BUDAPEST BUSINESS UNIVERSITY

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Measurement and Determinants of Integrated Reporting Quality in EU-listed Firms: Balanced Scorecard Perspectives.

Dissertation – Thesis Booklet

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1. Background and Thesis Structure

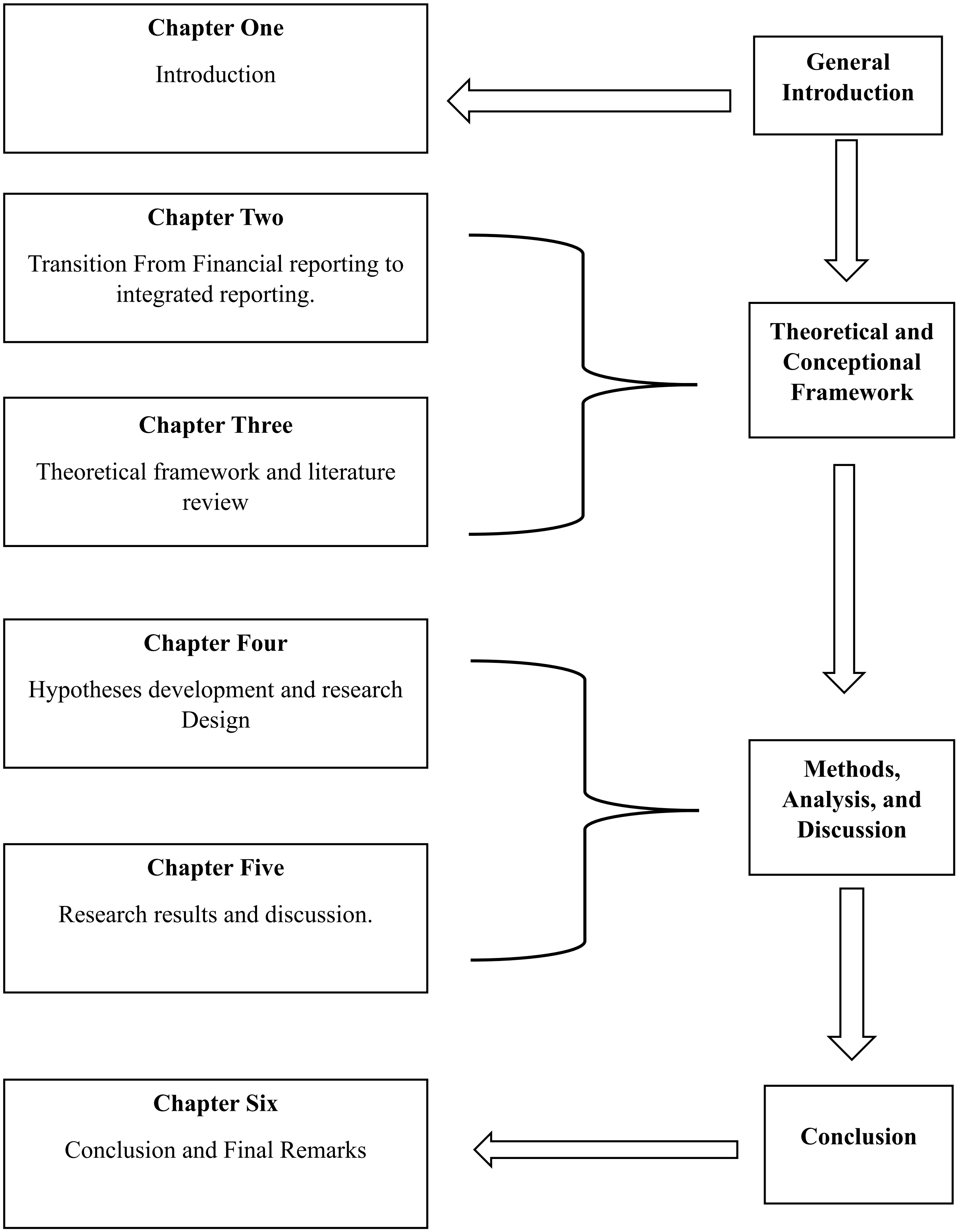
In today's globe, the business sector is being subjected to an increasing amount of pressure from the outside because of a variety of short-term and long-term challenges. The credibility of organizations and the failure of corporate governance are two problems that were shared by the financial and nonfinancial crises, which were followed by subsequent business scandals worldwide owing to fraud and poor control systems. As a result, there is greater pressure than ever on all businesses to provide information about their operations and how they may affect the economy, society, and environment, either positively or negatively (Krasodomska et al., 2020).

In this regard, the financial reporting model is limited in the current operating environment because the creation of value is not primarily driven by physical assets but rather by other intangible assets and non-financial factors (Agyei-Mensah, 2017). Therefore, these financial metrics are no longer adequate and are unable to adequately capture the essential aspects of business performance. They do not recognize aspects that are becoming more important to the ability of organizations to generate value (Győri and Szigeti, 2023).

As a consequence of this, new forms of non-financial reporting that are voluntary in nature have gradually emerged. Some examples of these forms are social, environmental, and governance (ESG) reporting, corporate social responsibility (CSR) reporting, and sustainability reporting (GRI). In accordance with Cohen et al. (2012), companies have either produced reports that are independent of one another or incorporated the information into their yearly financial reports. However, these reports have been kept distinct from financial reports, which has made it difficult for stakeholders to comprehend how these are connected to the production of value. As a result, it was necessary to consolidate these reports with the financial statements in a single report (Briem and Wald, 2018). Amidst the diverse array of mandatory and voluntary approaches to corporate reporting, "integrated reporting" (IR) has rapidly surfaced as an emerging accounting practice aimed at assisting organizations in comprehending their value creation processes and conveying this information to external stakeholders in an effective manner.

