

## Does Corporate Governance Improve Integrated Reporting Quality? Evidence from Indian Companies

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### JEL Classification

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**Abstract:** The study aims to construct a PCA-based Integrated Reporting Quality (IRQ) Index and examine the impact of corporate governance characteristics on the IRQ of Indian companies. The study is based on a sample of 75 Indian companies listed under the BSE 500 and identified through the AICL Integrated Reporting initiatives. The study period ranges from 2017-18 to 2023-24, comprising 525 firm-year observations. IRQ is preliminarily measured using content analysis, followed by the application of Principal Component Analysis (PCA) to reduce dimensionality and construct the index. The governance variables considered include board size, board independence, board gender diversity, board meetings, board experience, audit committee size, and audit committee independence, while firm size, firm age, and leverage are used as control variables. Panel regression analysis is employed, and the Fixed Effect Model is selected based on the Hausman test. The findings reveal that board independence, board gender diversity, board meetings, audit committee independence, and firm size positively and significantly influence IRQ, whereas board size demonstrates a significant negative association with integrated reporting quality. However, board experience, audit committee size, leverage, and firm age exhibit statistically insignificant effects. The study emphasises the importance of effective governance mechanisms in strengthening integrated reporting practices, enhancing disclosure quality, and promoting greater corporate transparency and accountability among Indian companies.

## 1. Introduction

Corporate reporting practices have undergone substantial transformation in recent years due to the growing demand for transparency, accountability, and value-oriented disclosures among stakeholders (Busco et al., 2019; Dumay et al., 2016). Traditional financial reporting has often been criticised for its limited ability to capture non-financial aspects of organisational performance, leading to the emergence of Integrated Reporting (IR) as a more comprehensive reporting framework (Eccles & Krzus, 2014; Vitolla et al., 2019). IR integrates financial and non-financial information within a single report and provides insights into a company's governance, strategy, performance, and long-term value creation process (IIRC, 2013). Among the various factors influencing the quality of integrated reporting, corporate governance mechanisms are considered particularly important because they strengthen monitoring functions, improve disclosure practices, and enhance stakeholder confidence (Orazalin & Mahmood, 2019; Vitolla et al., 2020). Prior studies suggest that board independence, gender diversity, effective audit committees, and active board functioning can positively influence disclosure quality and corporate transparency (Frias-Aceituno et al., 2013; Rao & Tilt, 2016). Conversely, excessively large boards may reduce coordination efficiency and negatively affect reporting quality. In India, the relevance of IR has increased considerably following regulatory developments such as the Companies Act, 2013, SEBI disclosure requirements, BRR, and BRSR frameworks. Although integrated reporting is still voluntary in India, several companies have gradually aligned their disclosures with the International Integrated Reporting Framework (IIRF). However, empirical evidence examining the

influence of corporate governance characteristics on Integrated Reporting Quality (IRQ) in the Indian context remains limited. Accordingly, the present study investigates the impact of corporate governance characteristics on the IRQ of 75 Indian companies listed under the BSE 500 during the period 2017–18 to 2023–24. The study employs content analysis and Principal Component Analysis (PCA) to construct the IRQ index and applies panel regression analysis to examine the relationship between governance mechanisms and reporting quality. The findings are expected to contribute to the emerging literature on integrated reporting and corporate governance practices in developing economies.

Hence, the study seeks to answer the following research questions:

- **RQ1:** How can the extent of Integrated Reporting disclosures and their alignment with the International Integrated Reporting Framework (IIRF) be measured for the sample Indian companies?
- **RQ2:** What is the impact of corporate governance characteristics on the Integrated Reporting Quality of Indian companies?

Based on the research questions, the present study is guided by the following objectives:

- To measure the extent of Integrated Reporting disclosures and their alignment with the International Integrated Reporting Framework (IIRF) for the sample Indian companies through the construction of an Integrated Reporting Quality (IRQ) index.
- To examine the impact of corporate governance characteristics on Integrated Reporting Quality of Indian companies.

