-financial performance, which contributes to transparency, trust from stakeholders, and long-term investor interest. The findings in this study are consistent with those of earlier studies (Lee & Yeo, 2016; Iyoha et al., 2017; Cosma et al., 2018) reporting that Int_Re is an important mechanism to increase reputation, accountability, and corporate value in an environment focused on sustainability. This study provides support for both signaling theory and legitimacy theory. Based on signaling theory, Int_Re provides credible disclosures to reduce the asymmetry of information in the investment community, establishes trust among investors, and ultimately, positively affects the value of the firm. Legitimacy theory adds to this explanation in the way that Int_Re enhances the accountability of professionals and makes sure that corporate practices are consistent with social norms, thereby increasing legitimacy and the opportunity for long-term value creation.

**Table 3.** System GMM results: Impact of Int_Re on Firm Value.

| Variables | Coeff. | Std. Error | Z-Stats. |
|---|---|---|---|
| Const. | 6.842 | 2.114 | 3.240 *** |
| Int_Re | 1.257 | 0.432 | 2.910 *** |
| ID | 0.963 | 1.243 | 0.77 |
| G-Div | 0.052 | 0.031 | 1.680 * |
| SIZE | 0.812 | 0.295 | 2.750 *** |
| GDP | 0.041 | 0.05 | 0.82 |
| D/E | −0.098 | 0.142 | −0.690 |
| Lag_MBR | 0.249 | 0.083 | 2.990 *** |

Note for Equation (2): Dependent Variable: MBR. Sargan_test (*p*-value) = 0.287. Hansen_test (*p*-value) = 0.164. First-order autocorrelation AR (1) = 0.118. Second-order autocorrelation AR (2) = 0.212. Wald ($\varkappa^2$) = 0.000. *** and * indicates significance at 1 and 10%, respectively. N = 749. Source: Author's computation.

In regard to the control variables, SIZE ($\beta_7 = 0.812$, $p < 0.01$), and Lag_MBR ($\beta_1 = 0.249$, $p < 0.01$) are important variables in predicting firm performance, which suggests that larger firms or firms with a good history of previous performance have the capacity to enjoy those benefits of Int_Re adoption. The control variable G-Div ($\beta_3 = 0.052$, $p < 0.10$) has a slightly positive benefit, indicating there are leanings in the economy that impact firm valuation. The control variables D/E, ID, and GDP are statistically insignificant. Importantly, the robustness diagnostics confirm the model is significant: the lagged dependent variable coefficient is significantly lower than one (Roodman, 2009), and AR(1) and AR(2) provide no evidence of autocorrelation; Sargan and Hansen tests all indicate the instruments used in this analysis are valid; and the Wald $\chi^2$ statistic is significant, indicating that the model predicts reality.

Robustness Check: Impact of Int_Re on Firm Value

To further assess the effect of Int_Re on firm value, additional analysis is conducted. For the analysis, a panel data regression model was used based on the Breusch and Pagan test and the Hausman test. Since both tests were significant, a dynamic fixed effect regression model was then used. The specific forms of the regression models are provided below:

$$MBR_{i,t} = \beta_0 + \beta_1 Lag\_MBR_{i,t} + \beta_2 Int\_Re_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 D/E_{i,t} + \beta_5 ID_{i,t} + \beta_6 G - Div_{i,t} + \beta_7 GDP_{i,t} + e_{i,t} \tag{4}$$

It is important to note that two issues that could affect the estimation of fixed effects models are heteroskedasticity and serial correlation in the residual term. These issues can result in the regression coefficients having biased standard errors (Gujarati, 2003). In order to address this issue, the present research utilizes a dynamic fixed effect robust standard error regression model, as this model would address heteroskedasticity and serial correlation, if present in the data set. The results of the dynamic fixed effect (robust standard error) model, presented in Table 4, indicate that the coefficient of Int_Re ($\beta_2$ = 0.622) is positive and statistically significant at the 5% level, confirming that Int_Re has a meaningful impact on enhancing firm value (MBR). This suggests that firms adopting Int_Re benefit from greater transparency and improved reporting quality, which, in turn, contributes to stronger investor confidence and better corporate valuation.