Additionally, transparency and disclosure methods implemented by companies are a crucial aspect and a reliable measure of the quality of corporate governance (Aksu and Kosedag, 2006). Therefore, corporate governance systems and practices, which determine how corporate entities are managed and supervised, are crucial in establishing connections between various aspects that add to value creation, as anticipated in the context of IR. Prior research has examined governance mechanism as a factor that influences the adoption or quality of integrated reports in different contexts. Nevertheless, there remains a dearth of agreement regarding the comprehension of the influence that various governance components have on IRQ. Therefore, this study conducts a thorough investigation of disclosure practices, ranging from financial disclosure to integrated reporting, in order to examine the many interpretations of quality in integrated reporting. Second, because the information in integrated reports is more important than just thinking about using them, this study creates a complete framework for evaluating IRQ in companies listed in the European Union. Third, to give a thorough understanding of the organization’s value creation process, this study broadens the conversation regarding the effects of corporate governance mechanisms on integrated businesses by identifying the internal and external governance factors that have the greatest influence on integrated report quality. Therefore, the thesis is structured into six chapters as presented in figure 1.

Figure 1: Thesis Theoretical and Conceptional Framework



2. Problem Statement and Research Gaps

The study problem's key academic and practical causes pertain to the quality of integrated reporting, its measures, and their determinants. To illustrate, both scholars and practitioners are interested in integrated reporting (IR), but its quality remains a critical aspect since IR information quality is more important than quantity (Songini et al., 2020). Added to this, the quality of integrated reports significantly impacts capital providers and their associated economic benefits (Moloi and Iredele, 2020). Simultaneously, notwithstanding academic research's growing focus on the IRQ, it remains understudied, especially in Europe (Simona et al., 2017). The second reason is related to internal and external corporate governance variables. Despite its monitoring, regulatory, and supervisory role and its significant impact on disclosure, the committee's role has gained little interest in IR practices (Raimo et al., 2021). Given the relevance of quality integrated reports to stakeholders, it necessitates further research to fill the following gaps in the EU-listed enterprise contexts:

i. To the best of the researcher's knowledge, currently there is a scarcity of studies on the quality of integrated reports and their determinants in EU-listed enterprises because most studies are conducted in South Africa, where IR adoption is mandatory for their counterparts in addition to, organizations in the IIRC Pilot Program or listed in the IIRC website.

ii. IR theoretical framework lacks clear rules for assessing quality. Thus, there are no standardized methods for measuring the IRQ in prior studies.

iii. Previous studies on IRQ have not yet adopted new and standardized methods for measuring IRQ, such as using the Balance Score Card, especially in EU-listed firm contexts.

iv. The literature on IRQ lacks a precise analysis of the impact of board directors' characteristics (including size, independence, diversity, experience, and meeting number) on integrated reporting quality, leaving the issue under-researched.

v. As far as the researcher recognizes, the impact of audit committee characteristics (size, independence, diversity, experience, and meeting quantity) on integrated reporting quality is understudied in the IRQ literature.

vi. Based on what the researcher knows, the IRQ literature lacks investigation of how integrated reporting quality (IRQ) is affected by external corporate governance mechanisms, like free float share percentage and external audit type.

3. Research Objectives

The research attempts to achieve two primary goals, which are then separated into a set of sub-goals. This study aims to develop a method for assessing the quality of integrated reports by utilizing the perspectives of the balanced scorecard, as there is currently no specific method for evaluating disclosure quality in general and integrated reports in particular. The second objective is to assess how internal ex corporate governance procedures influence the quality of integrated reports. This work primarily aims to: (1) evaluate to what levels (extent) the EU-listed firms adopt IR from 2013 to 2020; (2) suggest and use a new advanced method for measuring IRQ, like a balanced score card. (3)

assess the quality of IR in the context of EU-listed companies; (4) investigate the effects of board directors' characteristics, such as size, independence, diversity, experience, and meeting frequency; (5) investigate the effects of audit committee characteristics, such as size, independence, diversity, experience, and meeting frequency; and (6) examine how free market forces affect integrated reporting quality (IRQ). (7) investigate the impacts of external audit types as an external corporate governance mechanism on IRQ.

4. Research Questions

Given the above, it can be stated that further research is needed to measure and assess IRQ using new approaches and identify the main determinants, as EU-listed firms lack this type of analysis. Consequently, this study aims to address existing gaps in measuring IRQ in the European context by adopting a balanced score card to assess IRQ and examining factors determining its quality. It uses empirical evidence to answer the following main question: " What Corporate governance factors determine the IRQ in the European context?" focusing on the following sub-questions to provide valuable insights into the quality of integrated reporting in the EU:

Q1: How widely adopted is IR in the countries of the European Union?
Q2: What is the level of integrated reporting quality in the European Union from 2013 to 2020? Is there a difference between nations? Does it vary depending on the industry? Does it vary over the years?
Q3: Do board directors' characteristics as an internal governance mechanism affect the IRQ of EU-listed firms?
Q4: Do audit committees' characteristics as an internal governance mechanism affect the IRQ of EU-listed firms?
Q5: Does free float share percentage as an external governance mechanism affect the IRQ of EU-listed firms?
Q6: Does external audit type as an external governance mechanism affect the IRQ of EU-listed firms?

5. Research hypotheses.

To achieve the research objectives and answer the questions, the following hypotheses were formulated, as presented in Figure 2.

