



Original Research

The Disclosure of Materiality in the Non-financial Reporting of Listed European Entities

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Abstract: Materiality is a crucial concept in accounting and auditing, allowing relevant matters to be determined from the perspective of the entity and its stakeholders. With the issuance of recent European Directives on sustainability, new issues have been emerging in regard to what concerns its definition and scope within the entities' non-financial information (NFI) reporting. This exploratory study addresses, through the lens of institutional theory, an objective linked to disclosures about materiality in NFI reporting, assessing this information with a breakdown by industry and country. The study adopts archival research as a method and content analysis as an investigation technique, using as a source different consolidated NFI reports (reports and accounts, sustainability, and integrated reports) relating to the year 2021 from the entities that make up the main indices of Euronext countries. Overall, the findings do not show a high disclosure level on the issues related to materiality, which means that a reduced level of transparency was found in the European entities' NFI reporting. Moreover, the findings do not support significant differences by country and industry. The study is pertinent in the context of the discussion about the content of disclosure of materiality in the NFI report. In addition, it assumes particular importance due to the diversity of topics addressed related to materiality in NFI reporting, making it relevant for standardization bodies, regulators, auditors, and different stakeholders of NFI reporting. As far as the authors are concerned, this is the first research that assesses the disclosure of materiality in NFI reporting, covering multiple European countries and industries.

Keywords: *Disclosure, Materiality, Non-financial Information Reporting, Stakeholders*

Introduction

Currently, materiality is a key element for most considerations made to maintain or improve users' decision-making, and it is essential to disclose information that is relevant to the analysis of the entity's performance and position in the context of its activity (Baumüller and Sopp 2022). Materiality judgments play an important role in this context, as they define the relevant matters to be included in the report, thus influencing the quantity and quality of the information disclosed (Baumüller and Sopp 2022; Rose et al. 1970; Edgley 2014; Jones et al. 2016). However, the practical application of the concept of materiality by entities, auditors, and stakeholders is challenging, as there are few clarifications and guidelines for effective use, and their perceptions may differ because of their interests (Brennan and Gray 2005; Iskandar 1996).

In a broader sense, it is possible to find some differences between the definitions of materiality in the context of financial and non-financial reporting (Faux 2012; Mio and Fasan 2013).

In particular, and in the context of financial information (FI), the International Standards on Auditing (ISA) 320 uses quantitative thresholds to assess the extent or nature of the distortion, such as percentages of items essential for the normal development of the activity, such as turnover or total assets (Brennan and Gray 2005). This approach is possible because, in addition to the data being amenable to interpretation through statistical analysis, there are markets where goods and services are traded, and prices are, as a rule, well defined (Mio and Fasan 2013). However, since the definition of materiality is not precise and the criteria that underpin it are not disclosed, there is some flexibility regarding its definition and implementation by preparers or auditors (Edgley 2014).

The opposite is true in non-financial information (NFI) analysis since it is impossible to quantify information that is not “defined in the market,” such as the value of death in the workplace (Mio and Fasan 2013). In addition, the NFI addresses a wider range of subjects, where it is concerned not only with the entity’s short-term vision but also with its sustainable development (Faux 2012).

Given the importance that the theme related to sustainability has assumed today, it is natural for the emergence and development of new concepts that allow us to follow this evolution (Jones et al. 2016). Different definitions of materiality in the context of NFI can be seen in the literature, demonstrating the diversity and complexity of this concept through its interconnection with multiple factors, namely, society, environment, workers, and stakeholders, among others (Bossut et al. 2021). Of all the approaches to materiality, double materiality stands out as an innovative concept that allows us to respond to the needs and evolutions of everyday life (PwC 2022). This concept was preliminarily described in 2019 by the European Commission (EC), formally drawing attention to the relevance of the need to acquire a complete view of the impacts of entities on the environment and society (European Commission 2019). From this new perspective, the concept of double materiality extends the applicability of the concept of materiality from the inclusion of impact materiality, where issues related to ESG dimensions are raised, thus extending the traditional focus of financial materiality toward investors to stakeholders, in general (Kleffel and Muck 2024). In this sense, the concept makes it possible to change the approach hitherto related exclusively to monetary values, starting to consider the opportunities and challenges of sustainable development (Puroila and Mäkelä 2019). According to the European directive related to sustainability reporting, applicable as of January 2024, companies must contemplate both impact and financial materiality perspectives, unveiling material information according to each and both perspectives (European Parliament and Council 2022).

Thus, this exploratory research aims to analyze, through key questions about materiality, the disclosure level of this matter in the NFI report. To this end, it seeks to identify potential differences around this variable across the entities’ industries and countries. Institutional

theory is proposed as the theoretical framework for this research since it has been identified as one of the theoretical bases underlying the study of materiality disclosure in NFI reporting, providing, as it does, a link between the disclosure levels of this matter and common regulatory contexts, such as national specificities and industries.

As far as the authors are concerned, this is the first research that assesses the disclosure of materiality in NFI reporting, covering multiple European countries and industries. There is an increase in the relevance of the concept of materiality for sustainability evaluation and reporting, widely recognizing the importance of the identification, prioritization, and disclosure of sustainability matters that have been considered material by companies (Jørgensen et al. 2021). It is also mentioned that, while the subjacent procedure to identify the materiality report content remains uncertain (Beske et al. 2020), companies may transform challenges into opportunities with the use of materiality disclosures as a way to enhance marketing, causing concerns related to the possibility of an inadequate accountability (Lakshan et al. 2022). Therefore, the subjectivity of the concept of materiality and the lack of an NFI reporting structure makes it difficult to harmonize the implementation and application of this concept in NFI reporting today (León and Salesa 2023). As such, the study is pertinent in the context of the discussion about both the content and the form of disclosure of materiality in the NFI report. In addition, it assumes particular importance due to the diversity of topics addressed related to materiality in NFI reporting, making it relevant for standardization bodies, regulators, auditors, and different stakeholders of NFI reporting.

This article consists of five sections, including the introduction. The second section is dedicated to the literature review; the third section concerns the materials and methods used; the fourth section is dedicated to the presentation and discussion of the findings; and the fifth section provides the conclusions, limitations, as well as suggestions for future research related to the subject of this investigation.

Literature Review

This section describes the development of regulation related to the disclosure of materiality under NFI and presents the link between this subject and institutional theory.

