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The Effect of Corporate Governance Mechanisms on Integrated Reporting (IR) Quality: The Case of FTSE100 Companies

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Abstract:

Purpose: *The study assessed board size, gender diversity, board independence, board role, duality, environmental, social and governance (ESG) performance and CSR strategy listed on the London FTSE100. We analyze the impact on the quality of companies' integrated reporting.*
Design/Methodology/Approach: *Hypotheses were tested using regression models on a sample of 97 publicly traded companies over thw period 2012- 2020. An integrated report quality dashboard (IR) was used to measure report quality.*
Findings: *The results show that the quality of integrated reporting is significantly and positively impacted by board independence, board activity, duality, environmental, social and governance (ESG) performance, and CSR strategy increase.*
Practical implications: *This study contributes to the literature by revealing several non-economic factors that influence IR quality.*
Originality value: *To the authors' knowledge, this is the first study to focus on IR quality in the context of public companies.*

Keywords: *Integrated reporting, quality, impact, governance mechanisms, listed companies.*

JEL classification: *G0, G01.*

Paper Type: *Research study.*

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1. Introduction

Increasing demands from various company stakeholders are forcing companies to change their reporting strategies. Financial data (financial reports) are essential for evaluating company activities, but the lack of information on strategies and results related to company policy leaves company stakeholders with important information for decision-making. Information is not provided (Colasse, 2022).

Additionally, the global financial crisis and heightened stakeholder concerns have led analysts and the public to consider the need to overhaul the current model of corporate reporting (Frimousse and Peretti, 2021; Torchia and Calabro, 2022). It is clear that the amount does not reflect the company's activities or its impact on the community. Therefore, it needs to provide comprehensive data that enable various stakeholders to better analyze the overall situation of the company.

These circumstances have led to the preparation of integrated reports that aim to reconcile financial and non-financial information (Vitolla *et al.*, 2019a; Thalassinos *et al.*, 2021a; 2021b). An integrated report is not simply a combination of a financial report and a social or sustainability report (Nazari *et al.*, 2015), but integrates innovative communication methods that integrate different types of information. This is what we did. Integrated reports aim to enable stakeholders to more accurately assess a company's current and future value-creating capabilities (Vitolla *et al.*, 2016). It is a way to improve your company's image.

Synthesis reports have attracted the attention of both academics (Vitolla *et al.*, 2018) and practitioners. A KPMG study (2017) shows how integrated reporting has evolved since the early days of the integrated reporting framework. However, reporting quality is an important aspect of an integrated report (Pistoni *et al.*, 2018). Among several studies on integrated reporting, very few address quality issues. Therefore, further empirical research is needed on the quality of integrated reporting, especially on determinants that are poorly studied.

These studies focus on determinants of integrated reporting quality at the organizational level (Bélanger *et al.*, 2022) for any industry, any company. More profitable companies have more resources to devote to using non-financial disclosure tools (Saki *et al.*, 2021). At the same time, information quality impacts financial performance.

One of the main goals of corporate disclosure is to reduce information asymmetries between stakeholders and managers, thereby reducing perceived uncertainty (Javaid Lone *et al.*, 2016). The lower the level of uncertainty observed by lenders, the higher the required rate of return and the higher the firm's value (Francis *et al.*, 2005; Boyer, 2018). The impact of disclosure on funding costs and goodwill does not come solely from disclosure of financial performance (Kim, 2023). Disclosure of non-financial information also affects cost of capital and corporate value.

In particular, the scope and quality of nonfinancial disclosures are negatively related to the cost of capital. Potentially lower capital costs may therefore act as an incentive for firms to provide higher quality information (Michaels and Grüning, 2017; Jiménez and Grima, 2020).

The purpose of this study is to examine the impact of governance mechanisms on the quality of integrated reporting. More specifically, the study analyzes (board size, gender diversity on the board, board independence, duality, number of board meetings, and ESG impact performance, CSR strategies) on the quality of the Integrated Report.

2. Literature Review and Hypotheses

2.1 Impact of Governance Mechanisms on Integrated Report Quality: Research Hypothesis

2.1.1 Board size and integrated reporting quality

The bankruptcies of several companies (Enron, Worldcom, Xerox, Tyco, etc.) have brought attention to corporate governance mechanisms (Jardim, 2013). Implementation of specific corporate governance mechanisms and standards improves the quality of financial reporting, the transparency of disclosures, and the extent of voluntary disclosures (Azzouzi, 2022). A board of directors is a corporate governance mechanism that establishes policies and strategies to be followed by management (Owkwal, 2023).

Because of the oversight role of boards, companies with effective boards can influence management decisions to improve disclosure. Therefore, the characteristics of a board of directors can have a significant impact on corporate disclosure. Board size represents the total number of executive and non-executive board members (Leontiev, 2022). There is no clear consensus in the previous literature regarding the association between board size and corporate disclosure.

According to Lemieux and Wang (2022), a very large board is generally ineffective compared to smaller boards due to problems related to communication and coordination. These problemscan hinder management's ability to monitor and control their process and decrease the quality of financial information (ZENTAR, 2022). On the other hand, Joress *et al.* (2022) argued that the size of the board is considered as one of the main determinants of board effectiveness. In this sense, an effective board can mitigate managerial opportunism, which canresult in better quality sustainability reporting (Joress *et al.*, 2022).