5.1 Board Size

There is controversy over the nature of the correlation between voluntary disclosure and board size because previous studies offered a variety of explanations for whether there was a positive, negative, or no association between them (Songini et al., 2021). In the context of integrated reporting, Vitolla et al. (2020) indicated a positive association between board size and IR adoption, and Dey (2020) demonstrated a positive relationship with IR quality. So,The first hypothesis can be formulated as :

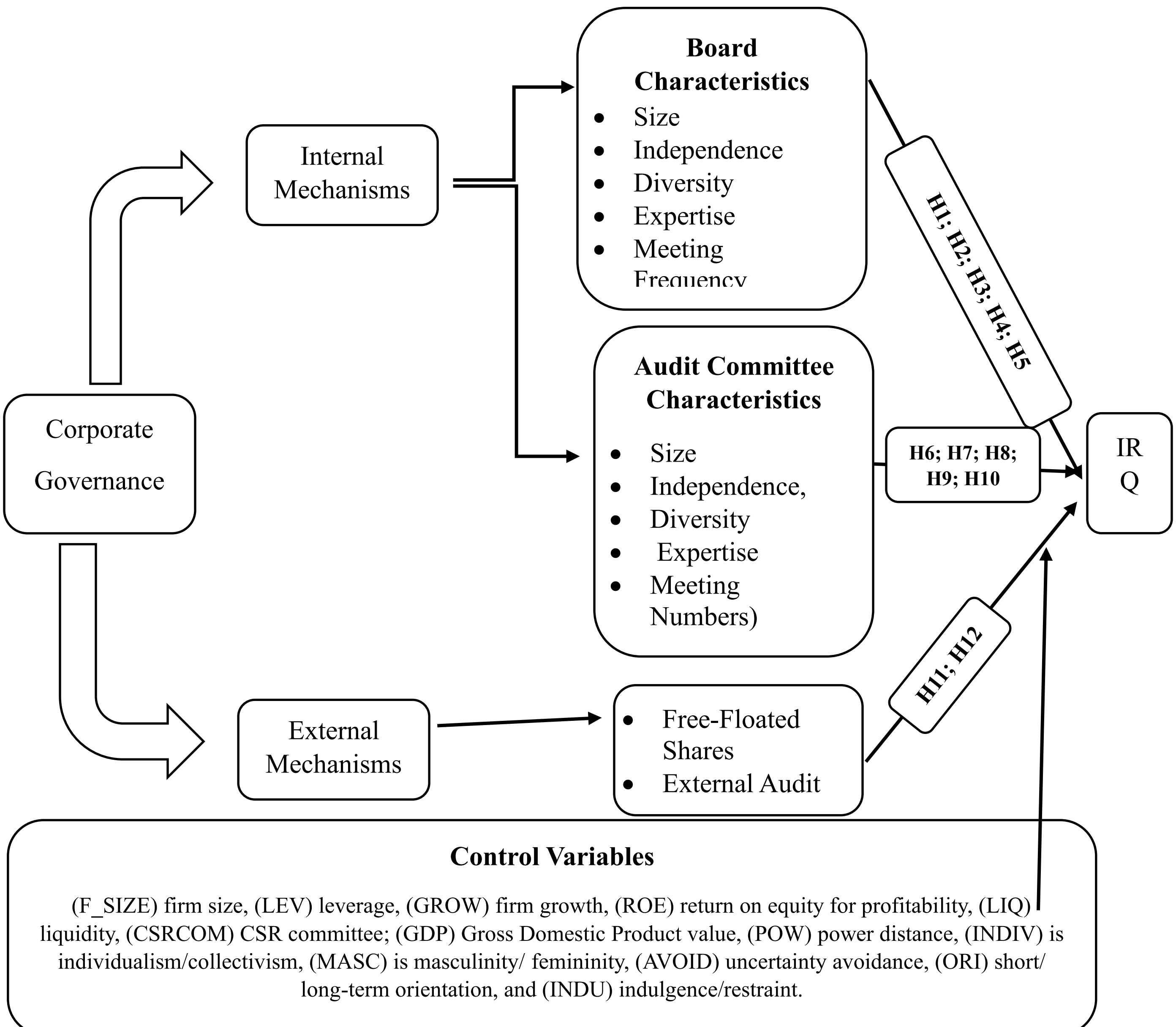
H1: The IRQ and board size are positively correlated.

5.2 Board independence

. Independent directors are seen as a privileged monitoring tool by the board due to their lack of administrative responsibilities within the firm and any meaningful financial ties to it or a connected party (De Villiers and Dimes, 2021). There is theoretically an obvious connection between the disclosure level and the board of directors' independence, but earlier studies' empirical findings on this association were mixed. Regarding how the board's independence and the IRQ are related, numerous empirical studies (Songini et al., 2021; Cooray et al., 2020; Girella et al., 2019) show no evidence of a connection between the board's independence and the IRQ. However, Omran et al. (2021; Erin and Adegboye 2021) discovered that the directors' independence improved the quality of the disclosed IR data. Consequently, the following hypothesis was put forth as a second hypothesis:

H2: The IRQ and the board of directors' independence are positively correlated.

Figure 2: Research Model.



5.3 Gender diversity

Women are believed to make a big effort to enhance the reputation of a business by focusing on social concerns (Masud et al., 2019). As a result, mostly female managers tend to provide higher-quality, more voluntary reporting (Girella et al., 2019). Despite that, there were mixed empirical results; for example, according to certain empirical studies on IR, neither the adoption of IR (Girella et al., 2019) nor the quality of IR (Cooray et al., 2020) were significantly correlated with gender diversity. However, Chanatup (2020) and Vitolla et al. (2020) showed that companies with high board diversity adopt IR more successfully because of their additional viewpoints on making choices and resources. Considering this, we suggest the following third hypothesis:

H3: The IRQ is positively associated with the proportion of female board members.

5.4 Board expertise

The presence of highly qualified and experienced members within the board will strengthen the control mechanisms and result in the production of valuable and trustworthy financial and non-financial reports (Hillman and Thomas, 2003). Despite that, there are limited empirical investigations that have looked at the connection between board expertise and integrated reporting quality. For example, Frías-Aceituno et al. (2013) contended that IR necessitates the participation of board members with diverse backgrounds in order to enlighten a larger spectrum of stakeholders and offer data on various topics and themes. Also, Erin and Adegboye (2022) discovered a direct correlation between the financial expertise of a board and the quality of IR. Therefore, our fourth hypothesis is:

H4: The IRQ and the board's experience are positively correlated.