In the international framework, the International Financial Reporting Standards (IFRS) Foundation created, in 2021, a new standard-setting body, called the International Sustainability Standards Board (ISSB), which aims to issue standards for disclosure in sustainability and promote convergence between jurisdictions (Ferreira 2022). The proposals for sustainability standards developed by the ISSB have been created to provide information on sustainability-related risks and opportunities by entities at the request of the International Organization of Securities Commission (IOSCO) (IFRS, n.d.). Currently, the body has deliberated the proposals based on the feedback received regarding the issuance of the first

set of standards (IFRS, n.d.), and on June 26, 2023, the first two sustainability standards were issued, relating to the general requirements for the disclosure of NFI on sustainability and climate (IFRS 2023).

On the other hand, in the European Union (EU), previous efforts to disseminate NFI can be identified, through the issuance of regulations that have sought to disseminate the reporting of this information. Thus, the Non-Financial Reporting Directive (NFRD), issued in 2014, represents a relevant milestone in terms of NFI reporting, as it presents a regulatory action for the harmonization of NFI disclosure for all member states (La Torre et al. 2020). This directive discusses the need to improve the disclosure of NFI through the imposition of rules, representing an important step toward the harmonization of reporting and the formalization of transparency requirements, thus contributing to the improvement of the quality and quantity of NFI reporting (Ribeiro et al. 2019; Arif et al. 2021).

Under that directive, the obligation to report NFI is limited to large public interest entities with an average number of employees exceeding 500 on the date of the balance sheet (La Torre et al. 2020). The NFI to be disclosed must be presented through a non-financial statement, addressing, at a minimum, environmental, social and worker issues, considering human rights, anti-corruption, and bribery attempts (European Parliament 2014).

As a result of the implementation of this directive, some problems associated with the quality of reporting and accountability have been identified (Luque-Vilchez and Larrinaga 2016) as well as the difficulty in harmonizing and comparability of the information disclosed (La Torre et al. 2018; Mysaka et al. 2021).

Another problem highlighted in the literature is related to the voluntary or mandatory nature of the disclosure of this information (La Torre et al. 2018; Mata et al. 2018; Mohammed 2018; Santos and Rodrigues 2021). The acceptance of NFI as voluntary is controversial (Sullivan and Gouldson 2012), as there are authors who argue that such information is part of the scope of both types of reporting, financial and non-financial (La Torre et al. 2018; Tarquinio and Posadas 2020).

Additionally, within the EU scope, it is important to highlight the role played by the European Financial Reporting Advisory (EFRAG) throughout the process of endorsing the standards issued by the International Accounting Standards Board (IASB), providing support to the implementation of the requirements of EU legislation (Domingos et al. 2023). With a view to establishing a link between the EU accounting system, EFRAG prepares quality opinions and analyses for the EC against the standards proposed by the IASB (Coutinho 2011).

In the context of the need to evolve the regulations associated with NFI, EFRAG was entrusted, in 2021, with the development of the European Sustainability Reporting Standards (ESRS) project, related to the development of sustainability standards (EFRAG 2023a). The objective of the ESRS is not only to increase the scope and quality of sustainability reporting, promoting sustainable development through transparency (Denkstatt 2023), but also to provide relevant information to a wide range of stakeholders on the sustainability-related

impacts, risks, and opportunities of entities (PwC 2023), requiring entities to disclose NFI through a dual perspective materiality, in line with the ESRS (EFRAG 2023b).

Thus, in 2021, the Corporate Sustainability Reporting Directive (CSRD) was issued, which seeks to address some of the shortcomings of the previous directive, previously identified, as NFI preparers are now required to disclose information on ESG dimensions through the set of ESRS standards developed by EFRAG (2023b). Currently, EFRAG's priority is the implementation of ESRS regardless of industry, notwithstanding the existence of projects for the future development of sector-specific standards (EFRAG 2023a).

From the perspective of monitoring and participating in the evolution of international and European regulations related to NFI, the International Federation of Accountants (IFAC) released its feedback to the ESRS and the ISSB, in which it refers to its support for all efforts that allow better dissemination of information on sustainability and enable an increase in the capacity of entities to create value in the long term (IFAC 2023). IFAC also mentions the need to correct the differences that exist between the standards and that there is transparent communication between the different organizations to ensure greater connectivity between FI and sustainability information (IFAC 2023). In that context, to ensure confidence in NFI reporting, IFAC encourages the EU to engage in the ongoing dialogue between stakeholders and the International Auditing and Assurance Standards Board (IAASB). Finally, IFAC highlights the role of the International Ethics Standards Board for Accountants (IESBA) in defining ethical standards that ensure the production of reliable and high-quality information (IFAC 2023).

The importance of other standard-setting bodies that have also recently contributed to the field of NFI reporting (Domingos et al. 2023) also needs to be mentioned. In this sense, and despite the voluntary nature of reporting, several organizations have been identified, including the Financial Accounting Foundation (FAF) and the Securities and Exchange Commission (SEC), which have developed guidelines or sets of standards that enable entities to report NFI in a standardized and coherent manner, promoting their reliability and comparability (Arif et al. 2021). However, the most widely used guidelines in the context of voluntary reporting of NFIs include those currently issued by the Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC), and the Sustainability Accounting Standards Board (SASB) (Bhattacharyya and Yang 2019; Demir and Min 2019).

The standards most used in the preparation and dissemination of NFI are the GRI standards, Integrated Reporting (IR), and SASB standards. However, in the three frameworks, the concept and framing of materiality are carried out differently (Wu et al. 2018).

Sustainability reporting discloses a diverse set of topics, considering the interests of stakeholders (Reimsbach et al. 2020). In light of the GRI (2013) model, the function of sustainability reporting is to evaluate and disclose the sustainability performance of entities, being concerned with the creation of long-term value for the entity (Schmeltz 2014). Sustainability reporting is, according to the GRI model, based on the notion and influence

of the triple bottom line (Elkington 1997), consisting of three levels of performance, namely, economic, ecological, and social (GRI 2016). According to a survey conducted by KPMG, in 2017, 63 percent of the sustainability reports of the one hundred largest entities in the world and 75 percent of the entities that belong to the Fortune Global 500, were developed considering the GRI model, demonstrating its level of applicability (KPMG 2017).

From a broad perspective, and in light of the GRI (2021) model, materiality refers to factors that have a significant influence on the entity in the economic, environmental, and social domains, including citizens' human rights, in all activities and relationships that the entity develops, both internally and externally (Stroehle et al. 2022), and may include business strategies, business models, products and services, types of stakeholders, entity size, geographic presence, and business risk (Ngu and Amran 2018). In this sense, the objective of materiality analysis corresponds to the determination of the subjects or activities that influence the performance, commitment, and sustainable strategies of entities (Calabrese et al. 2017).