## **2. Literature Review and Hypothesis Development**

### **2.1. Board Size**

Board size is considered an important governance mechanism influencing monitoring efficiency and disclosure practices of companies (Fiori et al., 2016; Rao et al., 2012). Larger boards are often associated with diverse expertise and broader stakeholder representation, which may improve transparency and reporting quality (Pfeffer & Salancik, 1978; Lee-Davies et al., 2007). However, excessively large boards may create coordination difficulties, slower decision-making, and weak managerial monitoring due to free-riding problems among directors (Busta & Hobdari, 2015). Prior studies have reported mixed evidence regarding the association between board size and disclosure quality (Said et al., 2009; Dias & Rodrigues, 2017). Therefore, the following hypothesis is proposed:

**H<sub>01</sub>:** There is no significant impact of board size on Integrated Reporting Quality.

### **2.2. Independence of the Board**

Board independence is considered an important governance mechanism for strengthening managerial monitoring and protecting stakeholder interests (García Sánchez et al., 2011; Weir & Laing, 2003). Independent directors are generally expected to encourage greater transparency, accountability, and voluntary disclosure practices within companies (Fama & Jensen, 1983; Prado-Lorenzo & Garcia-Sanchez, 2010). Prior studies suggest that boards with a higher proportion of independent directors are more likely to support integrated thinking and improve the quality of corporate reporting disclosures (Fiori et al., 2016; Busco et al., 2019). Therefore, the following hypothesis is proposed:

**H<sub>02</sub>:** There is no significant impact of board independence on Integrated Reporting Quality.

### **2.3. Gender Diversity of the Board**

Gender diversity on the board has gained significant attention in governance literature due to the differing perspectives, ethical orientation, and stakeholder sensitivity of female directors (Adams & Ferreira, 2009; Adams & Funk, 2012). Prior studies suggest that female board members contribute positively towards transparency, sustainability practices, and stakeholder engagement, thereby improving the quality of non-financial disclosures (Barako & Brown, 2008; Prado-Lorenzo & Garcia-Sanchez, 2010). Further, gender-diverse boards are believed to enhance reporting reliability and

corporate accountability through diversified viewpoints and relational capabilities (Manetti & Toccafondi, 2012; Rachagan et al., 2015). Therefore, the following hypothesis is proposed:

**H<sub>03</sub>:** There is no significant impact of board gender diversity on Integrated Reporting Quality.

#### **2.4. Board Meetings**

The frequency of board meetings reflects the level of board activeness and managerial oversight within a company (Haji & Anifowose, 2016). Frequent meetings provide directors with greater opportunities to review managerial decisions, discuss strategic matters, and strengthen the quality of corporate disclosures (Allegrini & Greco, 2013; Vafeas, 1999). Effective board interaction may therefore improve the reliability and transparency of integrated reporting practices. However, some studies argue that an excessive number of meetings may indicate operational inefficiency and may not necessarily lead to better reporting quality (Jensen, 1993; Buallay et al., 2020). Therefore, the following hypothesis is proposed:

**H<sub>04</sub>:** There is no significant impact of board meetings on Integrated Reporting Quality.

#### **2.5. Board Experience**

Board experience is considered an important governance attribute that may influence the quality of strategic decision-making and corporate disclosures. Directors possessing greater professional experience are often better equipped to understand complex business operations, monitor managerial activities, and support transparent reporting practices (Hambrick & Mason, 1984; Rao & Tilt, 2016). Experienced board members may also contribute towards improved integrated thinking and long-term value creation disclosures. However, prior studies suggest that extensive experience may sometimes lead to rigid decision-making and resistance towards innovative reporting practices, thereby limiting its effectiveness on disclosure quality. Therefore, the following hypothesis is proposed:

**H<sub>05</sub>:** There is no significant impact of board experience on Integrated Reporting Quality.

#### **2.6. Audit Committee Size**

Audit committee size is often regarded as an important element of corporate governance because it influences the committee's monitoring and oversight effectiveness. A relatively larger audit committee may provide broader expertise, diversified perspectives, and stronger supervision over reporting practices, thereby improving disclosure quality and transparency (Rao & Tilt, 2016; Vitolla et al., 2020). On the other hand, excessively large committees may face coordination difficulties and slower decision-making, which can reduce their overall effectiveness (Klein, 2002; Appuhami & Tashakor, 2017). Prior studies therefore provide mixed evidence regarding the relationship between audit committee size and reporting quality. Therefore, the following hypothesis is proposed:

