The Impact of Sustainable Development Goals at the National Level Case Study (2022-2023): Examination of the Corporate Social Responsibility Reports of the Eight Largest Companies in Greece

VASILIS MENEXES-EMVRAIZOGLOU, DOROTHEA KASITEROPOULOU
Department of Environmental Sciences,
School of Technology,
University of Thessaly,
Campus Gaiopolis, Larissa-Trikala Ring Road, GR41500, Larissa,
GREECE

Abstract: - The study examines how corporations contribute to economic, social, and environmental sustainability by using sustainability indicators. Utilizing a methodology taken from the most recent GRI Guidelines, the study examines the sustainability reports submitted by eight Greek companies in 2022. The findings show that there is satisfactory integration of the essential management principles and practices in the process and content of Corporate Social Responsibilities. In the sphere of social, economic, and environmental aspects, the paper proposes several aspects that need improvement and, through this, provides recommendations for the betterment of the situation. A methodology and framework for ensuring sustainable development is presented in this paper.

Key-Words: - Sustainable Development Goals, Environmental Social and Governance, Investment, Corporate Social Responsibility, Sustainability reporting, large corporations, GRI Guidelines**,** Stakeholder Engagement, Materiality.

Received: April 4, 2026. Revised: May 13, 2026. Accepted: June 17, 2026. Published: July 30, 2026.

1 Introduction

While looking for answers on how to support and maintain life on the planet, the need to live sustainably in the corporate world emerges. The corporate world has now come under the compulsion to make sustainability its goal, and it has become the need of the day because the long-term viability and competitiveness of businesses also depend on this. The corporate governance and investment systems need to focus beyond the marketplace and include factors like the environment. This means that adopting practices that protect the natural environment is necessary for the survival and development of a business. Based on this perspective, environmental standards are formulated that are directly related to environmental governance. These include two broad categories. The first category applies to the organization's energy consumption, waste management, and adherence to laws on pollution and the use of natural resources. The second category builds on the first since the first category entails evaluating the risks involved in the environment that the company could experience and the means through which the risks could be properly managed.

2 Defining the Problem

The inadequacy of covering the basic aspects of business activities in relation to the interests of the relevant parties seems to be an important issue in CSR reports. The needs of the parties involved and their implications on the viability of the businesses are dependent on some essential factors such as the type of the business, the scope of the company, the ownership factors, and the social and cultural setting. Thus, all issues related to sustainability and their priority may not be the same in all businesses. Previous studies have focused on quantitative methods to assess the antecedent themes of sustainability reports, considering the issues of subjectivity and completeness of reports. Even though there are more CSR reports and they are better, the results of quality assessments are still mixed. These conclusions are very important for businesses because they make disclosure and accountability to stakeholders better. Comparing corporate sustainability reports is challenging, though, because corporate account valuation is complicated and erratic.

2.1 Climate Change

The climate crisis is the cornerstone of the effort for environmental governance and sustainability. It is also a fact that has been widely recognized by the markets, as scientific research has demonstrated the anthropogenic effect on global temperature. This has raised concerns among the investors and shareholders, who are demanding assurance concerning the long-term performance of their investments. As a result, climate change has spread its impact even in the economic field, where businesses are forced to adjust to the new environment. Furthermore, it appears to be one of the major factors in the management of the environment, as scientific studies vigorously prove the occurrence of the issue. The human effect on this change is of concern to investors and shareholders, as it calls into question the viability of investments and businesses. This concern also extends to the financial sector, as adapting to climate change requires new business practices and investment strategies. Based on the recognition of climate change, businesses are faced with a new corporate environment. This new system will require adaptation to environmental alterations to meet climate change head-on challenges. Companies must innovate, streamline environmentally sustainable practices, and consider the use of renewables to ameliorate the impact of their business activities on the environment. Companies will be able to meet the challenges of climate change and derive diverse opportunities from the adaptation to sustainable and profitable business practices. The type of environmental risk that has been widely researched and recognized is climate-related risk. Climate-related risks are the financial risks associated with Institutions' exposure to counterparties that may contribute to or be affected by climate change". A report by the European Banking Authority recognizes the risk associated with climate change, as the economic impacts are linked to the exposure of organizations to this risk, as well as the exchange of shares between stakeholders. Based on the new data, investors are showing increased interest in information about the threats and opportunities arising from changes in the climate in the new economic environment. They are beginning to look for official reports on quantitative risks arising due to the new climate. Companies respond to this demand by providing new data and information. They begin modeling the risks associated with climate change. Modeling helps companies better understand the risks associated with environmental factors and draw conclusions for completing the investment cycle.

2.2 Carbon Emissions

195 nations signed the Paris Agreement during the 21st Conference of the Parties in 2015. The agreement aims to encourage and facilitate public and private sector involvement in initiatives that lower greenhouse gas emissions. It is clear from the above that the United Nations has agreed to shift from a high-carbon economy to a more sustainable low carbon economy. A study concludes that the cost of protecting against volatility and monitoring risk is higher for firms with higher carbon output, [1]. In this regard, these businesses express increased interest and concern about the uncertainty and risk associated with environmental policy decisions. Carbon dioxide emissions are now an important part of investment policy, as investors anticipate potential negative impacts for high-emitting businesses. Therefore, the information provided through carbon-based ESG criteria is particularly critical for high-emitting businesses. Combining this fact with the results of the Paris Agreement shows that reducing them is an important part of investment policy and a priority for businesses. This will not only lead to a reduction in carbon risk costs but will also enhance the attraction of investors looking for a viable entity with lower risks.

3 Society and Sustainable Development

In the modern business environment of the 21st century, the interdependence between businesses and markets is constantly strengthening. In this context, investors apply ESG indicators to assess and identify risks and growth opportunities. Corporate social governance is considered one of the main factors. It’s about how companies manage their relationships with employees, customers, suppliers, and the community. This social intersection highlights the importance of social aspects in sustainable investment and development. A survey by the financial company MSCI (MSCI Greece Index (USD)) states that the social governance pillar shows the strongest connection with bond returns compared to the other ESG criteria pillars. This suggests the importance of social factors in evaluating business performance, as well as the consequences of this evaluation on economic success. Bond issuers with high ESG scores exhibited stronger financials, with higher earnings and better credit quality compared to issuers with lower scores. This is a clear indication of the relevance of social governance to economic success and business growth.

4 Corporate Governance

Corporate Social Responsibility (CSR) is a key organisational mechanism for fostering a strong corporate culture, particularly in dynamic and uncertain business environments. It serves as a strategic tool through which companies, in line with contemporary marketing paradigms, communicate their commitment not only to economic growth but also to the systematic management of social and environmental externalities. Some of these parameters bear direct operational consequences for the organization, while others reflect priorities within society as a whole and the company's wider accountability to stakeholders at both a local and global level. At the same time, increased calls by shareholders, institutional investors, employees, regulatory agencies, customers, suppliers, and local communities for greater transparency and independently verifiable evidence of corporate impact force the widespread diffusion of sustainability reporting practices. Such a trend suggests further evidence of a sustained march toward the institutionalization of CSR in corporate strategy.

Such disclosure of organisational performance to stakeholders necessitates strict commitment to the values of transparency, trustworthiness, and ethical integrity. Failure to do so leads to reputational hazards and a loss of confidence among organizational stakeholders, [2], [3]. In recent years, as there has been an uptick in sustainability reporting, several methodological frameworks and reporting guidelines have come into place to standardize such CSR disclosures that would make such disclosures comprehensive, clear, and comparable across organizations. These frameworks enable corporations to benchmark performances globally but provide stakeholders with reliable metrics for assessing corporate sustainability. These alternative reporting standards pose some challenges for organizations to identify the most appropriate reporting framework. Practically, the adoption of a widely recognized standard of reporting aids in the harmonization of disclosure practices and makes it comparable but supports continuous organization improvement due to structured impact assessment.

Among generally accepted reporting standards, some of the best-known guidelines include the ISO 26000 standard, the AA1000 series of accountability standards, the Global Reporting Initiative standard, the Business Council for Sustainable Development editorial guidelines, and GRI Sector Disclosure. These various standards, principles, or guidelines are usually used concurrently or together in CSR reporting. Many companies in Greece prepare progress reports based on the principles of the UN Global Compact and according to the Greek Sustainability Code. One of the most widespread and accepted standards worldwide for the preparation of corporate sustainability reports is that of the GRI, which promotes transparency and reporting responsibility. Despite the improvement in the standardization of the CSR reporting process, many evaluations show that the disclosure of companies' reporting responsibility for sustainability is insufficient. Especially in terms of focusing on the main aspects of their activity in relation to stakeholder engagement. Based on the guidelines of the Organization for Economic Co-operation and Development, the administrative structure of corporate governance supervises and guides the operation of corporate entities, determining the distribution of responsibilities and obligations between the various participants, such as the board of directors, management, and other stakeholders. This structure also defines the rules and procedures for making decisions on matters concerning the management of the company. In the context of ESG criteria and sustainable development, Corporate Governance concerns the management and governance factors of a company by the management bodies involved.

These bodies undertake decision-making and policy-setting for the company, capturing the procedures, practices, and rules that define and control the operation of a company. The importance of Corporate Governance lies in building trust between a company, its investors, and society. In an environment of investment uncertainty, Corporate Governance becomes critical to economic growth. Providing information about a company's practices, goals, results, and prospects is closely related to investment performance. S&P 500 study for the years 2017 and 2018 revealed that poor governance practices at 14 companies cost shareholders a total of $490 billion in one year, [4]. This external value of information highlights the importance of Corporate Governance for investors, who prefer to avoid companies with poor governance that may cause negative outcomes, thus seeking to avoid risk. On the other hand, the same study finds that firms with good governance outperformed companies demonstrating weak governance by 15% over a two-year period.