Materiality analysis, according to the GRI G4 guidelines (GRI 2013), must be carried out interactively with its stakeholders, with the material aspects being determined and prioritized by the level of priority and preference on the part of the stakeholders (Bossut et al. 2021). To ensure the comprehensiveness of the material issues and the needs of stakeholders, it is necessary to carry out systematic approaches (Calabrese et al. 2017). It is also important to highlight that the GRI published a standard called GRI 3, developed by the Global Sustainability Standards Board (GSSB), which discloses the material issues and a guideline for their determination, entering into force on January 1, 2023 (GRI 2021). Entities that apply their standards should divide the task of determining materiality into four stages, which only serve as a guideline and not as a mandatory requirement to be applied by all entities (GRI 2021).

For its part, the SASB, concerning materiality, follows the approach defined by the US's federal securities laws as well as the various SEC regulations (Wu et al. 2018). In this sense, according to SASB (2017, 11), issues are material when there is "a substantial probability that the disclosure of the omitted fact would have been seen by the reasonable investor as having significantly altered the 'total mix' of information made available." Thus, it is concluded that the SASB identifies material issues considering the more specific perspective of the investor (Reimsbach et al. 2018; Bossut et al. 2021).

To assist in understanding and guiding the application of the concept of materiality, SASB has developed a map, called Materiality Map, which allows the identification of sustainability issues that may impact the financial conditions or operational performance of entities (Pratoomsuwan and Chiaravutthi 2023), applicable to the determination of NFI materiality in different industries (Puroila and Mäkelä 2019).

Finally, the IR, developed by the IIRC, has the function of providing information regarding the relationship between entities and their stakeholders (Naynar et al. 2018). It consists of a model that privileges an integrated view, allowing the verification and analysis of information related to the creation of value for entities, through factors that include an

entity's strategy, governance, performance, and prospects in the short, medium, and long term (IIRC 2021).

Although the IIRC was not a pioneer in the development of policies and practices related to IR, it was through its formation in 2010 that the document gained prominence, having been adopted by more than 500 entities in 2018 (de Villiers et al. 2014; Parfitt 2024).

For the IIRC, a matter is a material issue when it can substantially influence the ability of entities to create value, in the short, medium, or long term, and the process of defining materiality is characterized by the degree of involvement with the highest bodies of management, privileging integrated thinking (IIRC 2021).

In the literature, institutional theory has been identified as one of the theoretical bases underlying the study of materiality disclosure in NFI reporting. Previous studies have relied on institutional theory to study the approach to materiality in the context of NFI (Lakshan et al. 2022; Mio et al. 2020; Pinheiro et al. 2023). Considering institutional theory, entities should adapt to institutional pressures if they want to acquire legitimacy in the entity domain (DiMaggio and Powell 1983). The mentioned institutional pressures lead to a process of homogenization, which in this context is classified as isomorphism in three different perspectives: coercive, mimetic, and normative isomorphism. Mimetic isomorphism occurs when companies replicate the action of other entities, usually the leaders in the market or the activity sector; coercive isomorphism occurs with the existence of pressure from stakeholders; finally, normative isomorphism is related to group standards that lead to the adoption of specific institutional practices (DiMaggio and Powell 1983).

In this context, Lakshan et al. (2022) have found that the embracing of material procedures is affected by isomorphic forces: coercive, mimetic, and normative. Posadas et al. (2023) concluded that mimetic and normative isomorphism affect positively the quality of sustainability reporting. However, the authors did not find confirmation of the influence of coercive isomorphism. Lakshan et al. (2022) have used institutional theory to study the difficulties found by companies in the determination of materiality levels and issues under mimetic and normative isomorphism pressures.

In a complementary view, it can also be found in the literature link between NFI disclosure and common regulatory contexts, such as national specificities and industries, through the lens of institutional theory. For instance, Pinheiro et al. (2023) found that local characteristics, such as institutional pressures, can influence the disclosure level of NFI and conclude that entities from similar industries are vulnerable to analogous institutional pressures related to actions engaged, accountability, and transparency regarding ESG topics.

Therefore, and based on institutional theory, this exploratory research aims to assess the disclosure level of this matter through key questions about materiality in the NFI report, seeking to identify potential differences across the entities' industries and countries.

The next section provides the material and methods underlying this research.

Materials and Methods

This exploratory study aims to analyze the disclosures relating to materiality in NFI reporting and potential differences around this element by industry and country. To this end, the study adopts archival research as a method and content analysis as an investigation technique, using the NFI report presented in different sources, namely, annual reports and accounts, sustainability reports, and integrated reports for the year 2021.

For the sample of this study, six of the seven countries that are part of the main global securities market of the EU, Euronext, were selected, for which the entity created local stock indices identifying each country. As a result, the only market not selected was Milan, as it does not have an associated index. The entities from each country under review are included in an index composed of the entities from each local market. In this sense, the sampled countries and their indices correspond to the local markets of Amsterdam (AEX index), Brussels (BEL-20 index), Dublin (ISEQ-20 index), Lisbon (PSI-20 index), Oslo (OBX GR index), and Paris (CAC-40 index). The identification of the entities was carried out by consulting the Euronext website. Finally, for entities that belonged to two or more indexes, the criterion of headquarters was used. At the end of the process, 144 entities that were part of these indexes were previously selected.

After this first selection criterion, a second criterion was adopted based on the identification of minimum disclosures regarding materiality in the NFI report used as a source, taking into account the search for the words “material” and/or “materiality” in the reference language of the report. After applying this criterion, thirty-three entities were identified that did not address the issue of materiality in the NFI report and were consequently excluded. Thus, after applying these criteria, the final research sample for this study corresponds to 111 entities from the six main Euronext indices. Then, six countries, which are part of the different local indices of Euronext, were identified and classified from “1” to “6.”

Table 1 summarizes the criteria applied for the selection of the research sample.

Table 1: Criteria Applied to the Research Sample

<i>Country (Index)</i>	<i>Classification</i>	<i>Initial Sample: Entities in Their Euronext Indices</i>	<i>Exclusions: Entities That Do Not Report Materiality in the Disclosure of NFI</i>	<i>Final Sample, in Number (%)</i>
Netherlands: Amsterdam Index (AEX)	Country 1	25	6	19 (17.1)
Belgium: Brussels Index (BEL-20)	Country 2	20	2	18 (16.2)
Ireland: Dublin Index (ISEQ-20)	Country 3	20	6	14 (12.6)

Portugal: Lisbon index (PSI-20)	Country 4	15	4	11 (9.9)
Norway: Oslo Index (OBX GR)	Country 5	25	6	19 (17.1)
France: Paris Index (CAC-40)	Country 6	39	9	30 (27.0)
Total		144	33	111

For the analysis of the data, different topics considered relevant to the understanding of materiality through key questions were selected. The eight key questions proposed are based on previous studies on the topic (Gagné et al. 2022; De Cristofaro and Raucci 2022; Rashed et al. 2022), complemented by the technical analysis carried out in the previous chapter. These key questions were classified as individual study items, to be analyzed based on the reading and analysis of the NFI report of each entity. Table 2 identifies the eight key materiality questions proposed in this study.