**Table 4.** Dynamic fixed effect (robust standard error) model: Impact of Int_Re on Firm Value.

| Variables | Coeff. | Robust Std. Error | t-Stats. |
|---|---|---|---|
| Const. | −0.421 | 0.21 | −2.00 ** |
| Int_Re | 0.622 | 0.276 | 2.25 ** |
| G-Div | 0.018 | 0.01 | 1.80 * |
| ID | 0.074 | 0.267 | 0.28 |
| SIZE | 0.095 | 0.045 | 2.11 ** |
| D/E | 0.021 | 0.03 | 0.7 |
| GDP | 0.149 | 0.118 | 1.26 |
| Lag_MBR | 0.288 | 0.14 | 2.06 ** |
| $R^2$ Overall | | 0.241 | |
| F-stats. | | 15.82 *** | |
| B-P test ($\varkappa^2$) | | 189.453 *** | |
| Hausman test ($\varkappa^2$) | | 120.876 *** | |
| DWH test of Endogeneity: | | | |
| Durbin ($\varkappa^2$) | | 1.693 ($p$ = 0.194) | |
| Wu-Hausman (F-stats.) | | 1.754 ($p$ = 0.188) | |

Note for Equation (4): (1) ***, **, and * indicates significance at 1, 5, and 10%, respectively. (2) N = 749. (3) Dependent Variable: MBR. Source: Author's computation.

Among the control variables, SIZE ($\beta_3$ = 0.095) and Lag_MBR ($\beta_1$ = 0.288) are both positive and significant at the 5% level, while G-Div ($\beta_6$ = 0.018) is significant at the 10% level. These results imply that larger firms and those with a strong prior performance history are better positioned to generate future value, while the broader growth dynamics (G-Div) also play a modest role in influencing firm valuation. The constant term is negative and significant at the 5% level, reflecting baseline effects when explanatory factors are absent. Other variables, such as D/E, ID, and GDP, remain statistically insignificant.

The model diagnostics further reinforce the validity of the results. The Durbin–Wu–Hausman test (Chmelarova & Hill, 2010) shows that neither the Durbin chi-square nor the Wu–Hausman F-statistic is statistically significant, indicating no evidence of endogeneity. Additionally, the significant F-statistic and the $R^2$ value confirm the model's explanatory strength. Together, these findings suggest that the outcomes of the dynamic fixed effect model are both robust and reliable. Importantly, the consistency of the results across both the system GMM and the dynamic fixed effect models provides further confidence in the robustness of the findings, thereby supporting the acceptance of Hypothesis H1.

4.3.2. Regression Results on the Moderating Role of CEO Integrity

The results of the system GMM estimation, shown in Table 5 below, provide strong evidence of the association of Int_Re, CEOI, and firm value. The coefficient of Int_Re ($\alpha_2$ = 0.537, $p < 0.01$) is positive and significant, implying that firms that apply Int_Re improve corporate valuation by being transparent in the reporting of financial and non-financial information. This is in line with the work of Lee and Yeo (2016) which shows that Int_Re improves firm reputation and value through enhancing market transparence. It is also in line with Iyoha et al. (2017) and Cosma et al. (2018) who demonstrated Int_Re works towards ensuring accountability to the stakeholders and sustainability in the firm. Significantly, both CEOI ($\alpha_3$ = 1.654, $p < 0.05$) and the interaction term CEOI*Int_Re ($\alpha_4$ = 1.289, $p < 0.01$) are positive and significant, indicating that ethical leadership enhances the use of Int_Re. This means that firms with CEOs, who are committed to integrity, will be in a stronger position to use Int_Re for embedding governance, trust from stakeholders, and long-term valuation. The results validate ethical leadership theory, whereby the integrity of a CEO enhances the validity of integrated reporting and builds trust with stakeholders, while ultimately increasing the legitimacy of corporate activities. In other words, when a CEO demonstrates integrity by encouraging transparency and responsible leadership, it reinforces the credibility of reporting practices, thus contributing to investor confidence and overall legitimacy and sustainable value creation.

**Table 5.** System GMM results: Moderating Role of CEO Integrity.

| Dependent Variable: MBR | | | |
|---|---|---|---|
| **Variables** | **Coefficient** | **Std. Error** | **Z-Stats.** |
| Cons. | −1.952 | 0.962 | −2.03 ** |
| Int_Re | 0.537 | 0.186 | 2.89 *** |
| CEOI | 1.654 | 0.781 | 2.12 ** |
| CEOI × Int_Re | 1.289 | 0.5 | 2.58 *** |
| ID | 0.071 | 1.145 | 0.06 |
| G-Div | 0.084 | 0.047 | 1.79 * |
| SIZE | 0.468 | 0.214 | 2.19 ** |
| D/E | −0.198 | 0.244 | −0.81 |
| GDP | 0.352 | 0.277 | 1.27 |
| Lag_MBR | 0.509 | 0.17 | 2.99 *** |

Note: Dependent Variable: MBR. Sargan_test ($p$-value) = 0.214. Hansen_test ($p$-value) = 0.241. First-order autocorrelation test AR (1) = 0.281. Second-order autocorrelation test AR (2) = 0.742. Wald ($\chi^2$) = 0.000. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively. N= 749. Source: Author's computation.