The basic principles of corporate governance, as provided by the Organization for Economic Co-operation and Development (OECD), help the heads of the organization to assess and improve the legal, regulatory, and institutional framework of corporate governance for the purpose of supporting economic efficiency, sustainable development, and financial stability. These include the basis for an effective Corporate Governance framework, the rights and equal treatment of shareholders and ownership functions, the role of stakeholders, transparency and disclosure, and the responsibilities of management. ESG criteria extend Corporate Governance frameworks to other areas such as executive compensation, bribery and corruption, board structure, and tax strategy. These accolades offer the corporate community the opportunity to recognize ESG criteria in the field of Corporate Governance, providing valuable information to investors about investment risks and opportunities beyond traditional financial results.

5 Corporate Social Responsibility Framework

An effective framework of corporate responsibility becomes a vital prerequisite in promoting transparency, efficiency, and sustainability in markets, and, at the same time, managing stringent adherence on the part of all types of entities, in light of the need to comply with the prevailing legal, regulatory, and ethical frameworks. The framework helps draw up the demarcation lines among the concerned supervisory boards, the respective authorities, and the executive management. In their opinions, the Regulatory Frameworks, referring to the internal management structures and systems of corporate entities, specifically the involvement of the directors in shaping and monitoring the overall internal controls, become an absolute necessity in managing the sustainability factors and their corresponding risks. In other words, the monitoring and enforcement of the relevant legal and regulatory frameworks become critical in managing corporate compliance, and, at the same time, ensuring increased performance and efficiencies.

Transparency, an important foundation in the concept of corporate governance, has an inherent relationship with the concept of legal compliance and regulatory obligations. The performance measures and disclosure systems act as an unbiased tool that helps in measuring the accountability and impact of the operations on the organization, and through these measures, they can communicate the priorities and goals. The important factor that investors and other members in the capital market use in measuring the performance, sustainability, and risk management-related factors in these organizations making use of the non-financial measures in the investment process.

In addition, the alignment of environment, social, and governance issues within the governance structure of an organization enhances proactive risk management and foresight. Organizations that constantly measure and report their operations in relation to their effect on the environment appear more adaptable in managing the volatility that exists in the marketplace. Alignment of governance and sustainability strategies has the advantage of ensuring an organization adheres to all the regulations, in addition to ensuring competitiveness and sustainable corporate performance.

In closing, an effective corporate responsibility framework serves as the foundation for the running of the modern corporation. Through the establishment of internal controls in terms of the codification of organizational responsibilities, corporate responsibility frameworks promote responsible reporting and, in effect, instill confidence and integrity in the organization.

6 Framework for Sustainability Reports

A significant amount of time has gone between the publication of the first non-financial corporate reports and the present, when their percentage has surpassed 50%, [5], [6]. This period led to the development of various international standards, codes of directives, and regulations for the preparation of Corporate Social Responsibility Reports (CSR). The existence of alternative standard guidelines for reporting on social responsibility or corporate social responsibility to integrate their efforts in this area has, in many cases, led companies to reflect on their use. In general, this practice involves the use of generally accepted reporting standards that facilitate the standardization of reports and allow comparison with other companies' reports. It also provides easy-to-understand instructions that safely guide measuring and reporting organizational impact and making improvements through the process.

Important sustainability reporting standards include the Global Reporting Initiative (GRI), the AA1000 series of accountability standards, the ISO 26000 standards, the Business Council for Sustainable Development's (WBCSD) principles, and GRI-Sector Disclosure at the industry level, [7]. In addition, many companies prepare progress reports in accordance with the principles of the UN Global Compact and the Greek Code of Sustainability for the Greek area. These various standards, principles, or guidelines are often used concurrently or in complementary ways in corporate social responsibility (CSR) reports. The ISO 26000:2010 standard provides guidelines for businesses to implement specific actions based on sustainability principles. Unlike conventional ISO standards, it does not require mandatory compliance or certification by businesses. Since its inception in 1999, the Accountability Principles for Sustainable Development (AA1000) set of standards has undergone numerous revisions and updates.

Centrally, it includes the commitment of businesses to three key principles: Participation (participation of interested parties), Materiality, and Responsiveness. One of the most practiced and applied formats when it comes to the writing of Corporate Social Responsibility Reports globally has been the format adopted by the Global Reporting Initiative, commonly known and referred to as the GRI. The GRI format places much attention on the need for transparency and accountability in the writing process concerning the sustainability report formats. This enables the increased recognition and acceptance of the sustainability reports. The GRI was initiated, and the purpose was the promotion of the environment and the company's accountability. In 1997, in collaboration with the United Nations Environment Program, this collaboration began, which led to the establishment of an independent organization in 2002. The first set of guidelines was issued in the year 2000, and the guidelines in their first form, GRI-G2, acquired a distinct format, [8], [9]. The GRI Sustainability Reporting Guidelines are constantly updated to offer the best available guidance on effective sustainability reporting. This explains why, after the GRI-G2 guidelines, there was the GRI-G3. The result at the current stage is the GRI-G4 version. Sustainability reporting is essential for society and the market, as it must continuously evolve in content and move from a practice implemented by a few leading companies to a common practice, [10]. The UN Global Compact was born in the year 2000. The UN Global Compact was established by the United Nations and aims to encourage, implement, and disseminate responsible and sustainable corporate practices. The companies in the framework mentioned above commit themselves and modify their actions and strategies in accordance with the “10 Guiding Principles in the areas of Human Rights, Labor, Environment, and Against Corruption. Each year, they publish the “Progress Report” to document their performance. The Greek Sustainability Code corresponds to a system with an educated approach and targets the transparency and internal dedication of Greek entities and companies. The issue here corresponds to the assessment they need in terms of their performance in the economic, social, and environmental expeditious sectors, aiming in the increase of their competitiveness. The Greek entities and companies rely on the worldwide framework concerning their report, like the “Global Reporting Initiative, the UN Global Compact, and the OECD. Additionally, they refer to the management systems—ISO 26000, 9000, and 14000—that have previously been implemented in the organizations and businesses and are connected to the "European Sustainability Code," accordingly.

7 Evaluation of Accounts

Coordinating business activities and raising awareness among companies based on stakeholder concerns is a way to create and maintain long-term relationships with stakeholders, [11]. This is why, in the last 20 years, a growing number of companies have communicated their CSR commitments to stakeholders through sustainability reports, websites, and other communication tools, [12]. Therefore, companies should improve the effectiveness of CSR performance communication to increase stakeholders' interest in the company and meet their expectations through their own efforts, [13]. Consequently, the comparative evaluation of sustainability reports with a reliable and effective grading system can bring potential benefits such as:

- To communicate the company's efforts to the interested parties in a simple and systematic way.
- Providing sufficient and relevant information about the organization's operations and their impact (regarding reporting standards and their reliability).
- To update the company on the shortcomings and gaps it must address to better communicate its performance to the interested parties.
- The ability to compare their own results and performance with other companies, especially those in the same industry, allows them to acquire good practice for future applications.

These techniques include a variety of approaches that require the use of twenty (20) different research tools. These tools include reputation indices and scales, content analysis of organizational texts, and measures of behavior and perceptions. In addition, these techniques include case studies classified into three main categories: expertise, single and multi-subject indicators, and executive research. [14] proposed his own classification for CSR performance evaluation methods. This includes the following areas: business assessment indexes or databases, single and multi-issue indexes, content analysis of company publications, and CSR measurement scales either at the individual or organizational level. According to [15], in previous years, the use of various methods of evaluating corporate accounts by various organizations was observed, with which weaknesses were associated.

These weaknesses included the non-finalization of the indicators used, the lack of specific standardized publication guidelines, the inadequacy and inhomogeneity of information, the absence of assessment of certain parameters, the need for a wealth of quantitative data, and, consequently, the need for resources to their collection, which was an obstacle for many businesses, especially small ones, in the assessment. Finally, the concentration of the evaluation was observed only at the local level, using corresponding indicators, [16]. According to [17], there are three different evaluation methodologies of sustainability reports applied at the level of academic quality assessment: the survey methodology using a questionnaire, the rating system, and content analysis. The use of questionnaires is appropriate when the opinion of the participants is required in relation to a topic that is critical to answering the research question. Examples of such studies are the research that focuses on the perceptions of the chief executives of companies regarding Corporate Social Responsibility (CSR), [18].

The evaluation method is widely used to quantify information and categorize it, as in the case of [19], where specific scores were given based on specific criteria, based on the GRI-G2 guidelines, and later by [20], on the GRI-G3 version. Content analysis methodology essentially quantifies texts that contain both qualitative and quantitative information, classifying them into groups based on specific criteria. In this way, researchers can systematically and comprehensively assess the inclusion of certain key features in a text, [21]. The implementation of the guiding concepts of the GRI-G3 and GRI-G4 standards, respectively, into corporate sustainability reports was assessed using both content and value analysis of the criteria associated to them and the GRI principles, [22]. Different approaches to evaluating financial sustainability reports that follow the guidelines include methods that address data uncertainty and ambiguity. One of them is the Fuzzy Analytic Hierarchy Process (F-AHP), which uses fuzzy numbers to evaluate qualitative and quantitative criteria, aiming to reduce subjectivity, [23]. In addition, a Fuzzy Expert System is applied, which combines the decision-making process with the uncertainty of human thought in fuzzy logic, [24]. Both approaches focus on assessing the importance of issues to businesses and stakeholders. To date, few studies have fully examined the importance of sustainability reports using quantitative methods, and those that have been published have not fully met the requirements of completeness and objectivity in sustainability reports, [25].

8 Results Evaluation of Sustainability Reports

The value of a business is significantly influenced by assets that are not necessarily reflected in its financials. These assets may include intellectual, human, and physical capital, brand value, as well as investments in research and development. The success and long-term viability of a business are influenced by elements like the growing power of consumers and the constraints brought about by reliance on non-renewable resources.

A company must therefore successfully manage both its tangible and intangible assets as well as the risks and opportunities that present themselves to be financially successful. Writing corporate responsibility reports or comprehensive accounts provides an excellent opportunity to record and manage risks and opportunities, in conjunction with tangible and intangible assets. Globally, sustainability reporting is well-established and becoming a standard procedure, [26]. Businesses appear to understand and value the significance of sustainability reports since they can enhance their fundraising, financial performance, and reputation.