Table 2: Key Questions About Materiality in NFI Reporting

<i>Key Questions</i>
Q1: Does the entity have a materiality matrix (MM)?
Q2: Does the entity mention/identify the stakeholders that participated in the definition of MM?
Q3: Does the entity refer to the concept of double materiality?
Q4: Does the entity explain the listening techniques used to interact with its stakeholders?
Q5: Does the entity present the process of defining material topics?
Q6: Does the entity present the degree of relevance attributed to stakeholders for each material item?
Q7: Does the entity refer to the standard used in the preparation and disclosure of the NFI?
Q8: Does the entity submit the independent audit report on the NFI?

For each of the key questions, a value of “1” was assigned in case of a positive answer and a value of “0” for the remaining cases. The identification and compilation of the answers to the key questions also allowed the creation of a disclosure index (DI).

Equation 1 identifies the proposed calculation method for the DI.

$$DI = \frac{\sum_{i=1}^m d}{\sum_{i=1}^n d} \quad (1)$$

Note: $d = 1$ when the item is disclosed, $d = 0$ when the item is not disclosed, $m =$ number of items disclosed, and $n =$ number of items susceptible to disclosure.

The DI is thus characterized as the analysis variable of this study, allowing us to assess, in general terms, the disclosure level of materiality in the NFI report of the different entities according to the industry and the country.

Regarding the industry, thirty-one industries were identified, later grouped into six main industries, based on the Industry Classification Benchmark (ICB) and coded from “1” to “6,” as shown in Table 3.

Table 3: Distribution of Entities by Industry

<i>Industry (ICB Rating)</i>	<i>Encoding</i>	<i>Number of Entities Observed</i>	<i>% of Entities Observed</i>
Telecommunications (10) and Technologies (15)	Industry 1	12	10.8
Health (20)	Industry 2	4	3.6
Finance (30) and Real Estate (35)	Industry 3	24	21.6
Consumer Goods (40)	Industry 4	25	22.5
Industry (50) and basic materials (55)	Industry 5	33	29.7
Energy (60) and utilities (65)	Industry 6	13	11.7
Total	—	111	100

The statistical analyses proposed for this study include descriptive statistics and non-parametric tests. It is important to note the small number of entities included in Industry 2, which is why the results of this study relating to this grouping should consider this limitation in the context.

The non-parametric tests performed refer to the chi-square and the Mann-Whitney *U*. In the context of this study, the chi-square test was used to evaluate significant differences in the answers to each of the key questions about materiality by each of the subgroups of the sample. On the other hand, the Mann-Whitney *U* test is used to evaluate significant differences in the responses to each of the DI by each of the subgroups of the sample. In the case of dichotomous variables, the coding inherent to the classification proposed in each case was used as a reference, assigning the value “1” when the entity belonged to the reference subgroup (subsample) and “0” in the other cases.

The next section is dedicated to the presentation and discussion of the results obtained for the objective associated with the study.

Results and Discussion

The following tables present the disclosure level of materiality in NFI reporting, considering the key questions on materiality, coded by “Q.” In addition, it highlights the statistically significant differences for the subgroups using the Mann-Whitney *U* test for the mean ID and

the chi-square test for each of the eight key questions. The overall ID refers to the analysis of the disclosure on the key materiality questions considering the entire sample, presenting the same value in those tables, as a comparative reference.

Thus, it can be seen in these tables that the average global ID is 50 percent, with the key materiality questions with the highest disclosure frequencies being Q1 (71%) and Q7 (84%), while Q3 (16%) and Q6 (14%) are characterized by the low disclosure level. It should be noted that the GRI represents, alone or jointly with the SASB, the standard most used by the entities that disclose this information within the scope of Q7, constituting about 84 percent of these cases.

Table 4 shows the disclosure level of key materiality questions by country.

Table Error! No text of specified style in document.: Key Issues by Country (as a Percentage)

Key Issues	Countries						ID Global
	Country 1	Country 2	Country 3	Country 4	Country 5	Country 6	
Q1	74	67	79	64	53**	83*	71
Q2	79	61	57	64	74	53	64
Q3	16	17	21	9	16	17	16
Q4	58	22**	50	45	58	53	49
Q5	58	33	57	55	47	43	48
Q6	26	17	14	27	11	3**	14
Q7	84	89	71	73	89	87	84
Q8	63	44	29*	82**	53	50	52
Average ID	57	44	47	52	50	49	50

Notes: country 1, Netherlands: Amsterdam index (AEX); country 2, Belgium: Brussels index (BEL-20); country 3, Ireland: Dublin index (ISEQ-20); country 4, Portugal: Lisbon index (PSI-20); country 5, Norway: Oslo index (OBX GR); country 6, France: Paris index (CAC-40); ID, disclosure index. *Significance level at 10%; **significance level at 5%; significance level at 1%.

The data in Table 4 identifies country 1 with the highest disclosure level (57%), as opposed to country 2 (44%) and country 3 (47%), with the lowest disclosure levels among the countries in the sample. However, there are no significant differences in the analysis of the average disclosure levels according to the country, according to the Mann-Whitney *U* test.

For key reasons, and based on the chi-square test, there are significant differences for Q1 (country 6) and Q8 (country 4), with higher disclosure levels, as well as for Q1 (country 5), Q4 (country 2), Q6 (country 6), Q8 (country 3), and Q8 (country 3) in the opposite direction, i.e., with the lowest disclosure levels. Country 1's disclosure level is also noteworthy, as it has equal or higher disclosure levels on all key issues compared to the global ID. On the other hand, countries 2 and 4 have lower disclosure levels than the global ID on five of the eight

key questions. In addition, there are high disclosure levels for Q7, both in countries 2 and 5, approaching 90 percent, as well as the disclosure levels of Q1 in country 6 and Q8 in country 4, in contrast to the disclosure levels of Q3 in country 4 and Q6 in countries 3, 5, and 6, which are lower than 15 percent.

Table 5 shows the disclosure level of key materiality questions by industry.