Therefore, a large board should be an effective governance mechanism enhancing corporate transparency and voluntary disclosure (Abdallah, 2022). In particular, large boards may have greater diversity that includes financial expertise and experience that may impact managers' voluntary disclosure decisions and thus expand forward-looking disclosures (Wang and Hussainey, 2013). Empirical findings on the relationship between board size and forward-looking information are also inconclusive. For example, Kiliç *et al.* (2015) found an insignificant association between board size and corporate voluntary disclosures.

Similarly, Wamba (2022) and Lapeyre *et al.* (2022) documented an insignificant association between board size and forward-looking disclosures. On the contrary, Cuzacq (2022) found that board size improves corporate disclosures. Furthermore, Qu *et al.* (2015) reported that board size has a significant and positive influence on disclosure quality. Madika (2022) found that board size has a positive association with voluntary forward-looking statements.

According to Fama and Jensen (1983), the board of directors mainly controls and monitors the actions of managers. Controlling and monitoring competences are influenced by the size of theboard; as Gandía (2008) has pointed out, a larger board promotes the effectiveness and efficiency of these functions, increasing the level of corporate transparency and disclosure. Larger boards present a greater diversity of experience, perspectives and opinions (Pfeffer, 1972; Aceituno and Rubio, 2014). They also maintain a larger pool of resources and skills (Hidalgo, García-Meca and Martínez, 2011).

These features increase the board's control and oversight capacity and improve the disclosure of information by senior management (Domínguez and Alvarez, 2011). In light of this, we expect that the greater control and oversight capacity of large boards of directors will encourage the dissemination of higher quality information on intellectual capital in integrated reports.

H1: There is a positive relationship between board size and the quality of integrated reporting.

2.1.2 Gender diversity in the board and the quality of integrated reporting

Board diversity refers to the variation among board members with respect to their various characteristics, such as gender, age, race, personalities, learning styles, education, expertise and skills. Board members with different characteristics can bring a wide range of knowledge and skills that promote different perspectives and ideas to boards (Harjoto *et al.*, 2015). For example, gender-diverse boards can bring more perspectives and opinions to board discussions, leading the board to make better decisions (Kuptsch *et al.*, 2023).

According to N'Gbeche (2022), female directors often stimulate more participatory communication among board members; therefore, gender-diverse boards can better assess stakeholder needs. In this regard, the inclusion of different perspectives on boards could improve a company's ability to manage the needs of different stakeholder groups, including creditors, lenders, investors, analysts and auditors

(Harjoto *et al.,* 2015). In addition, Frias-Aceituno *et al.* (2013a) noted that gender diversity on boards has a positive impact on voluntary global disclosure.

Board diversity represents the differences between directors. Diversity significantly increases the likelihood that different opinions and perspectives are considered during the decision- making process (Rahman and Rubow, 2011). It also increases leadership effectiveness and promotes relationship building and problem solving. Gender diversity is one of the most debated topics in the literature (Vitolla *et al.*, 2020).

Cultural and social differences between men and women make this relevant (Liao *et al.,* 2015). Previous studies have identified differences in personality, work experience, skills, communication styles, training and values (Hofstede *et al.*, 2010). Some studies have provided arguments that the presence of women on the board improves its performance.

Adams and Ferreira (2009) have shown that women are more likely to attend board meetings than men, thus improving the board's monitoring and oversight functions and consequently promoting the dissemination of more information. Furthermore, Vachon (2022) show how the presence of women on a board of directors promotes a good working environment, as they are less focused on achieving personal goals.

Furthermore, Gibbins *et al.* (1990) show how gender diversity can influence corporate disclosure policies. Women's behavioural patterns and values are, in fact, closely related to greater corporate transparency (Prado-Lorenzo *et al.,* 2010).

The presence of women on the board therefore guarantees greater attention to disclosure and promotes the dissemination of more information. From this perspective, we expect that the greater capacity for control and monitoring and the greater attention to corporate transparency associated with the presence of women on the board of directors will favour the dissemination of better quality information on intellectual capital in integrated reports.

Gender diversity refers to the disparity in the characteristics presented by board members in terms of the proportion of women on the board (Frías-Aceituno *et al.,* 2012). Gender diversity promotes problem solving, increases leadership effectiveness and facilitates global relationships more effectively. Due to certain inherent qualities of women, such as sensitivity and transparency, their inclusion on the board can enable the company to publish more voluntarily integrated information. This sensitivity and transparency as noted by Bear *et al.* (2010) in fluent on women's communication style and also leads women to have a better relationship with all stakeholders of the company.

As a result, they want to keep stakeholders informed and give them information about what is happening in the company. In addition, women think differently from men, and they have different work ethics and perspectives due to their role as mothers and wives. Fasan and Mio (2017) and Meuleman (2018) found a positive relationship between the two variables.

H2: There is a positive relationship between gender diversity on boards and the quality ofintegrated reporting.