According to statistics, almost 95% of the 250 largest companies worldwide issue sustainability reports. The obligation to prepare non-financial reports is growing rapidly both at the global level and at the level of European legislation. With Directive 2014/95/EU, the European Union strengthened the requirement for the publication of non-financial reports by certain large companies (around 6,000) with more than 500 employees.

Reports must include information on policies, risks, and performance on environmental and social issues, labour aspects, respect for human rights, as well as corruption and bribery issues. Many academics express the observation that the organizational and administrative function is closely related to the social groups concerned and the need to be accountable to them. At the same time, stakeholders, be they customers, employees, suppliers, local communities, or other social groups, expect from companies' greater transparency and more detailed reporting on their impact, risks, and performance, [27]. Furthermore, business officials who have worries, act, and display general social sensitivity influence the direction and role of business in society, [28], [29]. Today, relationships between stakeholders and companies are not limited only to the recognition of their philanthropic actions and related motivations.

They extend to many management decisions in all sectors of the economy, environment, and society, as well as goals, [30]**.** At the same time, sustainability reporting practices are related to corporate governance characteristics, business model, cultural and operating environment, as well as size and ownership, [31]**.** Based on the literature, one of the main issues faced by contemporary CSR reports prepared by companies is the inadequacy in covering the important aspects from the perspective of stakeholders, [32]**.** Furthermore, there is no complete and cohesive consideration of the expectations and views of parties interested in the companies, according to [33]. Finally, there are no effective and applicable tools for identifying and analysing the various stakeholder groups, [34]**.** Therefore, for small and medium-sized enterprises, it is essential to determine in advance the level of completeness they can manage to prepare CSR reports, due to the limited resources they have for research activities, [35].

Moreover, covering the important aspects in a report's sustainability through a materiality analysis with stakeholder participation improves company-stakeholder relations, [36]. Therefore, companies should determine the content of financial statements based on their most important aspects, applying a material approach, [37]. In addition, the evaluation of CSR reports based on the importance of CSR issues is gaining particular importance, especially regarding the GRI guidelines, which are currently the main tool for drawing up the reports. The fourth generation of the GRI-G4 guidelines, launched voluntarily in May 2013 and mandatory from 1 January 2016, helps organizations to set goals, measure performance, and manage change to make work the most sustainable, [38]. The GRI-G4 guidelines are a revealing assessment tool [39], providing a list of qualitative and quantitative performance indicators for companies, which contribute to the determination of corporate responsibility, [40]. Regarding the effect of firm size on the quality of sustainability reports, there is a different perception among researchers.

Small and Medium Enterprises (SMEs) focus on informal disclosure mechanisms or reporting that focus on the main issues affecting stakeholders, [41]. According to the same study, company size does not affect the overall quality of CSR reports. Internationally, the various aspects of CSR disclosures include issues such as the environment, philanthropic activities, corruption and bribery, and integrity assurance. There is evidence that for large businesses, aspects that are often examined include philanthropic activities, bribery, and corruption. In countries where business practices are less strict and, therefore, the application of CSR principles is more liberal, a foreign business can help promote it. Accordingly, in countries where CSR has a high penetration, companies must meet its minimum standards as set by their local competitors, who may also be subsidiaries of multinationals, [42].

9 The Example of Greece

The framework of corporate social responsibility at the national level seems to be outlined mainly by external factors, mainly through multinational companies imposed by foreign policy instruments, [43]. The awareness of CSR in Greek companies remains low despite its development, which encourages and develops this dimension and produces quality reports, with some large companies having a coherent strategy for its promotion and development and drafting quality and quantitative reports, [44]**.** The topics that have recently been focused on strengthening CSR include the proper management of the environment, charitable activities, occupational health and safety of employees, as well as responsible production methods, [45]**.** In Greek business, the issues of transparency and accountability do not seem to be of particular importance, contrary to the global business trend. Most Greek companies present accounts that focus on assets and revenues, mainly concerning large companies. This is consistent with global trends, where large companies tend to disclose more non-financial information compared to small ones. Sustainability reports are widespread in various sectors of the Greek economy, with the telecommunications, banking, and insurance industries, as well as industrial products, standing out for their consistency in publishing these reports.

However, the energy and health, and pharmaceutical sectors show a decrease in the number of publications, while the shipping and tourism sectors, despite their significant growth, have disappointingly low disclosure rates. Now, most Greek companies either follow the guidelines of the Global Reporting Standard (GRI) for sustainability reporting or adopt the format of the United Nations Global Compact's Sustainability Communication Progress Report. For the year 2013, according to a 2015 European Union report, 78% of reports used the GRI guidelines. A recent report evaluation study in Greece, reported that corporate social responsibility reports have significant differences in how and to what extent they disclose information, [46]. In particular, the transparency in the reports included information on the procedures for the identification and participation of the interested groups, as well as materiality analyses on the main issues of the business activities.

Materiality analysis ensures that sustainability reports or full corporate responsibility reports focus on the main aspects of business activity for the benefit not only of the company but also of the relevant actors. In the example of Greece, the recognition of relevant groups is observed in 80% of Greek businesses, while the mention of their participation procedures amounts to 67%, as announced in the reports of 2013. A study with a sample of 30 companies, reports rates of 85% and 40% respectively, for the 2014 reports, [47]. Moreover, as observed in international studies such as those of [48] as well as in the Greek research of [49], a high score is not necessarily a guarantee for a complete, balanced, and integrated report of corporate business subsidy. In addition, a high score in one area may cover a low score in another. Finally, the evaluation of corporate business subsidy reports involves a degree of subjectivity that may require the involvement of more than one evaluator, [50]. One of the problems that appears in the evaluation of CSR reports is the lack of transparency in the evaluation by external organizations, as they often use a methodology based on specific external evaluation standards, [51]. This methodology often does not reveal details of the process due to the expertise of these companies, and due to the subjectivity, it may present. Globally, there is a significant increase in the number of companies seeking external assurance for their accounts, with this percentage increasing gradually, according to a report by [52].

In Greece, the percentage of companies that published their accounts for 2013 and had external assurance was 45%, while in 2014, this percentage increased to 50%, [53]. However, they did not always provide all the necessary information, according to the GRI-G4 guidelines. With reference to a sample of thirty (30) Greek companies in 2014, it emerged that only 50% of those that used the GRI-G4 guidelines satisfactorily covered the editorial principles. Although the reports of CSR in the Greek business community are not considered satisfactory and are often limited to large companies, their quality is gradually improving. This is happening through the increasing adoption of international standards and management rules, as well as the increase in their number due to competition. In addition, the publication of sustainability reports can be transformed from a simple announcement into a tool that serves to strategize and promote sustainable business behaviour, especially during adverse economic conditions, [54].

10 Methodology

In recent years, a growing number of companies and organizations worldwide have made a commitment to publishing accounting reports on the corporate responsibility programs and practices they implement and promote. The GRI Guidelines are now the most widespread worldwide framework for corporate sustainability reporting, according to many reports, [55]. Reporting principles, standardized disclosures, and an implementation manual are offered to guide enterprises of varying sizes in preparing sustainability reports. These instructions require businesses to produce reports that assess the positive and poor performance of their activities, thereby increasing accountability. The sustainability report describes the positive and bad implications of an organization's operations on the environment, society, and the economy. With this approach, sustainability assessment makes concepts more concrete and understandable, thereby helping to understand and manage the impact of sustainability developments on the organization's operations and strategy. This fact aligns with the Triple Bottom Line approach, [56].

The most recent version (Standard) of the Global Reporting Initiative's G4 Guidelines (GRI-G4) was released in 2021 after five revisions. It is crucial to remember that this is not "GRI G5" and that the majority of the G4 content is still relevant. Therefore, if your organization already reports in accordance with GRI G4, the new reporting process should not differ significantly. However, there are several changes that all reporting organizations should be aware of:

- Standard vs. Standards – As has been discussed, the framework has now transformed into 36 modular standards rather than the format that was offered under GRI G4. This radical overhaul enables the GRI to make changes in the thematic sector rather than the need to publish the framework in its entirety, ensuring the guidelines stay agile and in sync with the constantly shifting tides in the field of sustainability.

  Content revisions / clarifications – although the majority of G4 content still applies, there are some content changes. These are grouped into two categories: content clarifications and content revisions. Content clarifications are small changes where benchmarks are not affected, while content revisions are larger-scale changes with real requirements impact. Although there are few of them, these revision changes are clearly mentioned in documents provided by GRI, so it is recommended that organizations consider them in the context of their own reporting.
- Language change – some of the key terminologies used in GRI G4 have also changed. G4 Indicators are now Disclosures, Aspects are Themes, and the Disclosure Management Approach (DMA) is now referred to as the Management Approach to Disclosure.

To ensure accessibility and comparability of data in sustainability reports, this edition was created within the framework of globally accepted standards and metrics. Making sure stakeholders have the knowledge they need to make wise decisions is the goal, [57]**.** As with all GRI Guidelines, the Standard edition references widely accepted reporting documents on specific topics and was designed as a unified framework for reporting performance under various sustainability codes and norms, promoting comparability. In previous years there has been an increasing demand from decision makers to identify, select and prioritize the critical aspects of business sustainability that affect them and their stakeholders. This need has until now been a subjective process, [58]**.** The previous G4 version of the GRI addresses this requirement effectively. The objective of the Standard is to help those responsible to report sustainability reports that include meaningful information on their organization's critical sustainability issues, [59].

A focus on "materiality" guarantees that reports are more precise, trustworthy, and user-friendly. The reports become easier to read and more pertinent as a result. Certain guidelines for creating sustainability reports are outlined in the GRI-Standard guidelines. All organizations should follow these guidelines when preparing their accounts since they are essential to guaranteeing transparency. These principles fall into two main categories: The Principles for Determining the Content of an Account describe the process of determining what matters should be included in an account, considering the organization's activities and impacts, as well as expectations and interests of interested parties. On the other hand, the principles for determining the quality of the report specify the procedures for ensuring high-quality information in the sustainability report, including its correct presentation.