Table 5: Key Issues by Industry (as a Percentage)

Key Issues	Industries						ID
	Industry 1	Industry 2	Industry 3	Industry 4	Industry 5	Industry 6	Global
Q1	75	25**	88**	76	67	54	71
Q2	92**	25*	63	56	67	62	64
Q3	8	0	13	28*	15	15	16
Q4	67	0**	42	48	58	38	49
Q5	58	25	42	48	55	38	48
Q6	50***	0	4	20	6	15	14
Q7	92	75	71*	84	94*	77	84
Q8	58	25	46	44	64	54	52
Average ID	63*	22**	46	51	53	44	50

Notes: industry 1, telecommunications (10) and technologies (15); industry 2, health (20); industry 3, finance (30) and real estate (35); industry 4, consumer goods (40); industry 5, industry (50) and basic materials (55); industry 6, energy (60) and utilities (65); ID, disclosure index. *Significance level at 10%; **significance level at 5%; ***significance level at 1%.

The data in Table 5 identifies industry 1 with the highest disclosure level (63%), in contrast to industry 2 (22%). Thus, the first is characterized by the presentation of a disclosure level that is 13 percentage points higher than the overall ID and is lower than the same indicator by 28 percentage points in the second case. In this sense, the Mann-Whitney test found, for different reasons, significant differences between the average disclosure levels for industry 1 and industry 2.

In the analysis by key questions, there were significant differences for all key questions, except for Q5 and Q8. It is important to highlight the disclosure level of industries 1 and 5, which have disclosure levels above the overall ID for most of the key issues. On the other hand, industries 3 and 6 have lower disclosure levels than the global ID on at least seven key issues. Industry 2 is the one where this is verified for most of the key issues, with two issues (Q3 and Q6) being identified with no positive record for any entity in this industry. However, although the disclosure level of Industry 2 is the lowest (22%), it should be noted that this industry represents only 4 percent of the total sample, which may have influenced this result. Finally, highlight the high disclosure levels identified for Industry 1 in Q2 and Q7, in Industry

3 for Q1, and, finally, in Industry 5 for Q7, being above 85 percent. On the other hand, Q3 in industry 1 and Q6 in industries 3 and 5 have disclosure levels of less than 10 percent.

To sum up, and based on the descriptive analysis, the analysis by key issues revealed higher disclosure levels identified concerning the disclosure of the standard used in the preparation of the NFI (which is mostly the GRI standard) and in the presentation of the MM, while the key issues characterized by the lowest disclosure refer to the presentation of the degree of relevance attributed to stakeholders for each material item and the reference to the concept of double materiality.

The country with the highest disclosure level is the Netherlands, with around 57 percent, while Belgium and Ireland have the lowest disclosure levels, with lower disclosure levels between 44 and 47 percent. In any case, the differences between countries and the level of global disclosure (50%) are not significant, as it does not exceed 7 percentage points. The industry with the highest disclosure level is associated with telecommunications and technology, with around 63 percent, contrasting with the industries related to health, finance, and real estate, as well as energy and utilities, which have disclosure levels below 50 percent.

As for the industry, the findings also did not allow us to support significant differences in the disclosure level of NFI by industry. This conclusion does not corroborate the indications found in the literature (Fahmi et al. 2022; Fasan and Mio 2017; Pinheiro et al. 2023). However, as mentioned during the analysis of the key questions on materiality and industry, industry two constitutes only 4 percent of the total sample, which may have biased the results obtained.

Finally, it was also not confirmed whether there were significant differences in the disclosure level in the NFI report by country. In the literature, some studies support this influence (Dagiliené and Nedzinskiene 2018; Mohamed and Salah 2016; Orij 2010; Smith et al. 2005; Vitolla et al. 2019), while others do not prove it (Fasan and Mio 2017). Thus, the findings from this research may have been influenced by the fact that all the countries analyzed are part of the EU, are subject to identical regulations and have relatively similar levels of development. Consequently, they are under similar levels of pressure from stakeholders and adopt relatively close disclosure policies (Fasan and Mio 2017).

The final section provides the conclusions from this research and its limitations and avenues for future research.

Conclusion

The objective of this study concerns the information related to materiality in the reporting of the NFI, focusing on the analysis of its disclosure level according to the entities' countries and industries in line with institutional theory. Overall, the findings do not show a high disclosure level in regard to the issues related to materiality, implying that a reduced level of transparency was found in the European entities' NFI reporting. Furthermore, the study

identified differences in the disclosure level of materiality between the different key issues under assessment but not significantly across industries and countries. Consequently, it only corroborates the institutional theory in that the European regulatory framework has been equally enforcing European companies to comply with it regardless of those characteristics.

The study contributes to the academic and business environments, which include regulatory bodies, supervisors, auditors, and different stakeholders of NFI reporting, due to the different approaches proposed around materiality in this area, namely, in terms of its dissemination. From the company's point of view, managers may gain a global perspective on the average level of NFI disclosure across industries, including the information about materiality, the techniques used to interact with stakeholders, and the process of defining material topics. For regulatory bodies, the implication of this research includes the finding that the countries that are part of the EU have similar levels of NFI disclosure, confirming a similarity in the application of regulations. It also makes it possible to verify the potential patterns around the disclosure of materiality depending on the location and industry of the entities.

However, the study has some limitations. The first concerns the size of the sample used, which was configured as a restriction element for the analysis of some of the subgroups that make up the subgroups of country and industry. In addition, the subjectivity inherent to the data collection process, since it is an investigation based on archival research and content analysis, can cause biases in the collection and analysis of information.

To fill these gaps, future research can expand the sample size and propose methods that eventually mitigate the role of the researcher in this process, namely, using software based on artificial intelligence and machine learning. Future studies may also identify whether events with adverse impacts on the entities, namely, the COVID-19 pandemic or the war in Ukraine, caused changes in the disclosure regarding materiality in the entities' NFI reporting, in terms of both content and the disclosure level.

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The authors declare that generative AI or AI-assisted technologies were not used in any way to prepare, write, or complete essential authoring tasks in this manuscript.

Conflict of Interest

The author declares that there is no conflict of interest.