5.5 Board meeting frequency.

Agency and legitimacy theories support the fact that the frequency of board meetings influences both performance and disclosure (Qaderi et al., 2022). The findings for the IR literature were contradictory. According to some studies (Frias-Aceituno et al., 2013; Girella et al., 2021), there is no statistically significant correlation between the number of board meetings and IR adoption. As opposed to Iredele (2019), which provided empirical support for a negative association between these two variables. On the other hand, it was discovered that regular board meetings enhanced the IRQ and that a high quality of IR revealed better-governed businesses. As a result, the following fifth hypothesis is made:

H5: The IRQ and frequency of board meetings are positively correlated.

5.6 Audit Committee Size

Agency and resource dependency theories contend that audit committees with higher sizes may mitigate agency concerns through more efficient oversight (Mangena and Pike, 2005). Similarly, empirical research revealed that some studies showed a significant association between audit committee size and non-financial reporting (Li et al., 2012;

Ahmed Haji, 2015), but other studies revealed an insignificant relationship (Bedard et al., 2004; Mangena and Pike, 2005). Thus, the sixth hypothesis is:

H6: The IRQ and audit committee size are positively associated.

5.7 Audit Committee independence

According to theories of stakeholder and agency, and similar to the discussion around the independent directors on the board, independent audit committee members are assumed to be more impartial as well as less inclined to fail to recognize potential flaws in company reporting. This is because audit committee independence in businesses enables greater transparency and monitoring for interested parties (Chariri and Januarti, 2017; Samaha et al., 2015). But the empirical findings were conflicting. The audit committee's independence and non-financial reporting have been found to have a strong positive relationship in certain research (e.g., Ahmed Haji, 2015), but not in others (e.g., Li et al., 2012). Hence our seventh hypothesis is:

H7: The IRQ and audit committee's independence are positively correlated.

5.8 Audit committee gender diversity

Gender diversity of the Audit Committee is one of the strategies by which female managers can favorably affect monitoring and so lessen agency difficulties and information asymmetry, as stated by agency theory (Zalata et al. 2018). However, empirical research has not yet investigated the connection between gender diversity on the AC and integrated reports. Hence, the following is our eighth hypothesis:

H8: The IRQ and AC gender diversity have a positive correlation.

5.9 Audit committee expertise

The impact of having experienced members in the AC on the financial and non-financial reports was the subject of several investigations, the conclusions of which were contradictory. For instance, some studies, such as those by Ahmed Haji (2015) and Enache et al. 2020, have revealed a favorable link between both. Nevertheless, other studies have discovered a negative correlation, such as those by Al-Maghzom et al. (2016) and Buallay and Al-Ajmi (2020). Even so, studies (such as Raimo et al. 2020 and Al Lawati and Hussainey 2020) show no connection between the expertise of AC's members and their level of voluntary disclosure. This leads to the ninth hypothesis, which is:

H9: The IRQ and AC expertise have a positive correlation.

5.10 Audit Committee Meeting Frequency

According to several empirical investigations (e.g., Li et al., 2012; Ahmed Haji, 2015), the frequency of AC meetings significantly affects non-financial disclosures. However, some research (such as Bedard et al., 2004; Abdul Rahman and Ali, 2006) showed no correlation between AC meetings and disclosure quality. Additionally, Ahmed Haji and Anifowose (2016) discovered a significant statistical association between the frequency of AC meetings and the integrated reporting practice. Hence, according to agency theory and mixed empirical results, our tenth hypothesis is.

H10: The IRQ and the frequency of AC meetings have a positive correlation.

5.11 Free Float

In accordance with the theories of agency and stakeholders, agency problems increase with a rise in the percentage of free-float shares because investors exert less control over the company. Thus, to decrease large-small investor information asymmetry, managers turn to voluntary disclosure as a good strategy for minimizing these issues and ensuring the satisfaction of all stakeholders (Radwan et al., 2023). Empirically, there is a very scarcity of studies that look at how free float affects integrated reporting. Except for one study (Preuß et al., 2019), which found no connection between free-float shares and the IRQ, for our investigation into the impacts of free float on the IRQ, we derive the following eleventh hypothesis from these findings:

H11: The IRQ and free float shares are positively correlated.

5.12 External audit firm size

Studies on integrated reporting quality (IRQ) have indicated inconsistent relationships about external assurance effects on the quality of integrated reports. For example, Gerwanski et al. (2019), Hoang and Phang (2021), and Malola and Maroun (2019) discovered that external assurance serves as a signal of report quality and demonstrates the trustworthiness of integrated reports to stakeholders. Additionally, it functions as a replacement for deficiencies in corporate governance or investor protection regimes. Nevertheless, Mawardani and Harymawan (2021) discovered that there was no statistically significant correlation between the disclosure of information related to IR and the involvement of external audit firms. These justifications lead to the following 12th research hypothesis:

H12: The IRQ and auditing by the Big 4 auditing firms are positively correlated.

6. Research Methods Description

This study focuses on the integrated reports among publicly listed companies on stock exchanges within the 27 European Union. The study's duration is determined based on the publication date of the IIRC frameworks, starting in 2013 and including data up until 2020. Firstly, the research identifies the year in which these companies began publishing their initial integrated reports. The study involved determining the number of firms listed on the stock exchange in each country, resulting in a total of 4,122 registered companies.