The quality of this information is critical to enable stakeholders to objectively assess the organization's performance and take appropriate action. Under the Guidelines, organizations have the option of choosing between two levels of reporting, 'Basic' and 'Extensive', to comply with them. These options specify the elements that must be included for the report to comply with the Guidelines. The "Basic" option includes the basic elements of a sustainability report, providing the background for communicating the financial, environmental, and social performance of the organization and its governance.

The "Extended" option extends the "Basic" option, requiring more Standard Disclosures about the organization's strategy and analysis, governance, ethics, and integrity. Therefore, the organization needs to communicate its performance more fully, including all indicators related to the identified key issues. At the level of description, the standard GRI - Standard guidelines develop two different types of standard description: general standard description and specific standard description (GRI, 2021).

A. General Standard Disclosures focus on the areas:

- Stakeholder Consultation
- Account Profile
- Governance
- Ethics and Integrity
- Strategy and Analysis
- Organization Profile
- Recognized Material Issues and Limitations

B. The Special Standardized Disclosures relate to: Management Disclosures Approach Indicators
The Guidelines categorize the Special Standardized Disclosures into three main categories: Financial, Environment, and Society. Social Disclosures are

further divided into four sub-categories: Labor Practices and Decent Work [60], Human Rights, Society and Product Responsibility. The organization's sustainability report includes information about the key issues that affect the organization's economic, environmental, and social performance or that have a significant impact on the judgments and decisions of stakeholders.

The presentation is made through specific disclosure indicators that correspond to each of these categories. Management Approach Disclosures cover each sub-category and material subject, providing detailed information on how the organization manages each of them. Since the year 2000, organizations from 80+ countries have employed the GRI Sustainability Reporting Guidelines to assess and report whether they have made positive or negative impacts on the economy, society, and the environment. And in 2016, GRI made further refinements to the guidelines to improve clarity and usability, which culminated in the GRI Sustainability Reporting Standards.

The Standards have a modular, interconnected structure and represent the best global practice for reporting various economic, environmental, and social impacts. This makes it easier for them to keep up to date to keep up with the developments in the various fields. Already in 2016, GRI encouraged the early adoption of standards in reporting. And the final date for eliminating directives is approaching. The standards will be mandatory for all reports or other materials referred to in the GRI framework and published from 1 July 2018 onwards.

In the contemporary corporate landscape, a growing cohort of multinational and domestic organizations has institutionalized the systematic disclosure of accounting reports that comprehensively document corporate responsibility initiatives and sustainability strategies. This practice functions not only as a mechanism for enhanced transparency but also as a strategic instrument to demonstrate accountability and legitimacy to a diverse array of internal and external stakeholders. Among existing frameworks, the Global Reporting Initiative (GRI) Guidelines have attained primacy as the most methodologically rigorous and widely adopted standard for sustainability reporting, [61]. The GRI framework provides a structured schema of reporting principles, modularized disclosure standards, and a comprehensive implementation manual, which collectively prescribe the operational procedures through which organizations of heterogeneous size, sector, and operational complexity systematically prepare sustainability reports, [62].

The GRI framework requires organizations to produce integrative reports on the positive and negative direct consequences of their operations in terms of the environment, society, and economies, and it puts both positive and negative consequences in context, making accountability measurable and evaluable. It also features a methodology that aligns with the Triple Bottom Line concept, evaluating organizations based on their environmental, societal, and economic performance rather than focusing solely on economic performance, [63]. It has its roots in stakeholder theory and accountability theory, aiming at the identification, prioritization, and management of issues in an organization. The G4 Guidelines have undergone five successive iterations, culminating in the 2021 GRI Standards. Although not a full generational upgrade, the Standards preserve the majority of the G4 content while introducing critical methodological enhancements:

- Modular Standard Architecture: The 2021 Standards use a thirty-six-module approach that links the topics together in a different way than the G4 structure. The thirty-six module structure provides the ability to revise the framework on a theme level, ensuring the approach stays responsive to the issues that fall under the theme of sustainability.
- Clarifications and Revisions in Content: The adjustments can either be in the form of clarifications, referring to terminological changes that do not impact the benchmark, or revisions, reflecting major changes in the field. Methodologically, the entities would need to implement them in their systems.
- Terminological Precision: Key constructs have been redefined for analytical clarity. “G4 Indicators” are now designated as “Disclosures,” “Aspects” are reclassified as “Themes,” and the “Disclosure Management Approach” (DMA) is now referred to as the “Management Approach to Disclosure.” These enhancements allow better conceptual consistency and ease uniform interpretation.

The Standards are grounded in globally sustainable measures and best practices, and they guarantee their comparability and reliability. The GRI ensures a structured approach in the process of identification, prioritization, and revelation of the issues in the field of sustainability, which has always tended to be subjective in nature, [64]. Materiality, at the foundation of the GRI approach, provides pertinent information and enables the comprehension and readability of the sustainability reports.

The GRI Guidelines' methodology works on the basis of a twofold framework concerning the principles that regulate the composition of the report, namely.

1. Principles for Identifying What Shall be Reported: These principles implement a systematic, research-informed method to identify relevant content. "Factors such as OpCos' operational footprint, stakeholder salience, regulatory regime, and societal expectations will help determine which of the sustainability issues must be disclosed.
2. Principles to ensure report quality These include protocols for the preservation of truthfulness, completeness, and coherence in presented information, ensuring that reports are methodologically rigorous, accessible, and appropriate for public scrutiny. Reporting may take place in Core or Comprehensive mode. The Core content tier offers essential disclosures needed to report organization performance in the financial, environmental, social, and governance dimensions.

Either Core or Comprehensive reporting is possible. The Core level offers the fundamental disclosures required to convey organizational performance in the areas of finance, the environment, society, and governance. The Comprehensive level expands upon this foundation, requiring more detailed reporting on strategic analysis, governance, ethics, integrity, and all indicators pertinent to material topics, thereby enhancing analytical depth and empirical comprehensiveness.

There are two main types of disclosures:

- General standard disclosures, which relate to organisational governance structures, processes for engaging stakeholders, ethics, and strategy, as well as the identification of material topics and how they are managed alongside appropriate operational boundaries; 2) management approach disclosures on each material topic.

• Thematic information: Divided into categories such as financial, environmental, and social. Social disclosures are then split between labor practices and human rights; society, impact on society more broadly; and product responsibility. Disclosures Management Approach Statements provide details of the mechanisms, governance process, performance, indicators and mitigation put in place by a company to manage each material issue thereby promoting salient transparency and comparability.

Since 2000, the GRI Guidelines have been adopted in more than 80 countries to encourage orderly reporting of all organizational impacts (good and bad) on economic, social, and environmental fields. With the 2016 release of modular Standards to promote increased methodological clarity, easier use, and international guidelines, adherence became compulsory for all reports in line with GRI published on/after July 1, 2018.

Integration with ESG Consulting and Empirical Assessment:

The GRI approach substantiates an analytical framework for ESG consulting where practitioners assess and quantify sustainability performance. Through stakeholder salience, risk salience, and impact magnitude, empirical assessments can operationalize otherwise qualitative achievements in sustainability efforts. Such assessments through quantification facilitate evidence-based decisions that support planned alterations for the most effective environmental, social, and governance results to remain compliant with regulations, governance requirements, and investor needs. Furthermore, the ability for such a framework to be modular in nature and standardized disclosures to be used in conjunction with other reporting elements enables longitudinal and cross-sectional assessments, which increase analytical rigor, empirical credibility, and comparative assessments of otherwise disparate entities for ESG effectiveness.

11 Evaluation of Sustainability Reports of Greek

One of the evaluation techniques that has been used and is still used, according to the literature, for the conversion of information into numerical data and their categorization, is the method of the evaluation scale based on specific criteria of [65]. The use of these criteria allows readers, and especially researchers, to assess the inclusion or absence of specific features in any text in a systematic and defined manner. Similar methodologies have been used to evaluate the wording of Corporate Social Responsibility (CSR) Reports, [66]. In Greece, there is an increase in the adoption and dissemination of sustainability reports, as is the case with global trends.

A large percentage of companies in Greece follow the GRI guidelines in this context. There has been a significant increase in the number of companies adopting this approach to communicating with their social partners, almost quadrupling from 2005 to 2015. The aim of these actions is to highlight current trends, highlight the best practices, and highlight ways to improve the relevant practices voluntarily adopted by businesses and organizations. Central to the evaluation method used by the European Data Protection Supervisor is the Global Reporting Initiative (GRI) guidelines framework.

11.1 Method of Evaluating the GRI-Standards guidelines.

The latest edition of the Global Reporting Initiative (GRI-Standard) offers companies flexibility in choosing the economic, social, and environmental performance parameters to cover. This selection is based on the recognition of issues that are considered critical to their operation and that arise from the inherent characteristics of the company and its interaction with its social partners. This approach enhances the emphasis on the important issues of corporate responsibility for each company, but at the same time creates difficulties in evaluating the reports. The uneven presentation of issues between companies makes it difficult to compare them, as it leads to disparity in the data to be evaluated from one report to another.

To facilitate the evaluation of CSR reports within the framework of the Standard guidelines, I turned my attention to the basic principles proposed by the GRI for the organization, preparation, and writing of corporate responsibility reports. These ten fundamental principles, which focus on the content and quality of the report, are listed below and are aimed at all organizations wishing to adopt the GRI guidelines framework, regardless of their industry, size, or activity. These principles include determining the content of the report.