REFERENCES

- Arif, Muhammad, Christopher Gan, and Muhammad Nadeem. 2021. "Regulating Non-Financial Reporting: Evidence from European Firms' Environmental, Social and Governance Disclosures and Earnings Risk." *Meditari Accountancy Research* 30 (3): 495–523. <https://doi.org/10.1108/MEDAR-11-2020-1086>.
- Baumüller, Josef, and Karina Sopp. 2022. "Double Materiality and the Shift from Non-Financial to European Sustainability Reporting: Review, Outlook and Implications." *Journal of Applied Accounting Research* 23 (1): 8–28. <https://doi.org/10.1108/JAAR-04-2021-0114>.
- Beske, Felix, Ellen Haustein, and Peter C. Lorson. 2020. "Materiality Analysis in Sustainability and Integrated Reports." *Sustainability Accounting, Management and Policy Journal* 11 (1): 162–186. <https://doi.org/10.1108/SAMPJ-12-2018-0343>.
- Bhattacharyya, Asit, and Hao Yang. 2019. "Biodiversity Disclosure in Australia: Effect of GRI and Institutional Factors." *Australasian Journal of Environmental Management* 26 (4): 347–369. <https://doi.org/10.1080/14486563.2019.1629544>.
- Bossut, Mathilde, Ingmar Jürgens, Thomas Pioch, Frank Schiemann, Theresa Spandel, and Raphael Tietmeyer. 2021. "What Information Is Relevant for Sustainability Reporting? The Concept of Materiality and the EU Corporate Sustainability Reporting Directive." *Sustainable Finance Research Platform, Policy Brief*. https://wpsf.de/wp-content/uploads/2021/09/WPSF_PolicyBrief_7-2021_Materiality.pdf.
- Brennan, Niamh M., and Sidney J. Gray. 2005. "The Impact of Materiality: Accounting's Best Kept Secret." *Asian Academy of Management, Journal of Accounting and Finance* 1:1–31.
- Calabrese, Armando, Roberta Costa, Nathan Levaldi Ghiron, and Tamara Menichini. 2017. "Materiality Analysis in Sustainability Reporting: A Method for Making It Work in Practice." *European Journal of Sustainable Development* 6 (3): 439–447. <https://doi.org/10.14207/ejsd.2017.v6n3p439>.
- Coutinho, Maria L. M. Q. 2011. "Regulamento 1606/2002 CE: Mecanismos de Endosso dasof IAS/IFRS" [Regulation (EC 1606/2002: Endorsement Mechanisms of IAS/IFRS]. Master's thesis, Universidade de Aveiro. <https://ria.ua.pt/bitstream/10773/7426/1/245109.pdf>.
- Dagilienė, Lina, and Nedzinskienė, Rūta. 2018. "An Institutional Theory Perspective on Non-Financial Reporting: The Developing Baltic Context." *Journal of Financial Reporting and Accounting* 16 (4): 490–521. <https://doi.org/10.1108/JFRA-06-2016-0054>.

- Denkstatt. 2023. “European Sustainability Reporting Standards (ESRS) in a Nutshell: Promoting Transparency and Accountability in Companies.” <https://denkstatt.eu/esrs-standards-explained/>.
- De Cristofaro, Tiziana, and Domenico Raucci. 2022. “Rise and Fall of the Materiality Matrix: Lessons from a Missed Takeoff.” *Administrative Sciences* 12 (4): 186. <https://doi.org/10.3390/admsci12040186>.
- Demir, Mert, and Maung Min. 2019. “Consistencies and Discrepancies in Corporate Social Responsibility Reporting in the Pharmaceutical Industry.” *Sustainability Accounting, Management and Policy Journal* 10 (2): 333–364. <https://doi.org/10.1108/SAMPJ-03-2018-0094>.
- de Villiers, Charl, Leonardo Rinaldi, and Jeffrey Unerman. 2014. “Integrated Reporting: Insights, Gaps and an Agenda for Future Research.” *Accounting Auditing & Accountability Journal* 27 (7): 1042–1067. <https://doi.org/10.1108/AAAJ-06-2014-1736>.
- DiMaggio, Paul J., and Walter W. Powell. 1983. “The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields.” *American Sociological Review* 48 (2): 147–160. <https://www.jstor.org/stable/2095101>.
- Domingos, Alexandra, Fábio Albuquerque, and Ana Isabel Dias. 2023. “Exploring Drivers and Barriers of Accounting Students’ Motivation for Non-Financial Information.” In *Handbook of Research on Implications of Sustainable Development in Higher Education*, edited by E. Meletiadou, 71–96. IGI Global.
- Edgley, Carla. 2014. “A Genealogy of Accounting Materiality.” *Critical Perspectives on Accounting* 25 (3): 255–271. <https://doi.org/10.1016/j.cpa.2013.06.001>.
- EFRAG (European Financial Reporting Advisory). 2023a. “First Set of Draft ESRS.” <https://www.efrag.org/en/sustainability-reporting/esrs/sector-agnostic/first-set-of-draft-esrs>.
- EFRAG (European Financial Reporting Advisory). 2023b. “EFRAG Sector Specific ESRS.” <https://www.efrag.org/en/sustainability-reporting/esrs-workstreams/sectorspecific-esrs>.
- Elkington, J. 1997. *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. 1st ed. John Wiley and Sons.
- European Commission. 2019. “Guidelines on Reporting Climate-Related Information.” https://ec.europa.eu/finance/docs/policy/190618-climate-related-information-reporting-guidelines_en.pdf.
- European Parliament. 2014. “Directive 2014/95/EU of the European Parliament and of the Council.” <https://eur-lex.europa.eu/legal-content/PT/TXT/HTML/?uri=CELEX:32014L0095&from=EN>.
- European Parliament and Council. 2022. “Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 Amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU,

- as Regards Corporate Sustainability Reporting.” <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022L2464>.
- Fahmi, Fadzlina Mohd, Nur Fathin R. Azmi, and Tuan Zainun Tuan Mat. 2022. “Corporate Characteristics and Sustainability Reporting: From the Lens of the Legitimacy Theory.” *Asia-Pacific Management Accounting Journal* 17 (2): 101–130. <https://doi.org/10.24191/APMAJ.V17i2-04>.
- Fasan, Marco, and Chiara Mio. 2017. “Fostering Stakeholder Engagement: The Role of Materiality Disclosure in Integrated Reporting.” *Business Strategy and the Environment* 26:288–305. <https://doi.org/10.1002/bse.1917>.
- Faux, Jeffrey. 2012. “Environmental Event Materiality and Decision Making.” *Managerial Auditing Journal* 27 (3): 284–298. <https://doi.org/10.1108/02686901211207500>.
- Ferreira, Priscila Cristine Pacheco. 2022. “Influência do Lobbying no Processo de Constituição do International Sustainability Standards Board (ISSB)” [Influence of Lobbying on the Process of Establishing the International Sustainability Standards Board (ISSB)]. Master thesis, Universidade Federal de Pernambuco. <https://repositorio.ufpe.br/bitstream/123456789/46246/1/DISSERTA%c3%87%c3%83O%20Priscila%20Cristine%20Pacheco%20Ferreira.pdf>.
- Gagné, Vincent, Sylvie Berthelot, and Michel Coulmont. 2022. “Stakeholder Engagement Practices and Impression Management.” *Journal of Global Responsibility* 13 (2): 217–241. <https://doi.org/10.1108/JGR-03-2021-0036>.
- GRI (Global Reporting Initiative). 2013. “Reporting Principles and Standard Disclosure.” <https://respect.international/g4-sustainability-reporting-guidelines-reporting-principles-and-standard-disclosures/>.
- GRI (Global Reporting Initiative). 2016. “GRI 101: Foundation 2016, Amsterdam.” <https://reportadviser.com/wp-content/uploads/2021/05/GRI-101-foundation-2016.pdf>.
- GRI (Global Reporting Initiative). 2021. “GRI 3: Material Topics 2021.” <https://globalreporting.org/pdf.ashx?id=12453>.
- IFAC (International Federation of Accountants). 2023. “IFAC Responds to European Sustainability Reporting Standards.” <https://www.ifac.org/news-events/2023-07/ifac-responds-european-sustainability-reporting-standards>.
- IFRS (International Financial Reporting Standards). n.d. “About the International Sustainability Standards Board.” Accessed September 10, 2023. <https://www.ifrs.org/groups/international-sustainability-standards-board/>.
- IFRS (International Financial Reporting Standards). 2023. “ISSB Issues Inaugural Global Sustainability Disclosure Standards.” <https://www.ifrs.org/news-and-events/news/2023/06/issb-issues-ifrs-s1-ifrs-s2/>.
- IIRC (International Integrated Reporting Council). 2021. “The International <IR> Framework.” <https://www.integratedreporting.org/wp-content/uploads/2021/01/InternationalIntegratedReportingFramework.pdf>.