Among the control factors, SIZE ($\alpha_9$ = 0.468, $p < 0.05$) and Lag_MBR ($\alpha_1$ = 0.509, $p < 0.01$) have strong positive effects, signaling that larger firms and those with good past returns tend to receive higher valuations. This fits within the larger Int_Re literature that notes firm resources and historical stability support the value impact of Int_Re use (Lee &

Yeo, 2016; Iyoha et al., 2017). G-Div ($\alpha_5$ = 0.084, $p$ < 0.10) is weakly significant, signaling that the macroeconomics of growth conditions positively support firm value as a less prominent contributing factor. Lastly, D/E, ID, and GDP are statistically insignificant, indicating that leverage, industry, and GDP growth have little influence, directly, within this specification.

Finally, the robustness diagnostics supports the results. There is no serial correlation, confirmed by the AR(1) and AR(2) tests, no hidden over-identification with significance for the Sargan and Hansen tests, and instrument validity was demonstrated, and there is significance to the Wald $\chi^2$ statistic—signaling joint explanatory power. All of these results show that Int_Re, when supported by a strong CEOI trait, is significantly related to firm value in a way that is consistent with previous results (Lee & Yeo, 2016; Iyoha et al., 2017; Cosma et al., 2018) and robust for the purposes of decision-making.

Robustness Check: Moderating Role of CEO Integrity

We carry out further analyses to investigate the moderating effect of CEOI on the Int_Re and MBR relationship, to also check for robustness. Now that we have established the panel data testing with the Hausman and Breusch test, we will also use the appropriate panel data regression model. Due to the significance of the two tests in Table 6, we will be using the dynamic fixed effect regression model. Below is the specific fixed effect model used in the present study:

$$\begin{aligned}\mathrm{MBR}_{i,t} = {} & \alpha_0 + \alpha_1\mathrm{Int\_Re}_{i,t} + \alpha_2\mathrm{CEOI}_{i,t} + \alpha_3\mathrm{CEOI{*}Int\_Re}_{i,t} + \alpha_4\mathrm{SIZE}_{i,t} + \alpha_5\mathrm{D/E}_{i,t} + \alpha_6\mathrm{ID}_{i,t} + \alpha_7\mathrm{G-Div}_{i,t} \\ & + \alpha_8\mathrm{GDP}_{i,t} + \alpha_9\mathrm{Lag\_MBR}_{i,t} + e_{i,t}\end{aligned} \tag{5}$$

**Table 6.** Dynamic fixed effect (robust standard error) model: Moderating Role of CEO Integrity.

| Variables | Coefficient | Robust Std. Error | t-Ratio |
|---|---|---|---|
| Const. | 2.421 | 1.052 | 2.30 ** |
| CEOI × Int_Re | 1.622 | 0.592 | 2.74 *** |
| Int_Re | 0.841 | 0.178 | 4.73 *** |
| CEOI | 1.954 | 0.841 | 2.32 ** |
| ID | 0.872 | 2.381 | 0.37 |
| G-Div | 0.356 | 0.198 | 1.80 * |
| SIZE | 0.284 | 0.26 | 1.09 |
| D/E | −0.012 | 0.037 | −0.32 |
| GDP | 1.421 | 0.853 | 1.67 * |
| Lag_MBR | 0.059 | 0.02 | 2.95 *** |
| $R^2$ Overall | | 0.338 | |
| F-stats. | | 52.91 *** | |
| B-P test ($\varkappa^2$) | | 1248.33 *** | |
| Hausman test ($\varkappa^2$) | | 79.446 *** | |
| DWH test of Endogeneity: | | | |
| Durbin ($\varkappa^2$) | | 1.572 ($p$ = 0.210) | |
| Wu-Hausman (F-stats.) | | 1.598 ($p$ = 0.205) | |

Notes: ***, **, and * indicate significance at 1%, 5%, and 10%, respectively; Dependent Variable: MBR; N = 749. Source: Author's computation.