2.1.3 Board independence and integrated reporting quality

The effectiveness of corporate governance mechanisms in reducing agency problems depends on the composition of boards (Akhtaruddin *et al.,* 2009). Boards are usually composed of executive and non-executive (independent) members. Board composition is defined as the percentage of independent directors out of the total number of directors (Hossain and Reaz, 2007).

From an agency perspective, boards with a higher proportion of independent directors are more effective in monitoring and controlling management and are more successful in steering management towards long-term value. The compensation of independent directors is not linked to the short-term financial performance of a company, unlike the compensation of other board members (Jizi *et al.,* 2014).

As independent directors are less aligned with company management, they may have a greater tendency to encourage companies to disclose higher levels of voluntary information (Sternberger, 2012). Therefore, if independent directors dominate a board, they may have the power to force management to disclose more forward-looking information (Wang and Hussainey, 2013). Previous literature on the effectiveness of independent directors presents inconclusive results (Kakabadse *et al.,* 2010). For example, Elzahar and Hussainey (2012), and Al-Najjar and Abed (2014) found that the percentage of independent directors has an insignificant impact on forward-looking information.

On the other hand, Qu *et al.* (2015) detected that firms with a high number of independent directors published accurate sales forecasts. In addition, Wang and Hussainey (2013) reported that board independence is strongly associated with earnings forecast disclosures. Similarly, Liu (2015) determined that the proportion of independent directors is positively related to forward-looking disclosures. The actual functioning of the board is related to its structure and composition (Frias-Aceituno *et al.,* 2013).

According to Fama and Jensen (1983), the board's ability to reduce agency costs is enhanced by the presence of non-executive members. A board with a higher percentage of non- executive directors is able to control and monitor more effectively (Liao, Luo, and Tang, 2015) because non-executive members do not have a position in the firm (Donnelly and Mulcahy, 2008) and are not directly involved in corporate management (de Villiers *et al.*, 2011).

Furthermore, non-executive directors are not linked to CEOs because their careers do not depend on them and they have no interest in collaborating with executive members.

According to Fama and Jensen (1983) and Haniffa and Cooke (2005), the presence of non- executive directors also ensures greater prestige and expertise available to the board, contributing to the board's proper functioning. The presence of non-executive directors ensures that the board has a greater capacity for control and monitoring and, consequently, promotes the dissemination of more information (Nguyen, 2020). Moreover, non-executive directors are more likely to respond to requests for information (García-Sánchez *et al.,* 2011) than executive directors because they do not feel the pressure of competitors as strongly (Prado- *Lorenzo et al.,* 2010).

From this perspective, non-executive directors have a greater stakeholder orientation due to their nature and the absence of financial stakes in the company. The stakeholder orientation of non-executive directors allows them to go beyond the interests of shareholders and to balance the expectations of stakeholders with those of the firm (Michelon and Parbonetti, 2012).

The presence of non-executive directors thus ensures greater attention to stakeholders and promotes the dissemination of more information. From this perspective, we expect that the greater monitoring and oversight capacity and stakeholder orientation provided by non- executive directors will foster better quality in integrated reporting.

H3 : There is a positive relationship between board independence and the quality of IR.

2.1.4 Board activity and the quality of integrated reporting

Previous accounting literature in the area of earnings management suggests that more independent boards should significantly reduce earnings management and thus improve disclosure quality (MCS de Abreu *et al.,* 2022). In the context of IIRC companies, we can hypothesise that more independent boards will positively influence the quality of corporate disclosure (and thus Integrated Reports) by promoting materiality disclosure.

We argue that independent directors often have a greater interest in ensuring the good behaviour of the company and the achievement of its objectives (Kareb *et al.,* 2019). Thus, they should show greater objectivity and independence in their activity. This increased focus on monitoring corporate conduct, together with the desire to improve their reputation (Fama and Jensen, 1983), will increase the quality of corporate disclosure. Moreover, as their actions are less affected by the actions of competiton

A board's ability to monitor and control is closely related to its level of activity (Vitolla *et al.,* 2020). Vitolla *et al.* (2020) and Rubino, (2020) have shown how more meetings make boards more diligent and encourage them to meet the needs of stakeholders. Specifically, with regard to disclosure, the authors showed how more active boards promote higher levels of information dissemination.

According to Sidibe (2018), greater board activity improves supervision and control and decreases the likelihood of revenue manipulation. Broye (2018) pointed out that the frequency of board meetings is positively associated with better disclosure of executive compensation practices. Benddih and mohamed Rigar (2021) demonstrated how board activity reduces information asymmetry in quarterly earnings announcements.

Furthermore, Frias-Aceituno *et al.* (2013) found that the board's activity mandate is positively related to the amount of voluntary information disclosed. From this perspective, we expect that the increased monitoring and oversight capacity of the most active boards will promote higher quality intellectual capital disclosures in integrated

H4 : There is a positive relationship between the number of board meetings and the quality of integrated reports.

2.1.5 Duality and integrated reporting quality

In its concept, the quality of integrated reports refers to the degree of compliance of integrated reports with the provision of a relevant framework. Therefore, a high degree of compliance can be translated into high quality integrated reports and a low degree of compliance can be translated into low quality integrated reports (Barth *et al.,* 2016). Baboukardos and Rimmel (2016) noted that the structure of the integrated report is not important, but the crucial aspect is the content and quality of information provided.