The first analysis excluded 656 companies due to a lack of published reports or language differences; thus, the final sample consisted of 3466 companies. Furthermore, 3319 companies failed to release integrated reports or adhere to IIRC's framework, leaving only 147 out of 3,466 organizations employing an integrated reporting framework, accounting for 4.42% of the overall sample. It should be noted that not all of the 147 companies included in the study adopted integrated reports over the entirety of the eight-year period. Consequently, various corporations have implemented and published integrated reports at varying time points, with certain entities having commenced the practice as early as 2013, while others have only recently released their reports in 2020. Hence, it can be posited that the composition of the study sample is unbalanced.

Regarding data collection, the annual integrated report is our main analysis tool. The study uses official corporate websites to assemble integrated reports, especially interactive reports. Inclusion in the sample is contingent upon the report being prepared in accordance with the IR framework, regardless of whether it is explicitly labelled as an integrated report. Any reports that do not adhere to the IR framework are omitted from the sample. Hence, the sample encompasses various reports, such as sustainability reports, CSR reports, and annual reports, as their inclusion is contingent upon the underlying basis of their preparation. In addition to that, relevant corporate governance data, including the quantity of board of directors and independent directors, as well as data pertaining to the audit committee, such as the number of independent committee members and the level of gender diversity, are obtained from the Bloomberg database. The data pertaining to the gross domestic product (GDP) was obtained from the official website of the World Bank. Hofstede-Insights was also the source of the data pertaining to culture.

This study uses the Balanced Scorecard (BSC) to evaluate integrated reporting quality (IRQ) in a European setting. The BSC, conceptualized by Kaplan and Norton in 1992, is a comprehensive set of metrics for assessing organizational performance. It encompasses four primary viewpoints: financial, customer, internal, and learning and growth. The term "balanced" was introduced to achieve equilibrium between financial and nonfinancial metrics, reconcile short- and long-term objectives, and incorporate both reflecting and predictive indications.

Drawing upon the antecedents and the concept of integrated thinking, our research has developed a comprehensive disclosure checklist for assessing the quality of integrated reporting (IR). This checklist is known as the integrated reporting quality balanced scorecard (IRQBSC). Although the IIRC Framework adopts a principle-based approach and refrains from mandating the disclosure of specific key performance indicators or individual matters, the framework of (IR) serves as the foundational basis in previous scholarly investigations for assessing the (IRQ). Thus, in order to construct IRQBSC, the research was primarily centered on the eight content pieces, guiding principles, six capitals, and value creation process of the Integrated Reporting Framework. Furthermore, this study has also used prior literature to ensure the comprehensiveness of the disclosure checklist. In more detail, the IRQBSC is partitioned into 31 distinct variables in the four main perspectives. This study employs both weighted and unweighted scoring methods to evaluate the quality of integrated reporting. The scoring is based on the inherent characteristics of the elements being assessed. As a result, each integrated report is assigned a total score of 115. The researcher uses content analysis as a methodological approach to gather and systematize data from sampled integrated reports. Furthermore, the study utilized a range of dependent, independent, and control variables to examine the correlation between corporate governance and integrated reporting. In order to examine the correlation between these variables, multiple regression analysis was employed, as in the following equation.

$$IRQ_{i,t} = \beta_0 + \beta_1 B\_SIZE_{i,t} + \beta_2 B\_INDEP_{i,t} + \beta_3 B\_DIV_{i,t} + \beta_4 B\_EXP_{i,t} + \beta_5 B\_MF_{i,t} + \beta_6 AC\_SIZE_{i,t} + \beta_7 AC\_INDEP_{i,t} + \beta_8 AC\_DIV_{i,t} + \beta_9 AC\_EXP_{i,t} + \beta_{10} AC\_MF_{i,t} + \beta_{11} FREE\_F_{i,t} + \beta_{12} EA\_SIZE_{i,t} + \beta_{13} F\_SIZE_{i,t} + \beta_{14} LEV_{i,t} + \beta_{15} GROW_{i,t} + \beta_{16} ROE_{i,t} + \beta_{17} LIQ_{i,t} + \beta_{18} CSRCOM_{i,t} + \beta_{19} GDP_{i,t} + \beta_{20} POW_{i,t} + \beta_{21} INDIV_{i,t} + \beta_{22} MASC_{i,t} + \beta_{23} AVOID_{i,t} + \beta_{24} ORI_{i,t} + \beta_{25} INDU_{i,t} + \varepsilon_{i,t}$$

Prior to doing the multiple regression analysis, diagnostic tests were conducted on the data to identify and address issues such as Normality, multicollinearity, heteroscedasticity, and autocorrelation. This was done to prevent any misleading results and to ensure the compatibility of the data.

7. Main Findings and Discussion

One of the primary contributions of this research is its index for measuring the IRQ, distinguished by its use of the Balanced Scorecard (BSC) as a framework for assessing IRQ in a European context (Nada and Győri, 2023). The Balanced Scorecard is regarded as a holistic instrument for assessing an organization's financial and non-financial performance, including both internal and external dimensions. The BSC is posited as the basis for developing a corporate disclosure index. Consequently, our research aimed to link this comprehensive tool with the notion of integrated thinking to achieve IRQBSC. This index can serve as a reference for other scholars in evaluating the quality of integrated reporting (IR) and other non-financial information, as it aligns with IIRC guidelines and general suggestions for assessing the quality of both financial and non-financial disclosures.

In terms of the level of IR adoption and its quality, the analysis indicated that the EU's IR adoption improved from 2013 to 2020, but only 5% of listed companies adopting it. The quality of these reports improved over time, despite the IRQ remaining in the middle range. This improvement can be attributed to the widespread use of integrated reports worldwide, as well as the influence of European culture and laws, including Directive 2014/09/EU. The study's results support previous research showing poor quality in integrated reports from 2013 and 2014 (Pistoni et al., 2018), while Eccles et al. (2015) reported that EU countries had average IR quality in 2017 and 2018. The study also revealed significant regional variations in IR adoption by listed firms across EU countries, with Spain, France, the Netherlands, Italy, and Poland having the highest rates.