In particular, the current study used the dynamic fixed effect robust standard error regression model, since this model will take care of heteroskedasticity and serial correlation, if present, in the data set. The results obtained with Regression Equation (5) are given in Table 6.

The results from the dynamic fixed effect model (Table 6) indicate that Int_Re ($\alpha_1$ = 0.841, $p$ < 0.01), CEOI ($\alpha_2$ = 1.954, $p$ < 0.05), and the interaction effect CEOI*Int_Re

($\alpha_3$ = 1.622, $p < 0.01$) have positive and statistically significant coefficients. Therefore, we are able to conclude that Int_Re adds value for firms and, to the extent it is supported by a high CEOI, the value added is higher. These findings demonstrate the importance of ethical leadership to enhance transparency initiatives and support the credibility of disclosures. In contrast to the empirical findings from Int_Re, ethical leadership and ethics is not statistically significant; meanwhile, Lag_MBR ($\alpha_9$ = 0.059, $p < 0.01$) was shown to be a strong predictor of firm value. Looking at the macroeconomic level, G-Div ($\alpha_7$ = 0.356, $p < 0.10$) and GDP ($\alpha_8$ = 1.421, $p < 0.10$) both show marginal regression statistical significance, suggesting there has been a positive impact on firm value due to economic conditions, albeit with limited strength.

According to the Durbin–Wu–Hausman (DWH) test (Chmelarova & Hill, 2010), no evidence for endogeneity was found because both the Durbin chi-square and Wu–Hausman F-statistics were not significant. While we gain validity for the model through the significant F-statistic (52.91) and $R^2$ of 0.338, the Breusch–Pagan and Hausman tests are consistent with a fixed effect specification. Overall, we can conclude that the model is statistically valid and theoretically consistent. We have further strengthened the acceptance of Hypothesis H2 on the moderating effect of CEOI by considering the system GMM estimates (Table 5), confirming the robustness of the results.

Over the past few years, India has witnessed a significant wave of transparency and governance reforms that have created an ecosystem that leads to more Int_Re adoption. The Securities and Exchange Board of India (SEBI) has set the direction by requiring the Business Responsibility and Sustainability Report (BRSR) to adopt it for the first time, for 1000 listed companies from FY 2022–23 onwards, with the intention of making it a tool for accountability in ESG dimensions. Clause 49 of the Listing Agreement, as well as the Companies Act of 2013, followed by SEBI's (LODR) regulations also contributed to institutionalizing disclosure norms, board accountability, and stakeholder engagement. As a result, the new regulation and timeline allows Indian corporate governance practices to align with advances in Western countries (OECD, IFAC, and IAASB), while establishing Int_Re as an operationalizable credible framework for reporting activities pertinent to merging financial reporting and non-financial reporting.

The findings in the Indian context are clearly unlike the previous studies performed in mature economies, which reported the relationships between Int_Re and firm value to be weak or even non-existent (Soumillion, 2018; Bijlmakers, 2018; Nurkumalasari et al., 2019). In systems of governance that are very mature, and have relatively stringent disclosure standards, such as those found in developed countries, there can be less incremental value of Int_Re. However, this is not the same for the Indian context where governance reforms and Int_Re adoption/similar accounting is a process that is still evolving. Int_Re in India can be considered a transformational mechanism to replace ruptures in accountability and transparency. It becomes very important for the relationship between Int_Re and firm value, assuming a role as a moderator, because the ethical quality of CEOI increases the quality of credibility of disclosures and reassures stakeholders in the investor trust consolidation process taking place in an emerging market context.

### *4.4. Implications of the Study*

The findings of the current study have significant implications for businesses, policymakers, and corporate governance entities in India. The findings reveal the importance of sound Int_Re practices for Indian businesses. Providing a holistic enablement of both financial and non-financial disclosures, Int_Re will enhance transparency, accountability, and corporate reputation. Such practices enhance stakeholder trust and offer suitable providers for companies leading to long-term investment outcome effectiveness. Similarly, ethical leadership plays a role in promoting Int_Re as the findings indicate that companies with high-integrity leadership by CEOs are more adept at using Int_Re effectively, leading to improved firm-level value. Indian companies should focus on developing leadership with integrity and using Int_Re to prepare businesses for the changes occurring in the ecosystem brought on by SEBI's BRSR framework, explicit ESG expectations, and corporate governance reforms. Therefore, companies need to both adopt Int_Re and foster ethical leadership among their executive leaders as a key differentiator in the new realities taking hold in the Indian business environment.