Principles for Determining the Content of the Report

1. **Stakeholder Engagement:** The organization needs to make sure that they identify their stakeholders and then clarify the way they meet the stakeholder expectations and interests.
2. **Materiality:** The subject matter in the report shall include Matters that: a) Embrace the chief economic, environmental, and social impacts on the organization, or b) Significantly impact the opinions and conclusions of third parties.
3. **Completeness:** The reports should contain critical issues relating to the economy, environment, and society, and limitations, to enable the stakeholders to judge their performance in the span of the report**.**
4. **Sustainability Context:** The report must frame an organization's performance in the wider sustainability context. Principles for determining reporting quality
5. **Clarity**: Organizations should use reporting to provide information in a way that stakeholders can understand and access.
6. **Reliability**: Organizations should collect, record, process, analyze, and publish the information and processes used to produce reports so that they can verify and demonstrate the quality and relevance of the information.
7. **Balance**: The report should present the positive and negative aspects of an organization's performance to allow a reasonable assessment of its overall performance.
8. **Regular** and timely information: Institutions should prepare regular reports so that information is accessible in a timely manner, so that stakeholders can make informed decisions.
9. **Comparability**: Organizations must select, compile, and report information consistently. Reported information is a method that allows stakeholders to analyze changes in an organization's performance over time to help them analyze it relative to other organizations.
10. **Accuracy**: Reporting information should be accurate and detailed enough to allow stakeholders to evaluate the organization's performance.

Assessment criteria have been devised for each authority mentioned in these instructions, regardless of whether each organization considers the "Reporting Guidelines" to be "Universal" or "Sectoral" and "Subject Standards", and regardless of whether it agrees with them. These assessment criteria, are used to evaluate the adoption and application of each principle in the report.

The assessment of the sustainability reports was conducted through quantitative **content analysis**, following the methodological framework proposed by [67] and adapted to the **GRI Standards**. The evaluation is based on ten fundamental reporting principles that underpin the GRI framework. For each principle, the criteria are split into each report that is examined, and each principle is internally integrated. Each report is assessed, from 0 to 4, using the criteria described in Table 1. This way, every organization can be compared fairly. Criteria are completely absent, as denoted by a score of 0, while a score of 4 constitutes the presence and thorough explanation of the criteria. A score of 1 to 3, varying in degree, shows that the criteria of the report are only partially fulfilled.

Each criterion has an ordinal measurement from 0-4, provided in Table 1. The rationale behind using an ordinal approach in the measurement process is the ability of the proposed structure to provide degrees of integration. The degrees range from no incorporation, signified by a zero, and full incorporation, signified by the number 4. The other degrees fall between, signifying partial incorporation.

Table 1. Evaluation scale per criterion

Points	Level of Criterion Coverage
0	The criterion is not covered by the report.
1	The coverage of the criterion is significantly lacking.
2	The criterion is covered by the report, but there are gaps and/or ambiguities that indicate partial incorporation of the principle it refers to.
3	There is sufficient evidence in the report to indicate that the criterion for incorporation of the authority referred to is met.
4	The criterion is fully covered by the report, demonstrating that the particular authority was taken into account in the preparation of the report.

Source: [67]

In some instances, like the date of issue of the most recent report, the criteria of the assessment scale are narrower because of their binary or semi-quantitative nature. In these instances, the rating options are constrained to such as 0-4 or 0-2-4 to maintain uniformity without skewing the distribution of the scores.

Scoring System and Weighting

Each of the ten reporting principles carries an equal weighting of 10%, representing a proportional share of the overall evaluation index. The number of criteria per principle varies depending on the scope of the respective concept, as summarized in Table 2. The cumulative score per principle is derived by summing the scores of its constituent criteria, providing a quantitative index of integration.

Table 2. Number of criteria and scoring / principle

Principles of reporting	Number of criteria	Maximum score	Index Value %
Principles of Determining Report Content			
1.Stakeholder engagement	6	24	10
2.Sustainability framework	6	24	10
3. Materiality	4	16	10
4.Completeness	3	12	10
5. Balance	3	12	10
6. Comparability	6	24	10
7. Accuracy	3	12	10
8.Regular-timely ppdate	4	16	10
9. Clarity	6	24	10
10. Reliability	2	8	10
Total	**43**	**172**	**100%**

Source: created by the authors

This methodological approach ensures the evaluation of all accounts of a specific reference year by various organizations or businesses, using commonly accepted criteria. To create an overall average score for each organization (incorporation of principle in the report), the total score of the criteria of each organization is divided by the number of these criteria. To calculate the overall performance of each organization (report comparability score), the total number of points of all authorities is divided by the number of authorities (10). The average maximum rating that each entity can receive is 4, as is the average maximum rating that can be obtained from each corporate account. This method was developed to assess the content of each report based on the guidelines of the GRI, reporting, and not the actual corporate performance of each business.

In this case, there is a possibility that an entity will not be included in the report and will be evaluated with a low or zero rating for it, regardless of the actual performance of the company against this indicator. In addition, the scoring system ranks the accounts based on the average overall score per principle and overall. This can lead to a similar assessment between companies that differ in terms of the amount of information provided and their quality. For example, a company that includes all the information but receives a low score may be evaluated in the same way as another company that does not include all the information but receives a high score for what it provides, as has been observed in similar cases of assessing corporate sustainability reports. It is important to note that this evaluation does not necessarily reflect the actual performance or activities of a company in CSR matters, but mainly the content of each report, [68].

11.2 Case study: Evaluations Of Sustainability Reports of Greek Companies carried out based on the GRI-Standard Guidelines in 2021

For the application of methodology, CSR analyses companies that followed the GRI-Standard guidelines during their preparation and have published their results in the electronic database were examined for GRI analysis data. Due to the deadline for submitting the study, a search was carried out in the mentioned database from December 2023 to August 2024, as well as on the websites of the respective companies. This research resulted in 8 CSR report documents issued in 2022. These reports concerned Greek companies of different sizes and industries, as shown in Table 3. These reports formed sample companies used for applied methodologies.

Table 3. Sector and size of companies based on their activity. (.)

Sector	Company	Size
Financial services	Piraeus Financial Holdings	L
Energy	Motor Oil, Helleniq Energy	MNE, L
Group Copmanys	Mytilinaios Group.	MNE
Construction Materials	Titan	L
Construction	Lamda Development	L
Aluminum	Alumil	L
Air transport	Aegean Airlines	L

Source: created by the authors

Table 3 reveals that out of a total of eight enterprises, six are significant and two are multinational. Specifically, from the financial services sector (Bank of Piraeus), the energy sector (Motor Oil, Helleniq Energy), the construction materials sector (Titan), the energy sector (ELPE, Motor Oil), the aluminum products sector (Alumil), the aviation sector (Aegean Airlines), the construction sector (Lamda Development), and the business group (Mytilineos Group). The evaluation of the sustainability reports was based on the fulfilment of the criteria described above and always in accordance with the guidelines of the Global Reporting Initiative - Standards.

12 Evaluating Sustainability Reports

According to the GRI standard's guidelines, all organizations should identify stakeholders and explain how they meet their reasonable expectations, requirements, needs, and interests, as well as develop common standards/definitions that identify and define stakeholders appropriately for their choices. The process to be followed during the consultation. Finally, we must explain in fully how the outcomes of the stakeholder engagement process are used to produce the report's content, including its definition and relevance to sustainability concerns. In this way, the integration of the principles of stakeholder participation in the implementation and disclosure of corporate social responsibility is ensured. All Greek companies have a list of interested parties, either exempt or fragmented. In one of the organizations, there is no definition of Stakeholders, while in the three others, the definition is unclear. 45% of the participants' selection criteria are mentioned at the same time, and even a summary of the selection process is described. Two accounts do not have detailed instructions. All but one of the reports indicate an approach to consultation with all stakeholders, and 65% also include the frequency of consultation by type and interest group.

All reports include clear references to public service policies on the exploitation of information from stakeholder consultations, while around 45% of reports include at least a brief reference to the issues raised and the public service's response. Specifically, 13% present this information in detail.

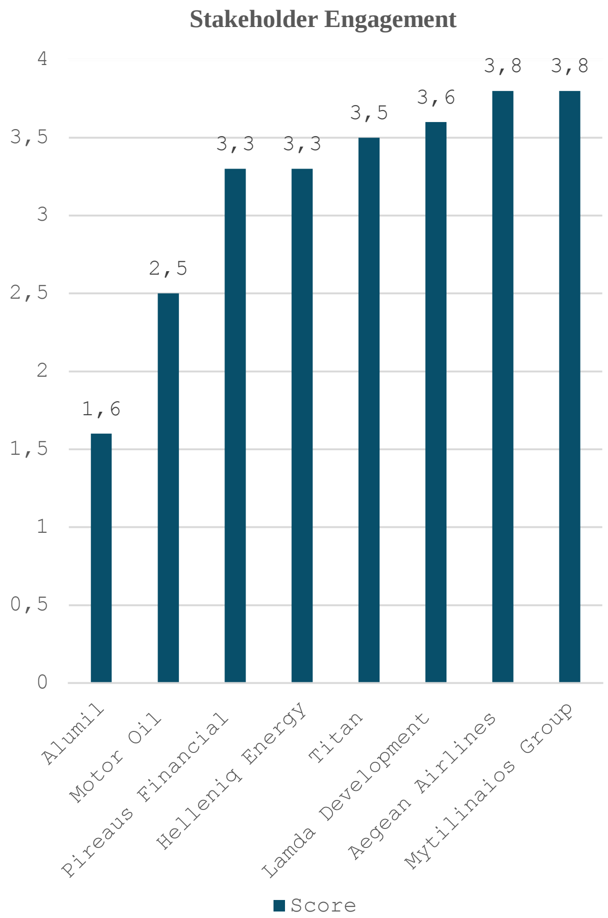

Fig. 1: Stakeholder Engagement, rating/company.
Source: created by the authors

Regarding the last 2 criteria, more than 60% of the report refers to stakeholder engagement processes, which are reflected in the content of the report, but there are large gaps and uncertainties, 45% of which are explained correctly and 1 does not. Accordingly, 55% of reports include stakeholder engagement processes organized specifically for sustainability content. However, they present significant gaps and uncertainties, while 22% include only a brief reference, and only one provides sufficient information. Figure 1 illustrates the overall ranking of stakeholder engagement among the Greek companies in the sample.