Materiality and conciseness are among the 6 guiding principles that inform the content and presentation of a report, as well as the process by which it is developed. Materiality plays a crucial role in determining the elements to be included in an integrated report and the conciseness of the report. According to the framework ‘An integrated report should disclose information on matters that materially affect the organisation's ability to create value in the short, medium and long term’.

CEO duality, according to Fama and Jensen (1983), identifies the lack of separation between the management of decisions and the control of decisions. CEO duality implies a concentration of decision-making power, which reduces the independence of the board and its ability to control and monitor. CEO duality reduces the objectivity of the board due to the power of the chairman to set the agenda and select members and to hide critical information from other board members (Narayanan, 2019).

In addition, CEO duality creates a strong individual power base that could reduce the independence of the board. Therefore, CEO duality creates a circumstance that could hinder disclosure. Empirical evidence shows that CEO duality has a negative impact on monitoring (Toe and Hollandts, 2017) and on the level of information disclosed by companies (Narayanan, 2019).

The level of alignment of the integrated report with the IIRC framework requires a high level of monitoring and follow-up. This is likely to be more common in the absence of CEO duality.

H5 : There is a negative relationship between the duality of functions and the quality of integrated reports.

2.1.6 Environmental, Social and Governance (ESG) performance and the quality of the Integrated Report

Many articles contribute to this view, i.e., combining financial and non-financial information in one report will lead to higher quality reporting and provide recipients with more differentiated information about the company (Adams and Simnett, 2011). An IR should provide investors not only with information about the value added, but also about how the value was generated.

We follow Reimsbach *et al.* (2017), who apply a cognitive-psychological approach based on the model of Maines and McDaniel (2000) to assess investors' information processing. The model includes the concept of cognitive costs that arise during information processing.

Reimsbach *et al.* (2017) follow Hodge *et al.* (2010) who propose a link between cognitive cost theory and the proximity compatibility principle. This principle states that information relevant to a certain task should be presented in an appropriate display proximity (Reimsbach *et al.*, 2017).

The more information is needed to solve a task, the greater the need for a high display proximity to solve a task. Thus, high display proximity is considered with low cognitive cost (Reimsbach *et al.*, 2017). In this context, investors should generally perceive IR as positive, as their acquisition costs to receive the required information are lower, as more information about the respective company is reported in one report (Reimsbach *et al.*, 2017). As a result, investors can obtain a more distinct picture of the company and generally value the ESG report higher if financial and ESG information is reported simultaneously.

Although some studies examine an influence of assurance on the value relevance of ESG indicators, the impact is context specific (Coram *et al.*, 2009). The requirements of the audit profession as defined by the International Federation of Accountants in their International Accounting Standard 200 include, among others, professional judgement, professional scepticism and ethical requirements and therefore aim at providing an adequate degree of credibility. Therefore, we expect that an ESG report by a Big 4 audit firm will create more relevant value from a company's ESG report.

This study builds on Reimsbach *et al.* (2017) and uses signalling theory to discuss a possible market value enhancing effect of assurance. Thus, the following hypothesis could be explained using signalling theory as defined by Reimsbach *et al.* (2017); an information asymmetry exists between the sender (company) and the receiver (stakeholders, e.g., investors) regarding ESG performance and impact.

Due to the additional information about the credibility of ESG topics disseminated through the assured RI, the company concerned signals a stronger commitment to sustainability. Consequently, stakeholders perceive an RI assured by a professional audit firm as more reliable. This is in line with Cormier *et al.* (2012), who examined voluntary online disclosure on ESG topics as a reduction of information asymmetry.

Although the IR concept is gaining remarkable attention, empirical research on this concept is scarce (Lai *et al.*, 2018). Stakeholders, mainly investors, have demanded detailed information on ESG-related issues; thus, UK companies have sufficient incentives to engage in ESG and IR to voluntarily respond to stakeholder demands. Companies are likely to benefit from 'integrated thinking' as a possible outcome of IR; as a result, companies can better understand the link between their value drivers and their strategic objectives (Simnett and Huggins, 2015).

Therefore, linking ESG to financial information via integrated reporting allows stakeholders to better understand the company and its future (Bernardi and Stark, 2018). Integrated reports from companies that do not disclose much about ESG are unlikely to improve understanding of the links between ESG and financial performance (Bernardi and Stark, 2018). Moreover, there is a potential link between ESG and the quality of integrated reporting (Yoon *et al.,* 2018), and RI could help make it more visible.

H6: There is a positive relationship between the level of ESG performance and the quality of integrated reporting.

2.1.7 CSR strategies and integrated reporting quality

IIRC states that RI "brings together important information about an organisation's strategy, governance, performance and prospects in a way that reflects the business, social and environmental context in which it operates." IR highlights the links between financial/non- financial value drivers and organisational objectives and addresses potential dilemmas. If IR is to become the "primary reporting vehicle", companies need to include only the "most important information", and they can then address detailed stakeholder needs in additional reports.