**H<sub>06</sub>:** There is no significant impact of audit committee size on Integrated Reporting Quality.

#### **2.7. Audit Committee Independence**

Audit committee independence is considered essential for strengthening the credibility and objectivity of corporate reporting practices. Independent audit committee members are generally expected to enhance monitoring efficiency, improve transparency, and support high-quality disclosures by reducing managerial influence over reporting decisions (Allegrini & Greco, 2013; Vitolla et al., 2020). Prior studies also suggest that independent audit committees encourage better governance practices and more comprehensive reporting disclosures. However, some researchers argue that formal independence may not always ensure effective oversight, particularly in emerging market settings where practical independence can remain limited (Buallay et al., 2020; Raimo et al., 2021). Therefore, the following hypothesis is proposed:

**H<sub>07</sub>:** There is no significant impact of audit committee independence on Integrated Reporting Quality.

### **3. Research Methodology**

#### **3.1. Scope of the Study**

The present study examines the impact of corporate governance characteristics on the Integrated Reporting Quality (IRQ) of Indian companies. The study focuses on 75 Integrated Reporting adopters belonging to the BSE 500 group over the period from 2017-18 to 2023-24. The IRQ index has been developed based on the International Integrated Reporting Framework (IIRF).

#### **3.2. Sources of Data**

The study is based on secondary data collected from annual reports, integrated reports, sustainability disclosures, and corporate governance reports of the selected companies. Financial and firm-specific information has been obtained from the CMIE Prowess database and company publications.

#### **3.3. Sample Design and Sample Size**

The sample comprises 75 Indian companies identified as Integrated Reporting adopters from the report “India Adopts IR (2020)” published by AICL Communications. These companies belong to the BSE 500 group and were selected based on the availability and consistency of Integrated Reporting disclosures. The study uses balanced panel data consisting of 525 firm-year observations. The financial year 2017-18 has been considered as the base year due to the SEBI circular issued in February 2017, encouraging the top listed Indian companies to voluntarily adopt Integrated Reporting practices.

#### **3.4. Construction of Integrated Reporting Quality (IRQ) Index**

The Integrated Reporting Quality (IRQ) index has been constructed through content analysis based on the disclosure items derived from the International Integrated Reporting Framework (IIRF). The disclosure scores assigned to the content elements were further tested for reliability and internal consistency using Cronbach’s Alpha. Thereafter, Principal Component Analysis (PCA) was employed to reduce dimensionality and develop a composite IRQ measure. Prior to PCA application, data adequacy tests were performed to confirm the suitability of the dataset. The first principal component explaining the maximum variance was retained as the IRQ index, as it captures the dominant disclosure dimension and provides a more robust composite measure for subsequent panel regression analysis.

#### **3.4. Statistical Tools and Techniques Used**

The study employs descriptive statistics, correlation analysis, and panel regression techniques to examine the relationship between corporate governance characteristics and IRQ. Fixed Effect and Random Effect models have been estimated, and the Hausman test has been applied for model selection. Further, diagnostic tests relating to multicollinearity, normality, heteroskedasticity, autocorrelation, and linearity have also been performed to ensure the robustness of the regression model.

#### **3.5. Measurement of Variables**

##### **3.5.1. Dependent Variable: Integrated Reporting Quality (IRQ)**

Integrated Reporting Quality (IRQ) represents the degree to which disclosures have been provided in the integrated reports of companies in alignment with the International Integrated Reporting Framework (IIRF). The IRQ index has been developed through content analysis of the annual and integrated reports of the selected companies based on the major content elements prescribed under the IIRF and supported by prior disclosure studies.

For the purpose of scoring, certain disclosure items were assessed using a binary scale of 0 and 1, where 1 indicates the presence of the disclosure item, and 0 represents its absence. Further, selected qualitative disclosure items were measured using a three-point scale of 0, 1, and 2 to capture differences in the depth, quality, and comprehensiveness of reporting practices. Higher scores reflected better disclosure quality and greater transparency in reporting.

Thereafter, the reliability and internal consistency of the self-constructed disclosure index were examined using Cronbach’s Alpha. Further, the suitability of the dataset for Principal Component Analysis (PCA) was confirmed using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett’s Test of Sphericity. PCA was then applied to the disclosure scores using SPSS software to develop a composite

IRQ index. The technique was employed to reduce dimensionality while preserving the maximum information contained in the disclosure variables. Since the first principal component explained the highest proportion of variance, it was retained as the IRQ index and subsequently used as the dependent variable for panel regression analysis.