The stakeholder engagement ratings across all companies analysed are documented in Figure 1. With this data, companies in this sample are showing varying degrees of engagement effectiveness. Stakeholders' engagement is documented the least with Alumil and scored just 1.6, meaning the company supposedly had very little contact with stakeholders and was unresponsive to stakeholder queries. A modest score of 2.5 was achieved by Motor Oil, meaning some engagement efforts were undertaken. Piraeus Financial and Hellenic Energy both scored at the mid-range of 3.3, meaning both had some level of engagement and communication with stakeholders, albeit uncommunicative in a structured manner. More active engagement and communication models were noted with Titan and Lamda, scoring 3.5 and 3.6, respectively, meaning more efforts were undertaken to bring stakeholders and their feedback into the decision-making. In stakeholder engagement and management, Mytilineos and Aegean scored 3.8, meaning both scored high in their management of the relationships and communication with stakeholders, showing exemplary engagement practices with stakeholders and openness in their dialogue. From the data, we can derive a straightforward correlation between the level of engagement and the maturity of the sector in that field. Higher scoring companies are managing and reporting their stakeholder engagement more effectively as termed in the broad ESG reporting, high grade structured consultation and stakeholder mapping.

The efficiency of the organization's activities in the broader context of sustainable development is not only an important goal of any CSR report, but also an important principle of the leadership of the GRI-Standards. In this context, each enterprise should provide comprehensive information on its understanding of sustainable development, citing relevant information and activities and citing them in relation to industry, local, regional or global publications in response to its own activities in the relevant geographic frame.

Finally, it is necessary to describe the main impact of its activities on broader issues of sustainable development and the risks and opportunities associated with them. 42% and 18% respectively sufficiently and thoroughly explain how the sampled Greek enterprises understand the framework of sustainable development and provide information that serves as appropriate sustainable development measures to address the issues raised in the report. In 41% of cases, this is indicated ambiguously and with blanks. In terms of the broader context and goals of sustainable development, as well as the scale of impact and contribution in the right geographic context, only 17% of businesses have a relatively adequate coverage of efficiency issues. While 64% of companies do not adequately explain whether long-term strategies relate to broader sustainability issues, risks and opportunities and if so, how, 6% of executive statements above 64% describe the importance of sustainable development to the organization. Organizational strategies for sustainable development are either short or with gaps and ambiguity. In relation to the last two criteria, more than 40% of the reports mention stakeholder engagement processes that are reflected in the content of the report, but there are large gaps and ambiguities. 40% describe these processes adequately, while the rest do not make any mention. Also, 73% of reports mention stakeholder engagement processes specifically applied to sustainability-related content but show large gaps and ambiguities. 26% report only brief mention and only 1% provide adequate information. Efforts to integrate sustainability into company operations are a key objective of the reporting guidelines and GRI Standard. Every business must provide a thorough explanation of sustainability, highlight pertinent initiatives, and provide links to publications that cover the range of its operations at various regional levels.

Lastly, businesses should examine how their operations effect sustainable development and the opportunities and risks that follow. 75% of the reports offer specific and detailed narratives about the understanding of the sustainable development framework by the sampled Greek enterprises, as well as information that serves as appropriate measures of sustainable development in relation to the issues mentioned in the report. At 25%, this presentation is unclear and leaves gaps.

Vasilis Menexes-Eemvraizoglou,
Dorothea Kasiteropoulou

Just 41% of businesses sufficiently address their performance issues, considering broader circumstances, sustainable development objectives, the magnitude of their effects, and their contribution in suitable geographic contexts. Just 18% of companies thoroughly examine how their long-term strategy relates to broader sustainability issues, risks, and opportunities, and 42% of companies are unable to do so. 83% of senior management statements mention the importance of sustainability to the organization and its strategy, Figure 2 illustrates the ranking of the Sustainability Framework principle among the Greek companies in the sample.

Many organizations dealing with a wide range of issues need to include in their report the issues that matter because they reflect the economic, environmental, and social impacts of the organization or influence the decisions of stakeholders. These matters, known as the Materiality Principle, are considered more important and have greater value in disclosure. The elements that should be included in detail include the list of the organization's businesses from the consolidated financial statements, the process of determining the content of the report, and the boundaries of material matters, as well as the ranking of the most important. 44% of accounts include all entities listed in the financial statements, while 36% also provide explanations for their absence or exclusion. For 21%, the data is presented in an unclear manner. 25% fully describe the procedures for determining the content and limits of the report, while 20% describe them vaguely and incompletely, and 35% only briefly. Figure 3 shows the ranking of the principle of Relevance, among the Greek companies in the sample.

The percentage of 20% only mentions how to apply the determination principles to their content. 72% of evaluative reports present the essential issues arising from the process of defining the content in a vague and insufficient way, 32% present them sufficiently, and only 27% in detail. Regarding the classification of the important issues for the business, a percentage of 49% presents them in a vague and insufficient way, while only 32% in an appropriate way, and a corresponding percentage of 19% epigrammatically. No classification is done in an assessment.

Figure 4 shows the distribution of the application of the Completeness principle among the Greek companies in the sample.

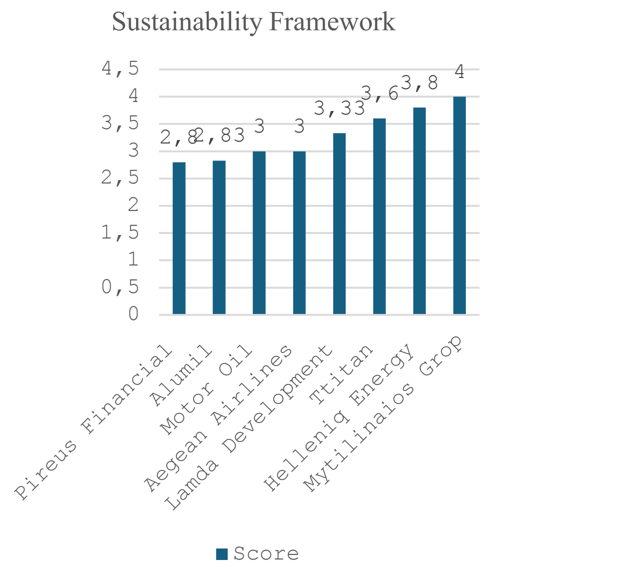

Fig. 2: Sustainability Framework, rating/company
Source: created by the authors

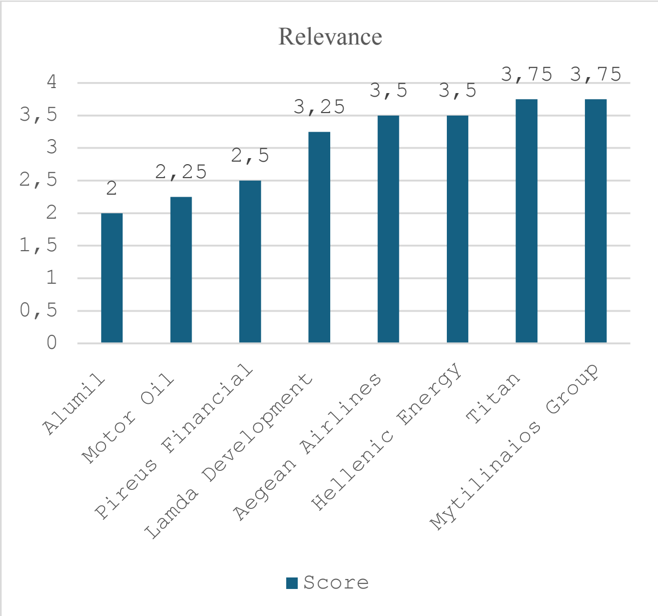

Fig. 3: Relevance, rating/company
Source: created by the authors

The analysis based on the principle of Completeness (4) must include the main issues and their limits, to highlight the important impacts in the economic, environmental, and social sectors. In addition, the effect of any changes on the information presented in previous reports must be analysed, including the reasons for revising that information. 60% of the assessments must highlight uncertainties and gaps, 9% adequately reflect, while 17% include detailed references to specific, limited conditions. Additionally, 27% should be presented shortly, avoiding reporting without substantial information. About half of the assessments must detail the changes to the information and the reasons for the revision, while 21% must include a brief statement.

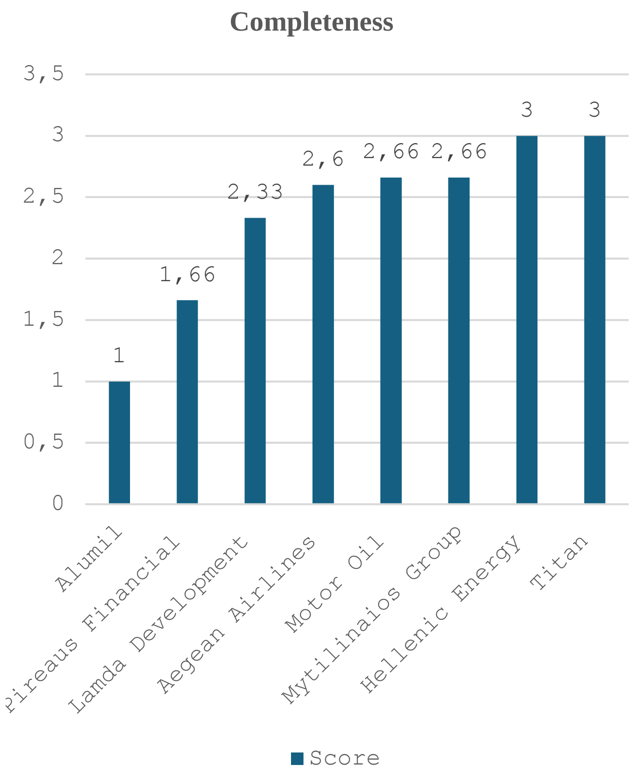

Fig. 4: Completeness, rating/company
Source: created by the authors

The obligation to carry out a detailed assessment of the overall performance of each enterprise requires the publication of both its positive and negative performances, considering previous years. To ensure balance in the presentation, the report should focus on the important topics according to their importance. More than 89% of reports present either limited adverse effects with unclear information about their effects and scope, or report ambiguities and gaps. In addition, about 58% contain information that only allows performance trends to be tracked from year to year, but show serious gaps and ambiguities, while only about 12% provide sufficient information. In terms of analysis, 88% of the total focus on 42 critical aspects of performance, emphasizing their importance, while the remaining 27% neglect this approach. The diagram below (Figure 5) shows the distribution of the application of the Balance principle among the Greek companies in the sample.