- Iskandar, Takiah M. 1996. "Industry Type: A Factor in Materiality Judgements and Risk Assessments." *Managerial Auditing Journal* 11 (3): 4–10. <https://doi.org/10.1108/02686909610115196>.
- Jones, Peter, Daphne Comfort, and David Hillier. 2016. "Managing Materiality: A Preliminary Examination of the Adoption of the New GRI G4 Guidelines on Materiality Within the Business Community." *Journal of Public Affairs* 16 (3): 222–230. <https://doi.org/10.1002/pa.1586>.
- Jørgensen, Sveinung, Aksel Mjøs, and Lars Jacob Tynes Pedersen. 2021. "Sustainability Reporting and Approaches to Materiality: Tensions and Potential Resolutions." *Sustainability Accounting, Management and Policy Journal* 13 (2): 341–361. <https://doi.org/10.1108/SAMPJ-01-2021-0009>.
- Kleffel, Philipp, and Matthias Muck. 2024. "The Confusion of Taste and Consumption: Evidence from a Stated-Choice Experiment." *Journal of Behavioral and Experimental Finance* (2024): 100964. <https://doi.org/10.1016/j.jbef.2024.100964>.
- KPMG. 2017. "The Road Ahead. The KPMG Survey of Corporate Responsibility Reporting 2017." <https://assets.kpmg/content/dam/kpmg/be/pdf/2017/kpmg-survey-of-corporate-responsibility-reporting-2017.pdf>.
- Lakshan, A. M. I., Mary Low, and Charl de Villiers. 2022. "Challenges of, and Techniques for, Materiality Determination of Non-financial Information Used by Integrated Report Preparers." *Meditari Accountancy Research* 30 (3): 626–660. <https://doi.org/10.1108/MEDAR-11-2020-1107>.
- La Torre, Matteo, Svetlana Sabelfeld, Marita Blomkvist, and John Dumay. 2020. "Rebuilding Trust: Sustainability and Non-Financial Reporting and the European Union Regulation." *Meditari Accountancy Research* 28 (5): 701–725. <https://doi.org/10.1108/MEDAR-06-2020-0914>.
- La Torre, Matteo, Svetlana Sabelfeld, Marita Blomkvist, Lara Tarquinio, and John Dumay. 2018. "Harmonising Non-Financial Reporting Regulation in Europe: Practical Forces and Projections for Future Research." *Meditari Accountancy Research* 26 (4): 598–621. <https://doi.org/10.1108/MEDAR-02-2018-0290>.
- León, Raúl, and Aitor Salesa. 2023. "Is Sustainability Reporting Disclosing What Is Relevant? Assessing Materiality Accuracy in the Spanish Telecommunication Industry." *Environment, Development and Sustainability* 26:1–28. <https://doi.org/10.1007/s10668-023-03537-x>.
- Luque-Vilchez, Mercedes, and Carlos Larrinaga. 2016. "Reporting Models Do Not Translate Well: Failing to Regulate CSR Reporting in Spain." *Social and Environmental Accountability Journal* 36 (1): 56–75. <https://doi.org/10.1080/0969160X.2016.1149301>.
- Mata, Carlos, Ana Fialho, and Teresa Eugénio. 2018. "A Decade of Environmental Accounting Reporting: What We Know?" *Journal of Cleaner Production* 198:1198–1209. <https://doi.org/10.1016/j.jclepro.2018.07.087>.

- Mio, Chiara, and Marco Fasan. 2013. *Materiality from Financial Towards Non-Financial*. Working Paper Series. Università Ca' Foscari Venezia.
- Mio, Chiara, Marco Fasan, and Antonio Costantini. 2020. "Materiality in Integrated and Sustainability Reporting: A Paradigm Shift?" *Business Strategy and the Environment* 29 (1): 306–320. <https://doi.org/10.1002/bse.2390>.
- Mohamed, Iman M. Arafa, and Wafaa Salah. 2016. "Investigating Corporate Social Responsibility Disclosure by Banks from Institutional Theory Perspective." *Journal of Administrative and Business Studies* 2 (6): 280–293. <https://econpapers.repec.org/scripts/redir.pf?u=https%3A%2F%2Fdoi.org%2F10.20474%252Fjabs-2.6.3;h=repec:apb:jabsss:2016:p:280-293>.
- Mohammed, Sani D. 2018. "Mandatory Social and Environmental Disclosure: A Performance Evaluation of Listed Nigerian Oil and Gas Companies Pre- and Post-Mandatory Disclosure Requirements." *Journal of Finance and Accounting* 6 (2), 56–68. <https://doi.org/10.11648/j.jfa.20180602.12>.
- Mysaka, Hanna, Ivan Derun, and Iryna Skliaruk. 2021. "The Role of Non-Financial Reporting in Modern Ecological Problems Updating and Solving." *Journal of Environmental Management and Tourism* 12 (1): 18–29. [https://doi.org/10.14505/jemt.v12.1\(49\).02](https://doi.org/10.14505/jemt.v12.1(49).02).
- Naynar, Nolin Riley, Asheer Jaywant Ram, and Warren Maroun. 2018. "Expectation Gap Between Preparers and Stakeholders in Integrated Reporting." *Meditari Accountancy Research* 26 (2): 241–262. <https://doi.org/10.1108/MEDAR-12-2017-0249>.
- Ngu, Sie Bing, and Azlan Amran. 2018. "Materiality Disclosure in Sustainability Reporting: Fostering Stakeholder Engagement." *Strategic Direction* 34 (5): 1–4. <https://doi.org/10.1108/SD-01-2018-0002>.
- Orij, René. 2010. "Corporate Social Disclosures in the Context of National Cultures and Stakeholder Theory." *Accounting, Auditing & Accountability Journal* 23 (7): 868–889. <https://doi.org/10.1108/09513571011080162>.
- Parfitt, Claire. 2024. "A Foundation for 'Ethical Capital': The Sustainability Accounting Standards Board and Integrated Reporting." *Critical Perspectives on Accounting* 98:102477. <https://doi.org/10.1016/j.cpa.2022.102477>.
- Pinheiro, Alan Bandeira, Marcelle Colares Oliveira, and M. Belén Lozano. 2023. "The Effects of National Culture on Environmental Disclosure: A Cross-Country Analysis." *Revista Contabilidade & Finanças* 34 (91): 1–15. <https://doi.org/10.1590/1808-057x20221636.en>.
- Posadas, Stefanía Carolina, Silvia Ruiz-Blanco, Belen Fernandez-Feijoo, and Lara Tarquinio. 2023. "Institutional Isomorphism Under the Test of Non-Financial Reporting Directive. Evidence from Italy and Spain." *Meditari Accountancy Research* 31 (7): 26–48. <https://doi.org/10.1108/MEDAR-02-2022-1606>.
- Pratoomsuwan, Thanyawee, and Yingyot Chiaravutthi. 2023. "The Interaction of Corporate Social Responsibility (CSR) Materiality and Explicit Assessment on Willingness to