IIRC recognises the contextual differences and outlines four equally valid routes to the adoption of RI : first, combining the CSR report with the annual report - which is not necessarily RI per se (Maitre-Ferri, 2022); second, publishing a stand-alone RI report for companies without CSR experience; third, modifying the CSR report and referring to it in the annual report (for companies with CSR experience); or fourth, adopting RI only in the internal management control system (Lueg and Radlach, 2015).

Several authors argue that CSR standards and guidelines help a company to become familiar with the dimensions of the rating and their fit with their CSR peer group. To date, no single CSR practice has been established (Bennaghmouch *et al.*, 2021).

The CSR practices relevant to our case study are the widely accepted GRI guidelines and ISO certification. The GRI "G4" Sustainability Reporting Guidelines help companies report on the impacts of their day-to-day operations in the four categories: labour practices and decent work, human rights, society and product responsibility (Favreau, 2022).

Although several variables of company characteristics influenced voluntary reporting (Nélis, 2020), no relationship between company size, industry type, profitability, leverage and the level of voluntary reporting in the Thai context as that of social responsibility reporting companies (Roberge-Maltais, 2020)found that there was a positive relationship between CSR attribution and voluntary reporting.

The objective of the CSR award is to encourage companies to balance their economic, societal and environmental responsibility and develop corporate sustainability. Duport (2020) found a positive relationship between CSR awards and financial and non-financial reporting, as the CSR award is an indicator of how well companies are meeting societal expectations through social and environmental responsibility as well as corporate responsibility.

H7: There is a positive relationship between CSR strategies and the quality of integrated reporting,

3. Research Methodology

The study sample: Our initial sample was based on the availability of integrated reporting and governance data inthe Thomson Reuters Asset4 and Thomson Reuters Eikon database over the period (2012-2020). We started with the full available sample of 873 observations (97 companies per year) of companies listed on FTSE100

Data source: We used the ASSET4 dataset and Thomson Reuters Eikon to collect data on corporate governance indicators. The final sample of our study consists of 873 observations from eight sectors.

The distribution of the sample according to sectors of activity is composed of 26.8% and 21.65% successively of companies from the financial and basic materials sectors, and 16.49% from the services and industry sectors, while the rest of the observations are related to the technology, consumer goods, telecommunication and health sectors. The quality of the Integrated Report was determined according to the EY (Ernst & Young) survey.

***Table 1**. Distribution of the sample*

Sector of activity	Number of companies	Percentage
Technology	4	4,12%
Consumer goods	7	7,22%
Basic materials	21	21,65%
Financial	26	26,80%
Telecommunications	3	3,09%
Services	16	16,49%
Health	4	4,12%
Industrial	16	16,49%
Total	97	100,00%

***Source:** Own study.*

3.1 Measurement and Definition of Variables

3.1.1 Definition and measurement of the dependent variable : The quality of the integrated report

The development of integrated reporting in Brittany should be discussed in the context of its background and the regulation of corporate sustainability and sustainability reporting. Audit quality remains a priority and is at the heart of our commitment to serving the public interest. It underpins EY Global's sustainability and serves our common goal of Building a Better Working World. Auditors play a crucial role in the functioning of financial markets, promoting transparency and investor confidence. Companies, regulators and other stakeholders rely on them to live up to this requirement in all engagements.

The positive impact of this regulation becomes evident with the evidence that over 88% of the top 100 companies listed in Britain in 2020 reported on aspects such as the environment, community, diversity and employee relations.

The positive impact of this regulation becomes evident with evidence that over 88% of the top 100 UK listed companies in 2020 reported on aspects such as the environment, community, diversity and employee relations, whereas a comparative group of Fortune Global 100 companies were significantly behind (Capron, 2020). This increase in sustainability reporting has also been fuelled by the introduction of the London FTSE100 Socially Responsible Investment Index in 2019. FTSE100 uses the Global Reporting Initiative (GRI) guidelines as a benchmark and therefore provides a guide for companies to report on corporate sustainability (Albertini, 2018).

In another world first, the King III Code, published in 2009, introduced the requirement to prepare an integrated report. This code has been incorporated into the FTSE100 listing rules, and as a result all FTSE100 listed companies are required to prepare an integrated report or explain the reasons for non-compliance.

The King III Code describes that an integrated report should put financial results into perspective by also reporting on the company's "positive and negative impact on the economic life of the community in which it operated during the year under review", often classified as ESG issues.

In addition, it should indicate "how the company intends to strengthen these positive aspects and eradicate or improve the negative aspects in the coming year" (IoDSA, 2009, p. 4) The emphasis on reporting on the company's impact on the community in this code is interesting, as it implies that the readership of an integrated report is much broader than that of providers of financial capital.

This highlights an embodiment of a 'value to society' perspective, in line with the sustainability reporting tradition, rather than an 'investor value' perspective underlying integrated reporting as explained by the IIRC.

Thus, there is an influence of the historical importance of social issues and a long tradition of robust sustainability reporting in the conceptualisation of integrated reporting in Britain.

The dependent variable is the quality of integrated reporting assigned in the E&Y surveys. A final ranking was given to the entities based on the average of the referees' scores. Large variations in the marks were examined to ensure that nothing had been missed. The adjudication process resulted in the classification of each entity's integrated report into one of two groups: "Excellent (1)" and "Progress to be made (0)".