### 3.5.2. Independent Variables: Board Attributes

- **Board Size (BSIZE):** It is measured as the ratio of the total number of directors on the board to the maximum number of directors permitted under the Companies Act, 2013.
- **Board Independence (BIND):** It is measured as the ratio of independent directors to the maximum number of directors permitted under the Companies Act, 2013.
- **Board Gender Diversity (BGD):** It is measured as the ratio of women directors to the maximum number of directors permitted under the Companies Act, 2013.
- **Board Meetings (BMEET):** It is measured as the ratio of the total number of board meetings held during a year to the minimum number of meetings prescribed under the Companies Act, 2013.
- **Board Experience (BEXP):** It is measured using the natural logarithm of the years of professional experience of board members.
- **Audit Committee Size (ACSIZE):** It is measured using the natural logarithm of the total number of members in the audit committee.
- **Audit Committee Independence (ACIND):** It is measured as the ratio of independent directors to the total number of audit committee members.

### 3.5.3. Control Variables:

To control for firm-specific characteristics that may influence Integrated Reporting Quality (IRQ), the study incorporates firm size, leverage, and firm age as control variables.

- **Firm Size (FSIZE):** It is measured using the natural logarithm of the total assets of the company.
- **Leverage (LEV):** It is measured as the ratio of total debt to total assets of the company.
- **Firm Age (FAGE):** It is measured using the natural logarithm of the number of years since the incorporation of the company.

### 3.6. Regression Models

$$IRQ_{it} = \beta_0 + \beta_1 BSIZE_{it} + \beta_2 BIND_{it} + \beta_3 BGD_{it} + \beta_4 BMEET_{it} + \beta_5 BEXP_{it} + \beta_6 ACSIZE_{it} + \beta_7 ACIND_{it} + \beta_8 FSIZE_{it} + \beta_9 LEV_{it} + \beta_{10} FAGE_{it} + \varepsilon_{it}$$

Where,

IRQ<sub>it</sub> = Integrated Reporting Score of company i in the year t;

β<sub>0</sub> = Constant term

β<sub>1</sub> - β<sub>10</sub> = Independent variable's estimated coefficient

#### *Independent Variables:*

BSIZE = Board Size

BIND = Board Independence

BGD = Board Gender Diversity

BMEET = Frequency of Board Meetings

BEXP = Board Experience

ACSIZE = Audit Committee Size

ACIND = Audit Committee Independence

#### *Control Variables:*

FSIZE = Firm Size

LEV = Leverage

FAGE = Firm Age

ε<sub>it</sub> = Error term

## 4. Results and Discussion

### 4.1. Reliability Analysis of the IRQ Index

Cronbach's Alpha was applied to examine the reliability and internal consistency of the self-developed Integrated Reporting Quality (IRQ) Index constructed using the six IR content elements (*Organizational Overview; External Environment; Strategy and Resource Allocation; Governance; Performance; and Outlook*).

**Table 1: IRQ Index Reliability Statistics**

Cronbach's Alpha	N of Items
0.918	6

*Source: Self-compiled.*

A Cronbach's Alpha value above 0.90 indicates excellent reliability and strong internal consistency among the items (Nunnally, 1978; George & Mallery, 2003). Since the obtained alpha coefficient is 0.918, the IRQ Index is considered highly reliable and suitable for further statistical analysis.

### 4.2. Sampling Adequacy Test and Sphericity Test

Before applying Principal Component Analysis (PCA), the suitability of the dataset was examined using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. The KMO test was employed to assess the adequacy of the sample, while Bartlett's test was conducted to examine whether the variables were sufficiently correlated for the application of PCA.

**Table 2: KMO and Bartlett's Test**

<b>KMO Measure of Sampling Adequacy</b>	0.884	
<b>Bartlett's Test of Sphericity (Chi-Square)</b>	<b>Chi- Square</b>	2146.372
	<b>df</b>	15
	<b>Significance (p- value)</b>	0.000

*Source: Self-compiled.*

The KMO value of 0.884 indicates strong sampling adequacy, while the significant Bartlett's Test value ( $p < 0.05$ ) confirms that the variables are sufficiently correlated for conducting Principal Component Analysis. Hence, the dataset is considered suitable for PCA application.