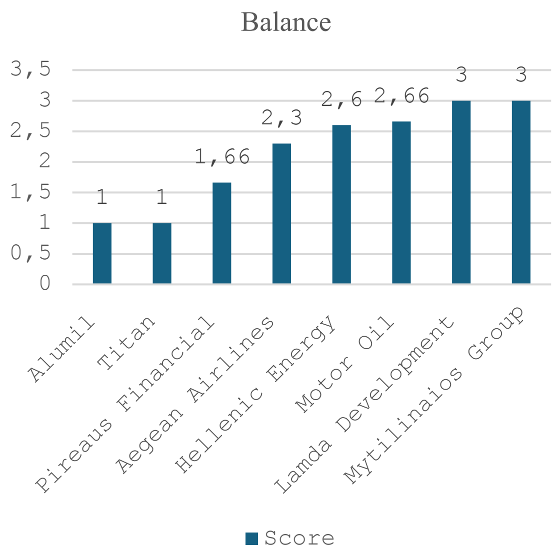

Fig. 5: Balance, rating/company
Source: created by the authors

The compilation and reporting of information by companies should be consistent, with the aim of ensuring compliance with the principle of Comparability (6) in financial data. Present information so stakeholders can assess the company's performance over time and compare it with peers. Use recognized protocols for compiling, evaluating, and presenting data, and address any significant changes during the reporting period.

Finally, the difference between previous years' accounts should be highlighted and analysed when this is significant. In 25% of the accounts examined, performance benchmarks are used that cannot be effectively compared due to ambiguity and the absence of appropriate benchmarks. Also, 75% of these reports refer to a limited number of indicators. Regarding the use of protocols and guidelines, 64% of reports partially accepted GRI-G4 protocols and guidelines, while 49% are partially valid. In December, 48% of reports partially use both the GRI-G4 protocol and the guidelines. 69% of reports use information published by the relevant industry, but 23% do not comply with relevant guidelines, despite their availability. Only 35% of them fully implement these guidelines for publishing industry information. 64% of reports contain sufficient information compared to previous years, while 39% contain information that contains gaps and uncertainties.

Only 20% provide such information. 21% of reports summarize changes in the organization's operation, and 17% contain detailed information or indicate no such changes. 29% of respondents provide enough relevant information, but there is no information at all in the report. 21% of reports contain detailed reports or statements that clearly show absences from previous periods, while 19% provide sufficient information. 23% give vague information, while 28% give short and concise information. Some accounts do not provide relevant information. The diagram below (Figure 6) shows the ranking of incorporation of the principle of Comparability, among the Greek companies in the sample.

By the GRI guidelines (2021), the report is meant to contain full details and is supposed to contain precise information that will allow the readers to assess the standing of the organization (Accuracy Principle must apply here). This necessitates the use of data measurement techniques and calculation methods, which must be described in detail, as well as full reference to estimates and assumptions related to the data. In addition, quality statements must be based on information that is available and listed in the report. In the report, 32% of cases only give technical details without proper analysis, and 65% contain more information, but there are ambiguities and gaps. A high percentage, 75%, does not clearly state which data are calculated and which assumptions are used in the forecast. The remaining 39% contain additional information, but it is there (while the remaining 27% report some additional information partially with gaps and ambiguity.) 67% provide valid qualitative explanations, and only 27% clearly cite other sources. The diagram below (Figure 7) shows the ranking of the incorporation of the principle of Accuracy among the Greek companies in the sample.

75% of the reports relate mainly to recent years and contain information directly related to the organization's current performance period, while 68% relate to previous periods used for comparison purposes. In addition, 95% of the reports clearly state the reference period, and 84% provide complete information on the training cycle. 87% of the reports include the date of the last report, but about 13% have no reference to it. Figure 8 presents the classification of the integration of Regular and Timely Information among the Greek companies in the sample.

To ensure timely access to information and the ability to enlighten interested parties in order to make informed decisions, organizations must generate reports on a regular basis. Reports must be recent with respect to the reporting year, indicate a specific reporting period, and clearly state the date of the previous report as well as their compilation cycle (annual, biennial). In addition, it should be readable in a second language and accessible to people with special needs. 62% of reports cover enough topics without exaggeration, and 42% cover enough topics. 43% contain enough aid, 18% provide complete information, and 29% include ineffective aid without clarity.

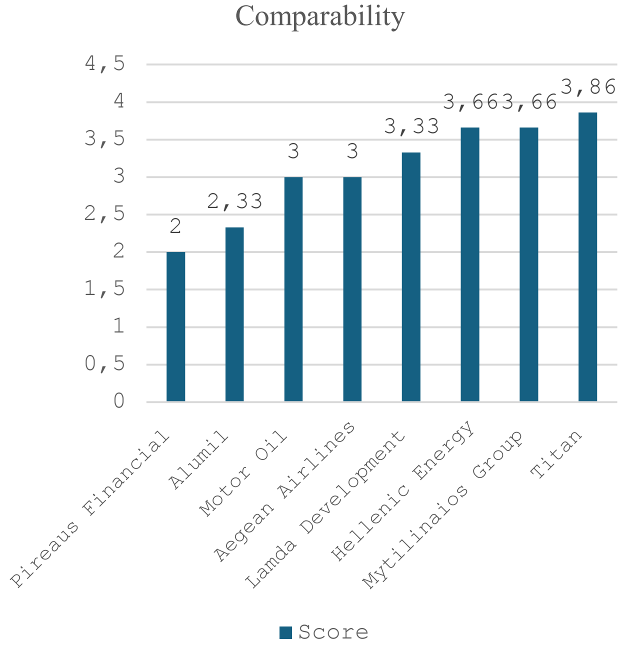

Fig. 6: Comparability, score/company
Source: created by the authors

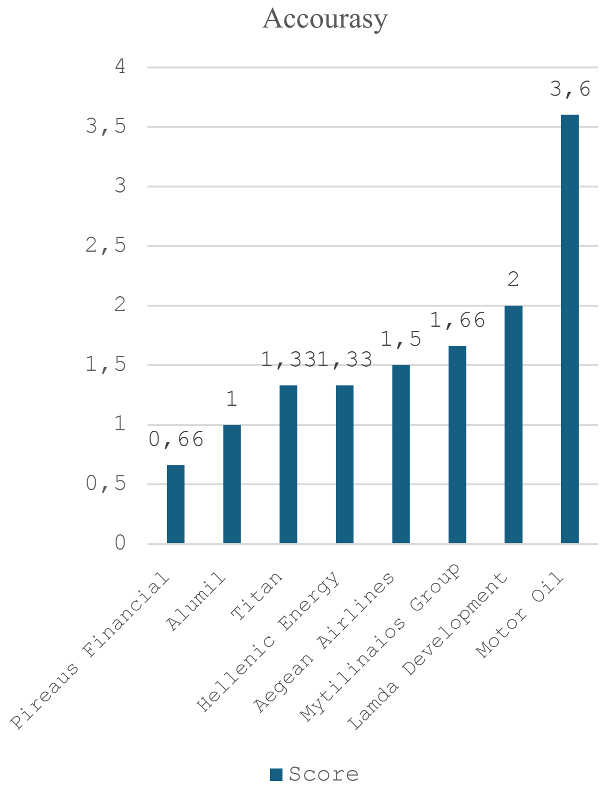

Fig. 7: Accuracy, rating/company
Source: created by the authors

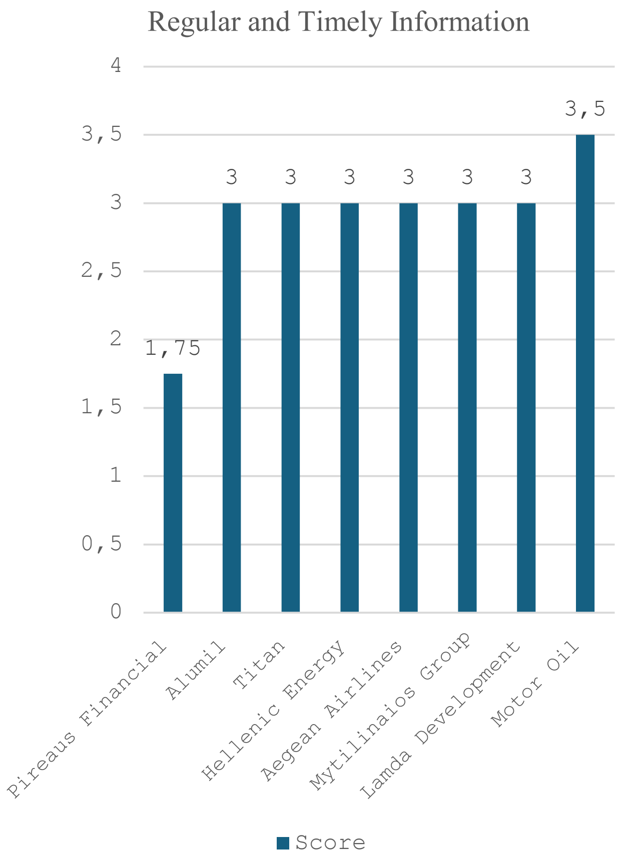

Fig. 8: Regular and Timely Update, rating/company
Source: created by the authors

All reports contain a few technical terms, acronyms, or other content that may be difficult for stakeholders to understand. Unfortunately, this content is not always clarified. 87% of the accounts are in a second language, and one is in English only. Unfortunately, there is no handicapped accessible account. 72% of the reports contain indexes that only cover standard GRI performance metrics, while 28% are listed on the page. There are also cases where full company contact information is provided (about 54%), but about 49% do not mention the organization's website. The diagram below (Figure 9) shows the integration ranking of Clarity among the Greek companies in the sample.