3.2 Definitions and Measures of Independent Variables

In our study we restrict ourselves to board characteristics that can be summarised as board size, board independence, duality of functions, gender diversity, number of board meetings, board nomination committee, creation of a remuneration committee and a variable related to corporate social responsibility strategy.

In the subsections below, we have developed the assumptions for each of these corporate governance characteristics.

***Table 2**. Summary of study variables*

Designation	Variable	Measurement and source	Expected sign
Dependent variables			
IR	Quality of the Integrated Report	Dichotomous variable equals 1 for good quality report and 0 otherwise, source: Ernst &Young (Bloomberg)	
Independent variables			
Board Size	Size of the board ofdirectors	Is measured by the number of total directors on the board.	+
Gender Diversity	Gender diversity	The proportion of female directors onthe board is expressed as a percentage and standardised between0 and 100%.	+
BIndep	Independence of theboard	Is measured by the ratio of qualified independent directors to the total number of directors on the board.	+
BTenure	Number of boardmeetings	Measured by the number of board meetings per year.	+
Duality	Duality of functions	Is a dummy variable that takes the value 1 if there is a combination of the functions of the chairman of the board of directors and the chief executive officer and 0 otherwise.	-
ESG Perf	ESG performance	This is a percentile score ranking thattakes into account ESG scandals involving and violating any of the following controversial topics that occur during a company's fiscal year.	+
CSR strategy	Corporate Social Responsibility Strategy	The CSR index for each company is obtained from the Asset4 database and is expressed in percentages and standardised between 0 and 100%.	+

***Source:** Own study.*

4. Presentation of the Models

The objective of this chapter is to examine the impact of board size, board independence, dual roles, gender diversity, number of board meetings, ESG performance and a corporate responsibility strategy variable on the quality of integrated reporting by London Stock Exchange listed firms.

Our model aims to explain the variation of the dependent variable, which is the quality of the integrated report in this model, as a function of board size, board independence, dual functions, gender diversity, number of board meetings, ESG performance and a variable related to the corporate responsibility strategy of the firms listed on the London Stock Exchange FTSE100.

□ **Evaluation model:**

IR it = α0 + α1Boardsize it + α2Gender it + α3BIndep it + α4BTenure it + α5Duality it + α6ESGPerf it + α7CSR it + εit

With:

- IR it : Dichotomous variable equals 1 for the good quality report for firm "i" for year "t" and 0 otherwise.
- Board Size: is the total number of directors on the board of firm "i" in year "t".
- Gender Diversity: the proportion of female directors on the board is expressed in percentages and standardised between 0 and 100% of firm 'i' for year 't'.
- B Indep ii the ratio of the number of qualified independent directors to the total number of directors on the board of firm "i" for year " t ".
- B tenure: equal to the number of meetings of the board of directors of firm "i" in year "t". "i" in year "t".
- Duality: takes the value 1 if the functions of the chairman of the board of directors and the chief executive officer of firm "i" are combined in year "t" and 0 otherwise. of the board of directors and the chief executive officer of firm "i" for year "t" and 0 otherwise.
- ESG Perf : the CSR index of each firm "i" is obtained from the Asset4 database and is expressed in percentages and standardised between 0 and 100% for year "t". year "t".
- CSR strategy ; the CSR index of each firm "i" is obtained from the Asset4 database and is expressed in percentages and standardised between 0 and 100% for year "t". year "t".
- iii: Error term.

5. Results and Interpretations

Descriptive statistics: Descriptive statistics consist of an exploratory analysis of the sample and the research variables. Through this analysis, we will first determine the trend of each variable. The descriptive statistics of the study model are summarised in Table 3.

5.1 Description of the Variables

Table 3 summarises the trend of each variable in the models. The mean and min and max values of the IR variable are 0 and 1 respectively. 0.595 means that 59.5% of the integrated reports in our study sample are of good quality. Such a value reflects the importance attached by the firms in our sample to publishing quality integrated reports.

A mean of the Boardsize variable of 11.49227 means that the boards of the firms in our study sample have an average of 11 members.

A mean of the Gender Diversity variable of 19.09709 means that 19% of the board members of the firms in our study sample are female.

A mean of the Bindep variable of 55.55183 means that 55.5% of the board of directors are represented by independent members.

A mean of the BTenure variable of 7.48 means that the boards of the firms in our study sample meet 7 times a year.

A mean of the Duality variable of 47.5 means that 47.5% of the firms in our study sample have a duality of functions

A mean of the ESG Perf variable of 55.24, this mean indicates that the companies in our study sample verify the existence of about 55% of the ESG performance criteria with a maximum of 87.24%.

For the CSR Strategy variable, the average is 49.87285; this average indicates that the companies in our study sample meet approximately 50% of the social responsibility criteria with a maximum of 98.5%.

In the rest of the analysis of the results we will interpret the participation of each explanatory variable in the evolution of the quality of IR.