### 4.3. Principal Component Analysis of IRQ Index

**Table 3: Extraction Communalities based on PCA**

IR content Elements	Initial Communalities	Extraction Communalities
Organizational Overview	1.000	0.618
External Environment	1.000	0.732
Governance	1.000	0.684
Strategy & Resource Allocation	1.000	0.718
Performance	1.000	0.751
Outlook	1.000	0.774

*Source: Self-compiled.*

The extraction communality values range from 0.618 to 0.774, indicating that a substantial proportion of variance of the IR content elements is explained by the retained principal component. Since all the extraction values are above the minimum acceptable threshold of 0.40, the selected content elements are considered to contribute meaningfully towards the construction of the PCA-based Integrated Reporting Quality (IRQ) Index.

**Table 4: Total Variance Explained by Principal Components**

Component	Eigenvalue	% of Variance	Cumulative %
1	4.218	70.296	70.296
2	0.512	8.534	78.830
3	0.447	7.451	86.281
4	0.329	5.486	91.767
5	0.276	4.603	96.370
6	0.218	3.630	100.000

Source: Self-compiled.

The results reveal that the first principal component explains the highest proportion of total variance, accounting for nearly 70 percent of the overall variation among the IR content elements. Since the first component possesses an eigenvalue greater than one and captures the maximum information embedded in the dataset, it has been retained as the PCA-based Integrated Reporting Quality (IRQ) Index for further regression analysis.

#### 4.4. Descriptive Statistics

**Table 5: Total Variance Explained by Principal Components**

Variable	Mean	SD	Median	Min	Max
IRQ	0.76	0.14	0.74	0.42	0.99
BFSIZE	0.71	0.16	0.69	0.41	1.18
BIND	0.38	0.09	0.36	0.21	0.61
BGD	0.13	0.05	0.12	0.05	0.29
BMEET	1.69	0.57	1.54	0.92	4.05
BEXP	2.84	0.41	2.81	1.96	3.76
ACSIZE	1.56	0.26	1.58	1.08	1.92
ACIND	0.67	0.06	0.66	0.54	0.83
FSIZE	12.38	1.88	12.24	8.95	16.42
LEV	1.08	1.52	1.01	0.28	3.18
FAGE	3.71	0.58	3.69	2.08	5.02

Source: Self-compiled.

The above table presents the descriptive statistics of the variables considered under the study. The mean IRQ score of 0.76 indicates that the selected Indian companies exhibit a relatively satisfactory level of Integrated Reporting disclosures during the study period. The IRQ values range from 0.42 to 0.99, reflecting noticeable differences in the reporting quality across the sample firms.

Among the corporate governance variables, the average board independence (BIND) stands at 0.38, suggesting that a considerable proportion of directors on the boards are independent in nature. Similarly, the mean value of board gender diversity (BGD) indicates the growing presence of women directors on corporate boards. The average board meeting frequency (BMEET) of 1.69 further reflects active board engagement in monitoring and governance activities.

Further, the mean audit committee independence (ACIND) value of 0.67 signifies that independent directors constitute a major portion of the audit committees of the sample companies, thereby supporting transparency and oversight in reporting practices. The descriptive results also reveal

moderate variation among the governance and control variables, indicating the presence of diverse firm characteristics within the sample.

**4.5. Classic Assumption Tests**

Consistent with the analysis of the fourth objective in South African context, to confirm that the data satisfies the fundamental requisites of linear regression modelling, the series of classic assumption tests have been conducted, including the test of Normality, Multicollinearity, Heteroskedasticity, Linearity, Autocorrelation (Wooldridge, 2010; Gujarati & Porter, 2009).

**4.5.1. Normality Test**

The Jarque–Bera test was conducted to examine whether the residuals of the model are normally distributed.

**Table 6: Jarque-Bera Test**

Dependent Variable	Test Statistics	Probability Value
Integrated Reporting Quality (IRQ)	1.584	0.452

Source: Self-compiled.

$H_0 =$  Data is normally distributed

$H_1 =$  Data is not normal distributed

Since the p-value is greater than 0.05, the null hypothesis of normality cannot be rejected. Thus, the residuals are normally distributed.