Regarding the most disclosed information within the IR, the analysis suggests that companies exhibit a slight preference for providing financial, learning, and growth information over information on stakeholder or internal aspects. Stakeholders' growing interest in financial reporting and business development may serve as evidence of this, but merely understanding non-financial disclosure is not sufficient to persuade them. Despite the EU's increasing interest in non-financial disclosure, financial disclosure remains the most prominent in integrated reports. This is due to higher average disclosure levels from a financial perspective. The learning and growth perspective, which emphasizes value creation and human capital, also shows significant importance, as pointed out by Massingham et al. (2019).

By moving to the sector most adopted IR, analysis reveals that the industrial sector is the most active adopter of integrated reports, followed by the financial sector, consumer discretionary, utilities, and energy sectors, with the real estate and health sectors not primarily adopting this approach. The research supports previous studies showing financial and industrial sectors' interest in non-financial disclosure and integrated reports (e.g., Rivera-Arrubla et al., 2017). However, there is no clear evidence for the adoption and quality of integrated reports in specific sectors requiring further study.

Pertaining to the determinants of IRQ and the main results of the tested hypotheses, the study found a positive correlation between IRQ and board size, independence, diversity, and meeting frequency, but no significant association was found with board expertise. This is consistent with previous research, which suggests a positive correlation between the number of directors on a board and the quality of integrated reports (Qaderi et al., 2022; Cooray et al., 2020; Mawardani and Harymawan, 2021). The wider range of experience on larger boards could be beneficial for IR preparation, as it allows companies to gain more experience and knowledge, leading to higher-quality disclosures. Larger companies with strong boards have more influence over management choices that enhance information disclosures and advance transparency policies. The theories of agency, resource dependence, and stakeholder support the idea that larger boards enhance corporate transparency by increasing the quantity and quality of financial and non-financial disclosures to meet stakeholder expectations, thereby reducing information asymmetry between management and investors (Qu et al. 2015).

Additionally, the study found that board independence significantly impacts IRQ, with companies with more independent directors releasing higher quality integrated reporting data. This is likely due to independent directors in EU-listed companies considering the value of adopting IR and its quality through board monitoring and oversight, enabling them to address stakeholders' information demands. This finding aligns with recent research conducted by Chouaibi et al. (2021) and Qaderi et al. (2022) regarding IR disclosure. Accordingly, agency and stakeholder theories suggest that having a larger number of independent board members improves board practice effectiveness, safeguards stakeholder rights, and resolves agency conflicts (Fiori et al., 2016), as non-executive members possess the necessary qualifications to provide impartial assessments of a business's leadership and operations (Liao et al., 2015).

Furthermore, the study reveals a significant correlation between board diversity and integrated reporting quality. Boards with more female directors tend to produce better integrated reports, as they have more governance and supervision power. European companies with more female directors also recognize the importance of IR disclosure. Additionally, active involvement of women in corporate decision-making is prioritized to enhance corporate governance procedures among European Union-listed companies. Female directors offer enhanced perspective and meticulous oversight, making them regarded positively throughout the European Union. The findings are consistent with previous studies by Qaderi et al. (2022), Chouaibi et al. (2021), and Cooray et al. (2020).

The study shows a positive correlation between board meetings and IR quality, suggesting that companies with more meetings may improve their IR disclosure. This is due to the board's diligent approach to agenda items like sustainability, ensuring greater transparency and reducing information asymmetry. This aligns with legitimacy, agency, and stakeholder theories, suggesting that engaged boards address stakeholder concerns throughout their sessions. This finding agrees with an empirical investigation conducted by Busco et al. (2019) and Wang et al. (2020), who found that regular meetings on boards lead to increased information disclosure on the Johannesburg Stock Exchange. Moreover, the study concluded no correlation between board members' experience and IR quality, contradicting previous research by Songini et al. (2021), which suggested experienced board members improve integrated report quality. They mentioned that board members with managerial experience may enhance the board's oversight capabilities by providing valuable competitive resources, insightful counsel, and increased knowledge. Enhances the quality of reports. However, alternative viewpoints suggest these results may only apply to financial and accounting competence, not non-financial disclosure or integrated reporting. Therefore, the findings should be considered.

Furthermore, the study found that a larger audit committee size positively impacts the IRQ. This is because it ensures more human resources and diverse viewpoints within the committee, enhancing its ability to manage information gathering and presentation processes, leading to higher-quality integrated reports. Agency and resource dependency theories suggest that larger audit committees can reduce potential agency issues through effective oversight. Furthermore, the study reveals a positive correlation between audit committee independence and IRQ, suggesting that independent members enhance the quality of integrated reports. This is supported by agency and stakeholder theories, which suggest that independent members are more objective and less likely to overlook potential deficiencies in business reporting. This results in reduced costs associated with conflicts of interest and enhanced corporate supervision, thereby facilitating the provision of accurate and reliable information. This conclusion is further corroborated by certain IR literature, including Raimo et al., 2020.