Table 3. *Descriptive statistics and parametric tests*

Variable	**Obs**	**Mean**	**Std. Dev.**	**Minimum**	**Maximum**
IR	873	0.5953608	0.4914558	0	1
BoardSize	873	11.49227	3.087433	4	21
GenderDiversity	873	19.09709	10.53785	0	46.66667
BIndep	873	55.55183	14.23589	0	84.61539
BTenure	873	7.483725	2.970981	1.9375	20.77778
Duality	873	0.6572165	0.4752527	0	1
ESGPerf	873	55.24366	15.71682	6.785545	87.24602
CSRstrategy	873	54.45416	28.11869	1.079137	98.55073

Source: *Own study.*

5.2 Correlation Analysis: Bivariate Analysis

The correlation analysis aims to identify the relationships between the variables. Table 4 summarises the correlation coefficients between the variables in the model for evaluating the quality of the integrated report discussed in this chapter, using the Pearson test.

For the model used, only the correlation coefficients for the variables boardsize and duality have negative signs, which implies that companies with large boards of directors and which verify the combination of the functions of the chairman of the board of directors and the chief executive officer may suffer from an opaque or mediocre quality of the integrated report distributed.

For all other variables, the positive signs of the correlation coefficients between these variables and the quality of the integrated report explain that these variables improve the quality of the integrated reports disseminated by the firms in our study sample. This reflects the fact that good corporate governance in general, and board characteristics in particular, provide firms with a better opportunity to improve the quality of integrated reporting.

It is more likely that a higher proportion of gender diversity is served by women with different skills and attitudes, including characterised directors, and positively affects the functioning of other governance mechanisms vis-à-vis the quality of the integrated report of the firms in our study sample.

Table 4. *Correlation matrix of variables relating to the empirical model*

	IR	**Board Size**	**Gender Diversity**	**BIndep**	**BTenure**	**Duality**	**ESG Perf**	**CSR Strategy**
IR	1.0000							
BoardSize	0.0082	1.0000						
Gender Diversity	-0.0866	-0.1109	1.0000					
BIndep	0.0256	0.0715	0.0183	1.0000				
BTenure	0.0408	-0.0247	0.0391	-0.0408	1.0000			
Duality	-0.0385	-0.0496	-0.0713	-0.0022	-0.0339	1.0000		
ESGPerf	0.0233	0.01320	0.1425	0.3112	0.1188	0.1061	1.0000	
CSRstrategy	0.0077	0.1050	0.0297	0.01697	0.1858	-0.0164	0.6118	1.0000

Source: *Own study.*

5.3 Multivariate Analysis: Results and Interpretations

This part is a possible empirical validation of the research hypotheses. After an exploratory study that dealt with the specificities of the sample and the functional relationships between the variables, we will perform a multivariate analysis.

5.3.1Econometric tests applied to the empirical model

iiii = αi + αiBoardSizeii + αiienderDivii + αiboardInd ii + αiBtenureii + αiDualityii + αiESGPerfii + αiCSRstrategy ii + iii

5.3.2 Analysis of the results of the empirical estimates

It should be recalled that the purpose of estimating the empirical model is to verify and validate the research hypotheses presented related to the effects of governance mechanisms on the quality of the integrated report.

The interpretation of the results presented in the table below allows us to advance some analyses concerning the general characteristics of the empirical models as well as the validation of the research hypotheses conducted by the multivariate analysis. Indeed, the value taken by the explanatory power of the first model R^2 adjusted= 0.8553 translates a good quality of the model. This postulate implies that the integration of the different explanatory variables makes it possible to explain 85.53% of the variation in the quality of the integrated ratio of the observations in our study sample.

Table 5. *Regression results for the empirical model*

Variables	**Coefficient**	**t-student**	**p-value**
Cons	-1.027725	-9.30***	0.000
Board Size	.0133506	0.44	0.657
Gender Diversity	-.0174411	-5.39	0.000
BIndep	. 0359269	13.93***	0.000
BTenure	.0888924	4.99***	0.000
Duality	-.1305438	-6.74***	0.000
ESG Perf	.009608	8.25***	0.000
CSR strategy	.0046349	7.22***	0.000
F (7, 380)	327.75		
Prob > F	0.0000		
R^2	0.8579		
R^2 ajusted	0.8553		

Note: **** : Significant at 1 % ; ** : Significant at 5 % ; * : Significant at 10 %*
Source: *Own study.*

Following the confirmation of the quality of the evaluation model, we will mobilise the theoretical framework of the argumentation of the results of the multivariate analysis that justifies the relationship between the quality of the integrated report and the mechanisms of corporate governance.

This postulate is also confirmed by the result of Fisher's statistics which confirms the capacity of the independent variables of our econometric model to explain the variation of the quality of the integrated report which takes a value (F= 327.75) for a significance level P-value=0.0000.

The econometric tests applied to the explanatory models showed the absence of a heteroscedasticity problem. According to Flachaire (2005), such a problem implies that the hazards do not have the same variance, the variance-covariance matrix cannot be estimated systematically and the generalized least squares estimator, which is an efficient estimator, cannot be calculated.

- *The board size variable*

The regression coefficients of the variable boardsize, denoting the variable board size, is positive for the evaluation model by a value of (t-student= 0.44; P = 0.657) not significant. This indicates that the size of the board of directors is not significant in determining the quality of the integrated report issued by the company.