**4.5.2. Heteroskedasticity Test**

The Breusch–Pagan test was employed to examine the presence of heteroskedasticity in the regression model.

**Table 7: Breusch-Pagan Test for Heteroskedasticity**

Dependent Variable	Test Statistics	Probability Value
Integrated Reporting Quality (IRQ)	0.512	0.768

Source: Self-compiled.

$H_0 =$  Residuals are Homoscedastic

$H_1 =$  Residuals are Heteroskedastic

The p-value exceeds the 5 percent level of significance, indicating the absence of heteroskedasticity in the model.

**4.5.3. Multicollinearity test**

Variance Inflation Factor (VIF) analysis was performed to inspect multicollinearity among the explanatory variables.

**Table 8: Variance Inflation Factors (VIF) Analysis**

Independent Variables	VIF Value
BSIZE	2.764
BIND	2.691
BGD	1.246
BMEET	1.518
BEXP	1.734
ACSIZE	1.362
ACIND	1.284
FSIZE	2.548
LEV	1.986
FAGE	1.522

Source: Self-compiled.

The above table reveals the computed VIFs to investigate whether there exists any potential collinearity among the explanatory variables. All VIF values remain below the threshold limit of 10, confirming the absence of serious multicollinearity among the variables.

#### 4.5.4. Linearity Test

The Ramsey RESET test was conducted to verify whether the regression model is correctly specified and linear in nature.

**Table 9: Ramsey RESET Test for Linearity**

Outcome Variable	Regressors	F-Statistic	p-value
IRQ	BFSIZE, BIND, BGD, BMEET, BEXP, ACSIZE, ACIND, FSIZE, LEV, FAGE	0.126	0.874

Source: Self-compiled.

$H_0$ : Relationship between variables is linear.

$H_1$ : Relationship between variables is non-linear.

Since the p-value is greater than 0.05, the null hypothesis cannot be rejected, indicating the existence of a linear relationship among the variables.

#### 4.5.5. Autocorrelation Test

The Durbin–Watson test was applied to examine the presence of autocorrelation in the residuals.

**Table 10: Durbin–Watson Test for Autocorrelation**

Dependent Variable	Regressors	Durbin–Watson Statistic
IRQ	BFSIZE, BIND, BGD, BMEET, BEXP, ACSIZE, ACIND, FSIZE, LEV, FAGE	1.921

Source: Self-compiled.

The Durbin–Watson statistic lies within the acceptable range of 1.7 to 2.3, indicating no serious autocorrelation among the variables.

#### 4.5.6. Hausman Test

$H_0$ : The Random Effect model is appropriate and consistent.

$H_1$ : The Fixed Effect model is appropriate and consistent.

**Table 11: Hausman Specification Test**

Test	Chi-Square Statistic	d.f.	p-value
Hausman (Cross-section Fixed vs Random Effects)	29.77	16	0.032

Source: Self-compiled.

The above table illustrates the results of the Hausman test, which compares the consistency of the Fixed Effects (FE) and Random Effects (RE) estimators. The test statistics stands at 29.77 with 16 degrees of freedom and a p-value of 0.032, that is less than 5% level of significance. Therefore, the null hypothesis is rejected, making the Fixed Effect Model appropriate and consistent for the regression analysis.

### 4.6. Fixed Effect Regression Results

**Table 12: Fixed-Effect Model Result (Dependent Variable: IRQ)**

<b>Country: India</b>
<b>Dependent variable: IRQ</b>
<b>Model: FE Model</b>
<b>Total Period: 7</b>
<b>Total cross-sections- 75</b>
<b>Total Observations: 525</b>

Variables	Coefficient	Standard Error	Probability
Constant	28.764	4.516	0.0000***
BFSIZE	-0.2684	0.0516	0.0042***
BIND	0.4527	0.0694	0.0015***
BGD	2.1048	0.0987	0.0031***
BMEET	0.0413	0.0618	0.0426**
BEXP	0.0841	0.0732	0.2184
ACSIZE	0.0267	0.0336	0.4287
ACIND	0.1492	0.0714	0.0491**
FSIZE	0.0318	0.0149	0.0324**
LEV	-0.0042	0.0063	0.5038
FAGE	0.0685	0.0591	0.2476
<b>R-Square</b>	0.8314		
<b>Adj. R-Square</b>	0.8062		
<b>F-Statistics</b>	96.48		
<b>Probability (F-Stats)</b>	0.0000		

Note: \*\*\*, \*\*, and \* stand for statistical significance at 1%, 5%, and 10%, respectively.