Further, this study reveals that the diversity of the AC significantly influences the quality of integrated reports, a finding that aligns with previous studies on voluntary disclosures, such as Tejedo-Romero et al. (2017). However, empirical research on the relationship between gender diversity and AC and integrated reports remains unexplored. This finding aligns with agency and resource dependency theories, as females contribute more insight and closer monitoring, supporting the key tasks of the audit committee. The presence of women on the board and audit committee plays a crucial role in influencing the extent and excellence of IR disclosure. Findings also confirmed that the audit committee's expertise does not significantly impact IR quality, consistent with previous results on the Board of Directors' expertise. This finding aligns with previous studies such as Raimo et al., 2020, despite not aligning with our assumptions or some prior research that suggests a beneficial association between integrated reports and the audit committee's experience, such as Ahmed Haji (2015). However, it may be limited to financial disclosure, given that integrated reports encompass both financial and non-financial aspects. The IRC framework delineates six capitals, with one focusing on financial aspects and the remaining five on non-financial aspects. Additionally, the study shows a strong positive correlation between audit committee meetings and IR quality, consistent with previous research (e.g., Ahmed Haji, 2015; Raimo et al., 2020), indicating a strong positive association between audit committee meetings and financial and non-financial reporting integrity. A robust audit committee can effectively supervise management to ensure compliance with regulatory guidelines for integrated reporting, as demonstrated by the frequency of its annual meetings. Agency theory suggests that the audit committee will enhance internal control and reduce agency costs by providing high-quality integrated reporting through frequent meetings.

As well, the study found no significant correlation between free float shares and IRQ, contradicting initial expectations about its positive impact on IR quality. It aligns with the conclusions drawn in prior research, including that of Preuß et al. (2019). This is due to the abundance of freely available shares, eliminating constraints on management or executives to improve the quality of information disclosed. Moreover, the analysis pointed out no significant differences in IRQ levels between companies audited by big audit firms and those audited by firms outside the Big 4, contradicting predictions of a positive relationship between audit firm types. However, this aligns with the results of a previous study by Alotaibi and Hussainey (2016), which also revealed no significant correlation between the type of auditor and the level or quality of corporate social responsibility (CSR) disclosure. The fact that integrated reporting is voluntary and regulators' information scope restrictions limit external auditors' obligations explains this finding. External auditors rarely exert pressure on clients to disclose more information than necessary for accounting standards, and they have minimal influence over the inclusion of integrated reporting information in annual reports. In the table (1), there are summarize for the research results, its connection to prior research and possible explanations.

Table (1): Summarize for research results.

H	**Variables**	**Expected Association**	**Obtained Association**	**Status**	**Literature supports the obtained Result**	Brief illustration for obtained result
H I	IRQ and board size	+	+	ACCEPTED	Qaderi et al., 2022; Cooray et al., 2020; Mawardani and Harymawan, 2021	Larger boards with diverse experience can improve IR preparation through providing more knowledge, resulting to better disclosures and management choices.
H 2	IRQ and board independence	+	+	ACCEPTED	e.g., Chouaibi et al. (2021) and Qaderi et al. (2022)	EU-listed businesses' independent directors evaluate IR's value and quality through board monitoring and oversight to meet stakeholders' information needs.
H 3	IRQ and board diversity	+	+	ACCEPTED	Qaderi et al. (2022), Chouaibi et al. (2021), and Cooray et al. (2020).	Diversity boards produce better IR, prioritize IR disclosure, and actively participate in decision-making, enhancing corporate governance in EU-listed companies, offering enhanced perspective and oversight.
H 4	IRQ and board expertise	+	No Correlation	**REJECTED**	Songini et al. (2021)	Board members with managerial experience can improve oversight capabilities and report quality.
H 5	IRQ and board meetings' frequency	+	+	ACCEPTED	Busco et al. (2019) and Wang et al. (2020)	The board's diligent approach in focusing on agenda items like sustainability, which ensures greater transparency and reduces information asymmetry.
H 6	IRQ and AC Size	+	+	ACCEPTED		The committee's diverse membership and members improve its ability to effectively manage information gathering and presentation processes, leading to higher-quality IRs.
H 7	IRQ and AC Independence	+	+	ACCEPTED	Raimo et al., 2020	Independent members can enhance the IRQ by reducing conflicts of interest and improving corporate supervision, thereby ensuring accurate and reliable information.
H 8	IRQ and AC Diversity	+	+	ACCEPTED	Tejedo-Romero et al. (2017)	Females significantly contribute to the audit committee's tasks, providing valuable insights and enhancing the IRQ disclosure.

H 9	IRQ and AC expertise	+	No Correlation	**REJECTED**	Raimo et al., 2020	The IRC framework outlines six capitals, one focusing on financial aspects and the remaining five on non-financial aspects, which may limit financial disclosure.
H 10	IRQ and AC meetings' frequency	+	+	ACCEPTED	Ahmed Haji, 2015; Raimo et al., 2020	AC plans to enhance internal control and reduce agency costs by providing high-IRQ through frequent meetings.
H 11	IRQ and free float shares	+	No Correlation	**REJECTED**	Preuß et al. (2019)	The abundance of freely available shares eliminates constraints on management or executives to improve the quality of information disclosed.
H 12	IRQ and external audit	+	No Correlation	**REJECTED**	Alotaibi and Hussainey (2016)	IR's voluntary nature and regulators' scope limitations restrict external auditors' responsibilities, limiting disclosures and influencing the inclusion of IR information in annual reports.

Source: Own construction based on study's results.