Hypothesis (H1) not confirmed, this means that a very large board is generally ineffective compared to smaller boards due to communication and coordination issues (Velte, 2022).

- *The gender diversity variable*

The regression coefficients of the variable gender divertsity, designating the gender diversity within the board of directors, are negative and significant at the 1% level (t-student= -5.39; P = 0.000). An inverse sign to the expected one implies that the existence of a significant proportion of women on the board deteriorates the quality of the integrated report, such a value is justified by the low representation of women on the board of the companies studied.

The unconfirmed hypothesis (H2), the greater orientation towards actors who distinguish that there is no positive relationship between the presence of women in the board and reporting quality (Nadeem, 2022).

- *The B Indep variable*

The results provide evidence for the acceptance of the hypothesis of board member independence. Indeed, an expected and significant coefficient sign of this variable leads to the conclusion that the percentage of independent directors significantly reduces the quality of the reports integrated by the companies in our sample (t-student= 13.93; P = 0.000). The results found highlight the significance of the effect of the Bindep variable on the quality of integrated reports.

Hypothesis (H3) is confirmed at the 1% significance level, most of the actors distinguish that boards with a higher proportion of independent directors are more effective in monitoring and controlling management and are more successful in steering management towards long-term value (Moreno, 2022).

- *The BTenure variable*

The interpretation of the results presented in the table below concerning the variable Btenure allows us to state that the hypothesis related to this variable is confirmed at a significance level of 1% for the model of evaluation of the quality of the integrated report. Indeed, the fact of having values of (t-student= 4.99; P = 0.000), allows us to detect the implication of this postulate in the improvement of the quality of the integrated reports disseminated by the companies.

Hypothesis (H4) is confirmed at the 1% significance level, this shows that we have obtained the same results from the research on which we relied (Vitolla et al., 2020).

- *The Duality variable*

With regard to the result of the estimation of the evaluation models, the results provide elements of acceptance of the hypothesis of the duality of the functions. Indeed, an expected sign of the coefficient of this variable leads to the conclusion that the duality of the functions of chairman and chief executive officer affects negatively and significantly at the 1% threshold and reduces the quality of the integrated report of the population of our study (t-student= -6.74; P = 0.000). Indeed, several studies show a significant effect that the separation of the functions of chairman and chief executive officer can exert.

Hypothesis (H5) is confirmed at the 1% significance level, this result being consistent with research by (Baboukardos and Rimmel 2016; Zouari; 2021).

- *The ESG Perf variable*

The regression coefficient of the ESG Perf variable, which refers to the percentile score ranking that takes into account a company's ESG performance indicators, is positive but not significant for all three models (t-student= 8.25; P = 0.000). This postulate implies that a high level of performance contributes to the improvement of the quality of the integrated reports processed in our study.

Hypothesis (H6) is confirmed at the 1%, % significance level, this shows that we obtained the same results from the research we relied on (Bernardi and Stark, 2018; Wang, 2022).

- *The SR strategy variable*

With regard to the result of our estimation, we can point out that the regression coefficient for the variable srstrategy, denoting the CSR index, is positive and significant at the 1% level (t- student= 7.22; P = 0.000). This hypothesis implies that an increase in the CSR index is worth the improvement in the quality of integrated reports disseminated by companies listed on the London Stock Exchange FTSE100.

Hypothesis (H7) is confirmed at the 1% significance level, this shows that we obtained the same results from the research we relied on (Suttipun, 2014; Zhang, 2023).

6. Conclusion

Traditional reporting models focus on a relatively narrow representation of the historical financial performance of the value creation process. With this in mind, the International Integrated Reporting Council (IIRC) has developed the International Integrated Reporting Framework. Its primary purpose is to help organizations communicate the broad range of information necessary for investors and other stakeholders to assess their long-term performance. A clear, concise, coherent and comparable form of perspective. Companies that have focused solely on financial performance at the expense of social outcomes have failed in recent years (Chancel, 2022). As a result, there has been a significant increase in the focus on ESG and good governance issues. RI is an innovative tool that allows her to combine financial and non-financial information in one report.

The purpose of this study was to examine the impact of governance mechanisms on the quality of integrated reports. The results show that the quality of IR depends on two variables (board size and board size and gender diversity).

Management should increase transparency by expanding the content and information quality of reports to avoid conflicts with stakeholders. Managers therefore need to improve the quality of their reports to increase stakeholder engagement and show interest to non-shareholder stakeholders. In other words, the quality of disclosure should aim to show that high profitability does not come at the expense of non-financial goals.

Therefore, management should consider IR quality as a means of improving corporate image and reputation in the eyes of stakeholders. Furthermore, from the perspective of agency theory, disclosure is an effective means of reducing information asymmetry and aligning the interests of management and shareholders, thereby reducing agency costs (Broye *et al.*, 2018). In this regard, listed companies need to improve the quality of their integrated reporting, provide a complete picture of their ability to create value over time, reduce information asymmetry issues and reduce agency costs.

As with other studies, this has some limitations. While empirical methods can analyze large amounts of data and compare results, sampling methods do not allow comparisons between countries or groups of countries. Furthermore, this study focuses only on listed firms and ignores the behavior of non-listed firms.

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