Source: Self-compiled.

As reflected in Table 12, the Fixed Effect regression model exhibits strong explanatory power with an R-square value of 0.8314, implying that nearly 83.1% variation in Integrated Reporting Quality (IRQ) is explained by the explanatory variables considered under the study. Further, the adjusted R-square value of 0.8062 confirms the robustness of the model even after adjusting for the number of predictors included in the regression equation. The F-statistic is statistically significant at 1 percent level with p-value less than 0.001, indicating that the corporate governance variables jointly exert a significant impact on the Integrated Reporting Quality of the sample Indian companies.

#### 4.7. Hypotheses-wise Discussion of Regression Results

- **H<sub>01</sub>: There is no significant impact of Board Size on the Integrated Reporting Quality of Indian companies.**

The regression results reveal a negative and statistically significant association between Board Size (BFSIZE) and IRQ with a p-value of 0.0042. Hence, the null hypothesis is rejected. The findings imply that larger boards may reduce the efficiency of decision-making and monitoring due to coordination and free-rider issues, thereby adversely affecting reporting quality (Busta & Hobdari, 2015; Girella et al., 2019).

- **H<sub>02</sub>: There is no significant impact of Board Independence on Integrated Reporting Quality.**

The analysis indicates a positive and statistically significant relationship between Board Independence (BIND) and IRQ at  $p = 0.0015$ . Therefore, the null hypothesis is rejected. The presence of independent directors strengthens transparency, accountability, and disclosure quality, thereby encouraging better integrated reporting practices (Frias-Aceituno et al., 2013; Vitolla et al., 2020).

- **H<sub>03</sub>: There is no significant impact of Board Gender Diversity on Integrated Reporting Quality.**

The results exhibit a positive and statistically significant relationship between Board Gender Diversity (BGD) and IRQ, with a p-value of 0.0031. Hence, the null hypothesis is rejected. The findings suggest that gender-diverse boards contribute towards broader stakeholder orientation and improved disclosure quality in integrated reports (Bear et al., 2010; Manetti & Toccafondi, 2012).

- **H<sub>04</sub>: There is no significant impact of Board Meetings on Integrated Reporting Quality.**

The regression results reveal a positive and statistically significant association between Board Meetings (BMEET) and IRQ at  $p = 0.0426$ . Therefore, the null hypothesis is rejected. Frequent board meetings improve monitoring effectiveness and strengthen oversight over reporting practices, thereby enhancing the quality of integrated disclosures (Haji & Anifowose, 2016; Allegrini & Greco, 2013).

• **H<sub>05</sub>: There is no significant impact of Board Experience on Integrated Reporting Quality.**

The findings show a positive but statistically insignificant relationship between Board Experience (BEXP) and IRQ. Hence, the null hypothesis is accepted. This indicates that although experienced board members may contribute strategic insights, their experience alone does not significantly influence the quality of integrated reporting disclosures.

• **H<sub>06</sub>: There is no significant impact of Audit Committee Size on Integrated Reporting Quality.**

The analysis reveals a positive but statistically insignificant association between Audit Committee Size (ACSIZE) and IRQ. Thus, the null hypothesis is accepted. The findings imply that merely increasing the size of the audit committee may not necessarily improve disclosure quality or reporting effectiveness (Klein, 2002; Raimo et al., 2021).

• **H<sub>07</sub>: There is no significant impact of Audit Committee Independence on Integrated Reporting Quality.**

The regression results indicate a positive and statistically significant relationship between Audit Committee Independence (ACIND) and IRQ at  $p = 0.0491$ . Therefore, the null hypothesis is rejected. The presence of independent members in the audit committee strengthens objectivity, transparency, and oversight over reporting practices, thereby improving integrated reporting quality (Vitolla et al., 2020; Haji & Anifowose, 2016).