8. Study contributions.

This thesis significantly enhances accounting literature, research methodologies, and practice by providing valuable theoretical, methodological, and practical insights to all interested parties. To start with literature, this study's findings will significantly contribute to the IRQ literature in various ways. To illustrate, the thesis is unique in its focus on evaluating the adoption of IRQ in EU-listed firms across various sectors and nations over time. Further, this thesis aims to fill a significant gap in the IRQ literature by conducting a comprehensive analysis of IRQ and its determinants within EU-listed firms. Additionally, this study expands IRQ literature by incorporating agency, signaling, stakeholders, legitimacy, institutional, and resource dependence theories, and identifying additional determinants of integrated reporting quality across different nations, sectors, and times. In a broad sense, this thesis examines, how internal (size, independence, diversity, experience, and meeting quantity of board directors and audit committee) and external (free floated shares and external audit type) corporate governance mechanisms affect IR quality. Methodologically, in numerous regards, this thesis significantly improves the methods used in accounting research to evaluate the quality of IR. To start with the adopted sample, this thesis focuses on 147 EU-listed firms from 27 EU countries across various sectors, making it unique in its scope. In terms of data collection, this thesis is unique in its focus on integrated reports prepared from 2013 to 2020 based on the IIRC framework as its primary analysis tool. Moving to IRQ measurement, this thesis is pioneering in utilizing the balanced score card as a new comprehensive tool for assessing the quality of IR, which could significantly enhance future research on IR quality. Practically, this study provides stakeholders with comprehensive insights into adoption status, quality status, internal governance determinants, and external governance determinants of IR quality, assisting them in making accurate economic and investment decisions. It benefits policymakers, creditors, professional bodies, customers, financial analysts, auditors, investors, and other users. Meanwhile, the study suggests that EU professional bodies, regulators, and policymakers should establish mandatory regulations for IR adoption and IR quality standards for listed firms. What is more, this thesis recommends that EU-listed firm managers should enhance the quality of their IR to improve their marketing practices, attract new stakeholders, and boost existing stakeholder confidence.

9. Study implications and recommendations.

The findings of this thesis offer crucial theoretical and practical implications for various stakeholders (e.g., policymakers, investors, regulators, professional bodies, managers, and academics) on the adoption status, quality status, and internal and external governance determinants of IR quality. These findings provide a detailed overview of the adoption and quality status of IR by EU-listed firms. To give more illustration, the analysis revealed that the issuance of integrated reports (IRs) in the European Union generally improved from 2013 to 2020, and the quality of these reports has also improved. Moreover, it also offers a comprehensive understanding of the internal and external governance determinants of IR quality. To illustrate, the analysis shows that the majority of internal and external corporate governance mechanisms have a positive impact on IRQ, such as board size, independence, diversity, and meeting number of board directors and audit committee. Added to this, the study recommends that EU professional groups, regulators, and policymakers should legislate mandatory IR adoption regulations and quality criteria for listed corporations. In the meantime, the thesis recommends that EU-listed firm managers should enhance the quality of their IR and establish future policies, models, and frameworks of IR adoption to fulfill stakeholders' needs of different financial and non-financial information, thereby enhancing marketing strategies, attracting new stakeholders, and boosting existing stakeholder confidence. For academics, the study introduces a new tool for assessing the quality of IR, the balanced score card, which could significantly enhance future research on IR quality. The study's limitations can also be advantageous for future investigations.

10. Study Limitations

This thesis has several main limitations, which can be summarized as follows:

i. The thematic focus of this study is limited to investigating the quality status of IR and identifying its determinants.
ii. The study's time frame is limited to analyzing the content of integrated reports from 2013 to 2020.
iii. This study is limited to integrated reports that adhere to the IIRC framework.
iv. The investigation has limitations in its sample size of 147 EU-listed firms.
v. This analysis is limited in its scope as it only focuses on EU-listed enterprises and does not consider unlisted EU firms. This limitation restricts the applicability of the outcomes to other areas or EU-unlisted firms.
vi. IR use by enterprises varies widely between countries. One firm in Hungary used IR for a year, while 37 firms in Spain did (180 observations). Due to this large variation, comparing the average IRQ across nations over the study period is difficult and imprecise.
vii. The investigation faced limitations in its quantitative analysis methodology because of the disadvantages of content analysis.
viii. The investigation faced limitations in assessing IR quality utilizing self-constructed index (IRQBSC) as the main evaluation tool which has some shortcuts and weak points.

ix. The study focuses on the influence of size, independence, diversity, expertise, and meeting numbers of board directors and audit committees on IRQ without considering other internal corporate governance mechanisms or other board directors and audit committees' characteristics.

x. The study examines the influence of free-floating shares and external audit types, as external governance mechanisms, on IRQ, disregarding other external corporate governance mechanisms.

11. Future Research opportunities

Even though IRQ is gaining more attention from academics, more study is still required. Future studies could focus on several topics, including investigating the IR quality for EU-unlisted firms; additionally, investigating the IRQ in other developing economies or regions, such as the Middle East; and contrasting the findings with those from industrialized economies. Subsequent research endeavors could assess the IRQ prior to and following the epidemic and juxtapose the outcomes. Future scholars should expand this study by incorporating mixed methods, including interviews, case studies, and quantitative and qualitative content analysis, to enhance the support, confirmation, and complementarity of the current findings. Additionally, since this study focuses on examining the impact of internal corporate governance mechanisms on IR, future research should empirically examine the influence of other internal governance mechanisms, like sustainability and risk committee characteristics. In addition, future research should also explore the influence of other external corporate governance mechanisms on IRQ, such as external audit quality, regulation quality, corruption rates, democracy, political participation, and integrity levels. Moreover, because the current work focuses on the influence of characteristics of board directors and audit committees (size, independence, diversity, expertise, and meeting numbers) on IRQ, it could be useful to examine the impacts of other characteristics like their academic qualifications, professional certificates, and age. Besides that, as the current study focuses on investigating the determinants of IRQ, future studies may be needed to investigate the consequences of IRQ (i.e., ESG scores, credit ratings, cash holdings, SDG disclosures, and risk disclosures).

List of Publications

Published work.

Nada, O. H. A., & Győri, Z. (2023). Measuring the integrated reporting quality in Europe: balanced scorecard perspectives. *Journal of Financial Reporting and Accounting.*

Nada, O. H. A. (2022). Assessing human rights disclosure: An empirical analysis of the oil and gas sector. Prosperitas.

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Submitted Papers under review.

Nada, O. H. A., & Győri, Z. (submitted in Feb 2024). Integrated Reporting Adoption in SMEs: Case Study on Drivers and Challenges. *Journal of Financial Reporting and Accounting.*

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Nada, O. H. A., & Győri, Z. (2024). Determinants of the integrated reporting quality in European listed firms.

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