Supervisory boards in India are an important way to integrate Int_Re processes into ethical leadership practices. The research calls for introspective and active evaluation and monitoring of integrity for CEOs. Performance metrics such as the efficient use of resources may serve as proxies for responsible and ethical leadership. A CEO who demonstrates integrity in the usage of resources will ensure growth is sustainable as well as enhancing corporate reputation and promoting stakeholder trust. The board of directors should, therefore, provide governance mechanisms that will regularly examine the performance of the CEO—focusing on informed and transparent reporting practices. This would serve to uphold the accountability of Indian firms.

The outcomes are also informative for policymakers and regulators such as SEBI and the Ministry of Corporate Affairs. Policymakers and regulators will be able to provide a more robust mandate on Int_Re disclosures, by promoting standards of leadership and ethical practice around Int_Re aspects such as mandatory disclosures through BRSR. These ethical practices will provide ways for regulators to support the sustainable creation of value within an accommodating framework. Better disclosure means fewer asymmetries of information, meaning better transparency in the market. Better disclosure would mean Indian firms could be placed in a more competitive position on the global stage with regards to norms of international reporting and governance.

Lastly, the results highlight the strategic significance of Int_Re for business leaders in India. Int_Re should not just be viewed as a compliance requirement, but as a strategic way to provide investors and stakeholders with a longer-term view of value creation. Int_Re can enhance confidence in the firm from investors, mitigate risks associated with governance, and position Indian firms as champions of transparency, accountability, and sustainable business growth when paired with ethical leadership.

## 5. Conclusions, Limitations, and Scope for Future Research

### *5.1. Conclusions*

This research examines the impact of Int_Re on firm value as well as the moderating effect of CEOI for firms that are listed on the Indian stock exchange. The data presented in Tables 3 and 4 strongly illustrate that Int_Re has a positive, statistically significant effect on firm value and thus reflects support for Hypothesis H1. In accordance with the results illustrating the variation in firm value across the Int_Re observations, this study's findings identify firm size and previous performance (Lag_MBR) as other contributing factors toward firm value in an Indian context. Furthermore, the findings reported in Tables 5 and 6 demonstrate that both CEOI and the interaction term CEOI*Int_Re are significantly positive, suggesting that CEOI enhances the positive effect of Int_Re on firm valuation. These results justify the acceptance of Hypothesis H2, reiterating the important role of ethical leadership in further promoting the effect of Int_Re.

Focusing on the Indian context—where Int_Re adoption is relatively new and governance reforms are underway—adds fresh evidence to the corporate governance field. Using signaling theory, legitimacy theory, and ethical leadership theory as our foundation, the results show that Int_Re improves firm value via transparency and accountability, while

CEOI augments this effect by enhancing the credibility of disclosures to strengthen stakeholder trust. These findings contribute to the growing body of research on new forms of corporate reporting, including Int_Re, by showing how leadership attributes and disclosure innovations interact to affect firm value in an emerging market economy such as India.

### 5.2. Limitations and Scope for Further Research

Despite the potential contribution that this study has made to the understanding of Int_Re and CEOI on the value of firms in the Indian context, it does have some limitations. The study utilizes secondary quantitative data. While statistically robust, quantitative data is not able to capture the qualitative dimensions of ethical leadership and ethical disclosure. Additionally, firm value is assessed with only one measure, MBR. Future studies may use relevant alternative or multiple proxies of firms such as the market-to-book ratio, or ROA, or ROE to measure comprehensive assessment of firm performance. Future studies may take a mixed-method approach, include qualitative assessments of the behaviors of CEOs, or consider the sectoral differences amongst companies in adopting Int_Re. Furthermore, studies comparing emerging economies/markets with developed economies/markets, along with longitudinal assessments of firms' performance over time, will provide more insights regarding the long-term influences of Int_Re and leadership integrity on firms' performance.

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**Data Availability Statement:** Data will be made available on request made to the corresponding author due to privacy obligations and data sharing restrictions.