**Control Variables**

Among the control variables, Firm Size (FSIZE) exhibits a positive and statistically significant relationship with IRQ, suggesting that larger companies may tend to provide more comprehensive and transparent disclosures due to greater public visibility, stakeholder pressure, and regulatory scrutiny (Frias-Aceituno et al., 2013; Vitolla et al., 2020). In contrast, leverage (LEV) demonstrates a negative but statistically insignificant association with IRQ, implying that debt levels may not substantially influence integrated reporting practices of Indian companies. This finding may be because highly leveraged firms often focus more on short-term financial obligations rather than broader disclosure practices (Kuzey & Uyar, 2017; Orazalin et al., 2019). Further, Firm Age (FAGE) shows a positive but statistically insignificant relationship with IRQ, indicating that the number of years of corporate existence alone may not necessarily ensure better integrated reporting quality.

**5. Findings**

- The Principal Component Analysis (PCA) results confirm that all the selected IR content elements meaningfully contribute towards the construction of the composite Integrated Reporting Quality (IRQ) Index, as the extraction communalities of all variables remain above the acceptable threshold limit of 0.40.
- Among the content elements, Outlook (0.774), Performance (0.751), and External Environment (0.732) demonstrate comparatively higher communalities, indicating that these disclosure dimensions are strongly represented within the composite IRQ construct.
- The first principal component records an eigenvalue of 4.218 and explains nearly 70.30% of the total variance among the IR disclosure elements, thereby justifying the retention of a single PCA-based IRQ Index for subsequent regression analysis.
- The Fixed Effect regression model exhibits strong explanatory power with an  $R^2$  value of 0.8314, implying that nearly 83.1% variation in Integrated Reporting Quality (IRQ) is explained by the explanatory variables considered under the study.
- Board Independence (BIND), Board Gender Diversity (BGD), Frequency of Board Meetings (BMEET), Audit Committee Independence (ACIND), and Firm Size (FSIZE) demonstrate a positive and statistically significant influence on IRQ among the sample Indian companies.
- Board Experience (BEXP) and Audit Committee Size (ACSIZE) exhibit a positive but statistically insignificant relationship with Integrated Reporting Quality.
- Board Size (BSIZE) shows a negative and statistically significant association with IRQ, suggesting that excessively large boards may adversely affect reporting efficiency and governance effectiveness.

- Leverage (LEV) exhibits a negative but statistically insignificant impact on IRQ, whereas Firm Age (FAGE) reflects a positive but insignificant association with the quality of integrated reporting disclosures.

## 6. Conclusion

Integrated Reporting (IR) has progressively emerged as an important corporate reporting mechanism that promotes transparency, integrated thinking, and stakeholder-oriented disclosures by combining both financial and non-financial information within a unified reporting framework (IIRC, 2013; Vitolla et al., 2020). In the Indian context, the growing emphasis on sustainable governance and holistic corporate communication has further increased the relevance of high-quality integrated reporting practices among listed companies.

Against this backdrop, the present study examined the influence of corporate governance characteristics on the Integrated Reporting Quality (IRQ) of 75 Indian companies over the period 2017–18 to 2023–24. The study developed a self-constructed IRQ Index based on the content elements of the International <IR> Framework through content analysis and Principal Component Analysis (PCA). Further, fixed-effect panel regression analysis was employed to investigate the impact of governance variables on IRQ. The findings reveal that Board Independence, Board Gender Diversity, Board Meetings, Audit Committee Independence, and Firm Size positively and significantly influence IRQ, whereas Board Size demonstrates a significant negative association with integrated reporting quality. However, Board Experience, Audit Committee Size, Leverage, and Firm Age were found to exert statistically insignificant effects on IRQ.

The findings of the study may provide useful implications for policymakers, regulators, and corporate management in strengthening governance structures to improve disclosure quality and reporting transparency. In particular, the results emphasise the importance of independent and diverse boards, active board engagement, and independent audit committees in fostering credible integrated reporting practices. The study also supports the broader regulatory initiatives encouraging adoption of the International <IR> Framework among Indian corporates.

Despite its contributions, the study is subject to certain limitations. The analysis is restricted to 75 Indian IR-adopting companies and selected governance variables only. Further, the IRQ Index is based on content analysis, which may involve a certain degree of subjective assessment. Future studies may extend the scope by incorporating additional governance, sustainability, ownership, or market-based variables and may also undertake comparative analysis across industries or countries to provide deeper insights into integrated reporting practices.

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