- Invest: Perception of Financial Analysts.” *Asian Journal of Accounting Research* 8 (2): 122–132. <https://doi.org/10.1108/AJAR-01-2022-0012>.
- Puroila, Jenni, and Hannele Mäkelä. 2019. “Matter of Opinion: Exploring the Socio-Political Nature of Materiality Disclosures in Sustainability Reporting.” *Accounting, Auditing & Accountability Journal* 32 (4): 1043–1072. <https://doi.org/10.1108/AAAJ-11-2016-2788>.
- PwC. 2022. “Dupla Materialidade” [Double Materiality]. <https://www.pwc.pt/pt/sustentabilidade/docs/pwc-sustentabilidade-dupla-materialidade-metodologia.pdf>.
- PwC. 2023. “Normas de Relato de Sustentabilidade da UE (ESRS)” [European Sustainability Reporting Standards]. <https://www.pwc.pt/pt/sustentabilidade/docs/pwc-sustentabilidade-normas-relato.pdf>.
- Rashed, Abdulkarim Hasan, Suad Ahmed Rashdan, and Ahmed Y. Ali-Mohamed. 2022. “Towards Effective Environmental Sustainability Reporting in the Large Industrial Sector of Bahrain.” *Sustainability* 14 (1): 219. <https://doi.org/10.3390/su14010219>.
- Reimsbach, Daniel, Rüdiger Hahn, and Anil Gürtürk. 2018. “Integrated Reporting and Assurance of Sustainability Information: An Experimental Study on Professional Investors’ Information Processing.” *European Accounting Review* 27 (3): 559–581. <https://doi.org/10.1080/09638180.2016.1273787>.
- Reimsbach, Daniel, Frank Schiemann, and Eric Schmiedchen. 2020. “In the Eyes of the Beholder: Experimental Evidence on the Contested Nature of Materiality in Sustainability Reporting.” *Organization & Environment* 33 (4): 624–651. <https://doi.org/10.1177/1086026619875436>.
- Ribeiro, Marco Ferreira, Vasco Saraiva, Paulo Pereira, and Célia Ribeiro. 2019. “Escala de Motivação Académica: Validação no Ensino Superior Público Português” [Academic Motivation Scale: Validation in Portuguese Public Higher Education]. *Revista de Administração Contemporânea* 23 (3): 288–310. <https://doi.org/10.1590/1982-7849rac2019180190>.
- Rose, J., William Beaver, Gary S. Becker, and George H. Sorter. 1970. “Toward an Empirical Measure of Materiality.” *Journal of Accounting Research* 8:138–148. <https://doi.org/10.2307/2674700>.
- Santos, Aldina Lopes, and Lúcia Lima Rodrigues. 2021. “Banks and Climate-Related Information: The Case of Portugal.” *Sustainability* 13 (21): 12215. <https://doi.org/10.3390/su132112215>.
- SASB (Sustainability Accounting Standards Board). 2017. “SASB Conceptual Framework.” https://www.sasb.org/wp-content/uploads/2020/02/SASB_Conceptual-Framework_WATERMARK.pdf.
- Schmeltz, Line. 2014. “Introducing Value-Based Framing as a Strategy for Communicating CSR.” *Social Responsibility Journal* 10 (1): 184–206. <https://doi.org/10.1108/SRJ-06-2012-0065>.

- Smith, Joyce Van der Laan, Ajay Adhikari, and Rasoul H. Tondkar. 2005. "Exploring Differences in Social Disclosures Internationally: A Stakeholder Perspective." *Journal of Accounting and Public Policy* 24 (2): 123–151. <https://doi.org/10.1016/j.jaccpubpol.2004.12.007>.
- Stroehle, Judith C., Kazbi Soonawalla, and Marcel Metzner. 2022. "Through the Looking Glass: Tying Performance and Materiality to Corporate Purpose." *Journal of the British Academy* 10 (s5): 87–123. <https://ssrn.com/abstract=4456656>.
- Sullivan, Rory, and Andy Gouldson. 2012. "Does Voluntary Carbon Reporting Meet Investors' Needs?" *Journal of Cleaner Production* 36:60–67. <https://doi.org/10.1016/j.jclepro.2012.02.020>.
- Tarquínio, Lara, and Stefania Carolina Posadas. 2020. "Exploring the Term 'Non-financial Information': An Academics' View." *Meditari Accountancy Research* 28 (5): 727–749. <https://doi.org/10.1108/MEDAR-11-2019-0602>.
- Vitolla, Filippo, Nicola Raimo, Michele Rubino, and Antonello Garzoni. 2019. "How Pressure from Stakeholders Affects Integrated Reporting Quality." *Corporate Social Responsibility and Environmental Management* 26 (6): 1591–1606. <https://doi.org/10.1002/csr.1850>.
- Wu, Susie Ruqun, Changliang Shao, and Jiquan Chen. 2018. "Approaches on the Screening Methods for Materiality in Sustainability Reporting." *Sustainability* 10 (9): 3233. <https://doi.org/10.3390/su10093233>.

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