**Conflicts of Interest:** The author declares no conflict of interest.

## Appendix A

| **Disclosure Items** |
| --- |
| A. Organizational overview and external environment |
| OE1 Nature of the organization's work and the circumstances in which it operates. |
| OE2 Mission and vision of the organization. |
| OE3 Culture, morals, and values. |
| OE4 Ownership and operating structure. |
| OE5 Competitive environment of the organization. |
| OE6 Most important factors influencing the external environment. |
| OE7 Needs of stakeholders. |
| OE8 Economic conditions in which the organization operates. |
| OE9 Market forces. |
| OE10 Impact of technological changes. |
| OE11 Demographic and societal issues. |
| OE12 Environmental challenges faced by the organization. |
| OE13 Legislative and regulatory environment in which the organization operates. |
| OE14 Political situation in the countries in which the organization operates. |
| B. Governance |
| GO1 Disclose how the governance structure contributes to creating value for the organization. |
| GO2 Disclose the characteristics of the organization's leadership structure. |

| |
|---|
| GO3 Processes on which the organization builds its strategic decisions and organizational culture.<br>GO4 Procedures for impact and monitoring of strategic direction of the organization.<br>GO5 Reflection of organizational culture, its values and ethics in its use, and its impact on capital.<br>GO6 Promote and encourage innovation by governance officials.<br>GO7 Whether the organization is implementing governance practices that exceed legal requirements.<br>GO8 Relationship of wages and incentives provided to create value for the organization. |
| C. Business model |
| BM1 Diagram showing the main elements of the organization.<br>BM2 Identify the basic elements of the business model.<br>BM3 Show how the key inputs relate to the capital on which the organization depends.<br>BM4 Disclose inputs that contribute to creating value for the organization.<br>BM5 Extent to which the organization is distinguished in the market (e.g., product differentiation, market segmentation, marketing).<br>BM6 Degree of adoption of the business model on revenue generation.<br>BM7 Extent to which the business model adapts with changes.<br>BM8 Approach to innovation.<br>BM9 Organization initiatives such as staff training and process improvement.<br>BM10 Organization outputs of products, services and by-products such as waste and emission of gases.<br>BM11 Internal results such as organizational reputation, job loyalty, income, and cash flow.<br>BM12 External results such as customer satisfaction, tax payment, brand loyalty, and social and environmental impacts.<br>BM13 Positive results lead to maximizing capital and creating value.<br>BM14 Negative results leading to capital reduction and lack of value. |
| D. Risks and opportunities |
| RO1 Disclose the risks that affect the organization's ability to create value.<br>RO2 Sources of risk, whether internal or external.<br>RO3 Procedures taken to address the risks to which the organization is exposed. |
| E. Strategy and resource allocation |
| SR1 Strategic objectives of the organization.<br>SR2 Organization's current strategies or those it intends to implement.<br>SR3 Resources allocated for the implementation of the strategy.<br>SR4 Measure achievements and goals.<br>SR5 Factors influencing the granting of a competitive advantage to the organization (innovation, intellectual capital exploitation, evolution of the organization, and social and environmental considerations). |
| F. Performance |
| PE1 Quantitative indicators related to objectives, opportunities, and risks.<br>PE2 The positive and negative effects of the organization on capital.<br>PE3 Organization's response to stakeholder needs.<br>PE4 Linking previous and current performance.<br>PE5 Key performance indicators that combine financial measures and other components. |
| G. Outlook |
| OL1 Outlook of the organization about the external environment.<br>OL2 Impact of the external environment on the organization.<br>OL3 Organization's preparedness to respond to challenges that could occur.<br>OL4 Impact of the external environment, risks, and opportunities on achieving the organization's strategic objectives.<br>OL5 Availability of financial and natural resources that support the institution's ability to create value in the future.<br>OL6 Disclosure of the organization'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 organization (such as determining the role of those responsible for governance and staff who prioritize material matters).<br>BP2 Description of the reporting boundary and how it has been determined.<br>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). |
| Note: These 58 items in Appendix A are taken from the study of Al Amosh et al. (2022).<br>Source: Al Amosh et al. (2022). |

## Notes

1. https://www.sebi.gov.in/legal/circulars/feb-2017/integrated-reporting-by-listed-entities_34136.html (accessed on 24 January 2025).
2. https://www.icai.org/post/icai-announces-introduction-of-integrated-reporting-category-in-icai-awards-for-excellence-in-financial-reporting-16-08-2018 (accessed on 24 January 2025).
3. https://integratedreporting.ifrs.org/news/mahindra-and-mahindra-latest-indian-business-to-move-towards-integrated-reporting/ (accessed on 24 January 2025).

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