Therefore, the organization undertakes to collect, record, compile, analyses, and publish information and procedures used to prepare the report, in such a way that they are controllable and demonstrate the quality and importance of the information (Principle of Reliability (10)). 73% of the accounts include external validation, detailing the scope and extent, as well as the policy and existing practice regarding securing external validation. The remaining 25% have not undergone external validation of the published data. Reports that do not have external validation include a description of the organization's policy on this, which is also highlighted in the following chart. The diagram below (Figure 10) shows the ranking of the integration of the principle of Reliability, among the Greek companies in the sample.

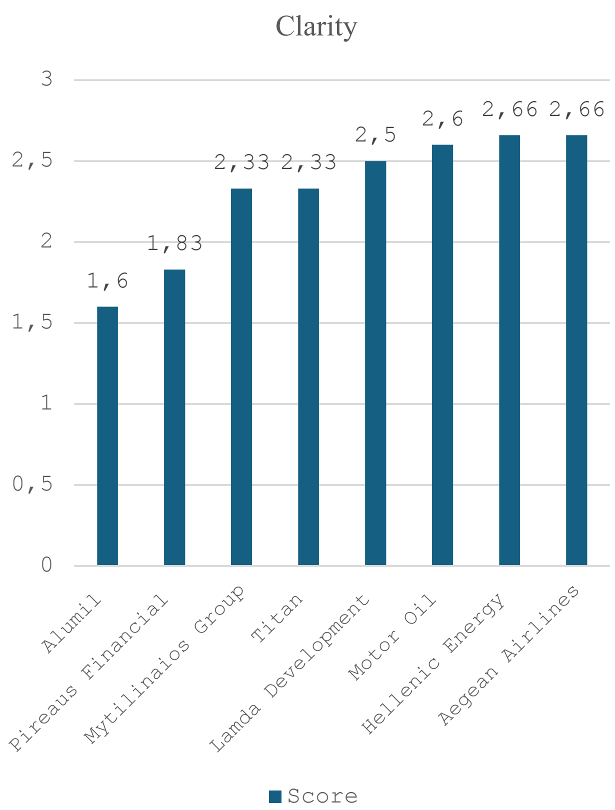

Fig. 9: Clarity, rating/company
Source: created by the authors

The values of Clarity, Accuracy, and Reliability gathered the lowest rating among the evaluated accounts. Beyond the importance of Reliability, which is associated with the lack of external verification for six accounts, the remaining ethical precepts are related to reporting quantitative data and indicators, stating the boundaries of important issues, and using acceptable protocols for compiling and measuring data, as well as widely accepted metrics such as GRI-G4. This indicates a lack of reliable and transparent reporting of quantitative performance in many accounts, as well as the general provision of necessary information on indicators of important aspects of business activity. In terms of completeness, the low rating covers about a third of the accounts, with the remainder addressing the issues of delineation and restatement of information relatively well, as seen below, compared to the highest performing accounts by ethics.

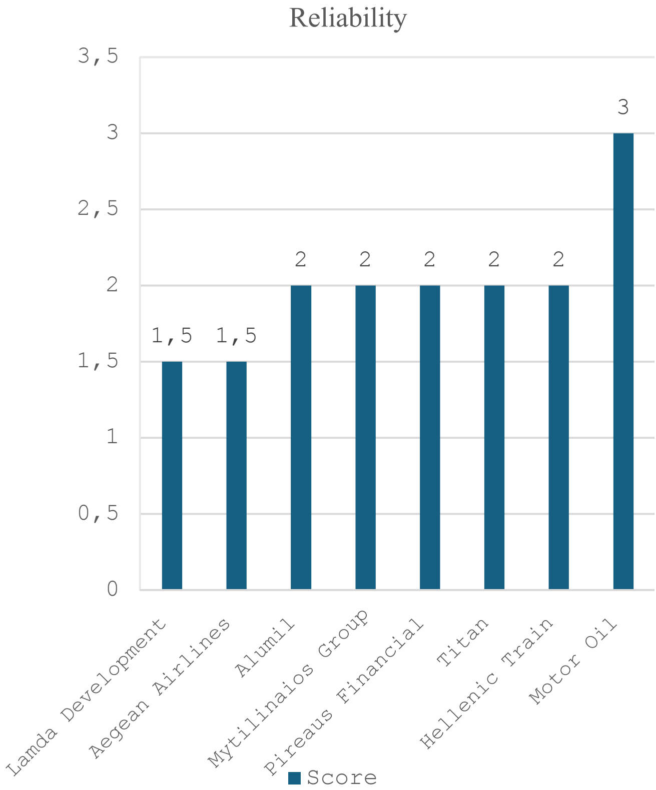

Fig. 10: Reliability, rating/company
Source: created by the authors

The principles of Stakeholder Participation and the Sustainability Framework claimed the highest score. In terms of regular and timely information, almost all reports met the requirements of the GRI-Standard guidelines. However, in terms of participation, gaps were recorded in the reporting of the criteria for the selection of stakeholders and their selection procedures, with a range of scores from 1.6 to 3.4, showing problems in many companies. For the clarity part, the criterion of accessibility to all stakeholders failed to obtain the maximum score in any report, as it is not provided in a form that is accessible to people with special access needs, such as the visually impaired. Table 4 shows the minimum and maximum ratings per principle.

The average rate of adoption of the Central Principles proposed by the rules for report preparation, presentation, and presentation in Greek enterprises' general CSR reports is 67.8%. Two of the eight total business reports fall below this percentage, while the other six are above it. It is worth noting that the two corporate accounts that fall short of the authorities' average integration rate of 67.8% had integration rates of 60% or below, with the smallest having a rate of only 51.84% (Piraeus Bank), whilst the highest rate of integration is 76.6% (Mytilinaios). Figure 11 shows the proportions of application of the basic principles of corporate governance from the GRI guidelines, for the Greek companies in the sample.

Table 4. Lowest and Highest Scores per Principle

Principles	Lowest Score	Average Score	Highest Score
A. Stakeholder Engagement	1.6	2.7	3.88
B. Sustainability Framework	2.8	3.4	4.0
C. Materiality	2.0	2.8	3.75
D. Completeness	1.0	2.0	3.0
E. Balance	1.0	2.0	3.0
F. Comparability	2.0	2.9	3.83
G. Accuracy	1.0	2.3	3.6
H. Timely and Strategic Updates	1.75	2.6	3.5
I. Clarity	1.6	2.1	2.66
J. Reliability	1.5	2.2	3.0
Total	**1.6**	**2.5**	**3.4**

Source: created by the authors

In the corporate reports of the studied Greek companies, there is also considerable variation in the adoption of the basic principles for the preparation of corporate reports according to the GRI-G4 guidelines.

Figure 12 shows that three of the ten principles have a corporate acceptance rate of less than 60%, while nine have a rate of more than 70%. Specifically, of the ten (10) principles, the principle of Regular and Timely Information has an adoption rate of 71%, while another 6 have been adopted with a rate of more than 70% (such as Participation, Sustainability Framework, Balance, Accuracy and Reliability, etc.)

Based on the above data, it follows that the highest ratio of integration in the corporate accounts of Greek companies is 80%, with an average value of 3.2, which concerns the Participation of interested parties, while the principle with the highest percentage of integration is the Sustainability Framework, with a rate of 83% and an average value of 2.79. Accordingly, the principle with the lowest incorporation rate is Accuracy, with 40%, with an average value of 1.63. This last principle emphasizes the need for accurate and detailed information in reports to allow stakeholders to assess the organization's performance. This does not seem to be the case for most of the corporate accounts of the Greek companies in the present sample.

In terms of widely accepted reporting protocols, the most accepted guidelines for corporate accounting are those derived from the ISO 26000 standards, the AA1000 Series Accountability Principles Standard (2008), the GRI Reporting Initiative, as well as the guidelines of the Business Council for Sustainable Development (WBCSD) and GRI-Sector Disclosure at the sector level. These various standards, regulations, and guidelines are often used concurrently or as a supplement to CSR reporting. At the same time, many companies, when preparing their accounts, produce performance reports in accordance with the principles of the UN Global Compact and for the Greek market in accordance with the principles of the Greek Sustainability Code. Table 5 presents the use of established protocols for performance and compliance reporting based on the above principles.

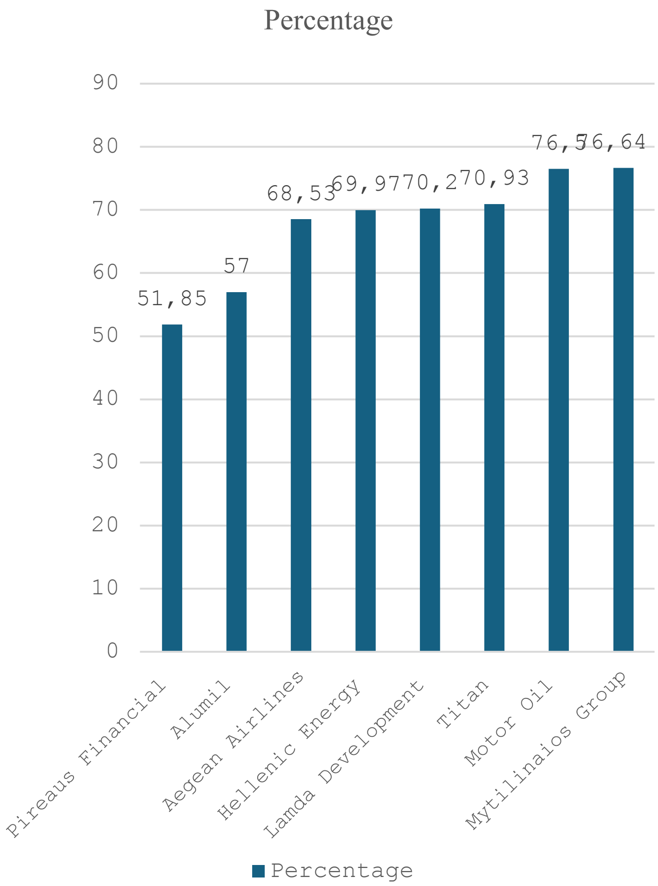

Fig. 11: Percentage of inclusion of GRI-Standard guidelines by company report
Source: created by the authors

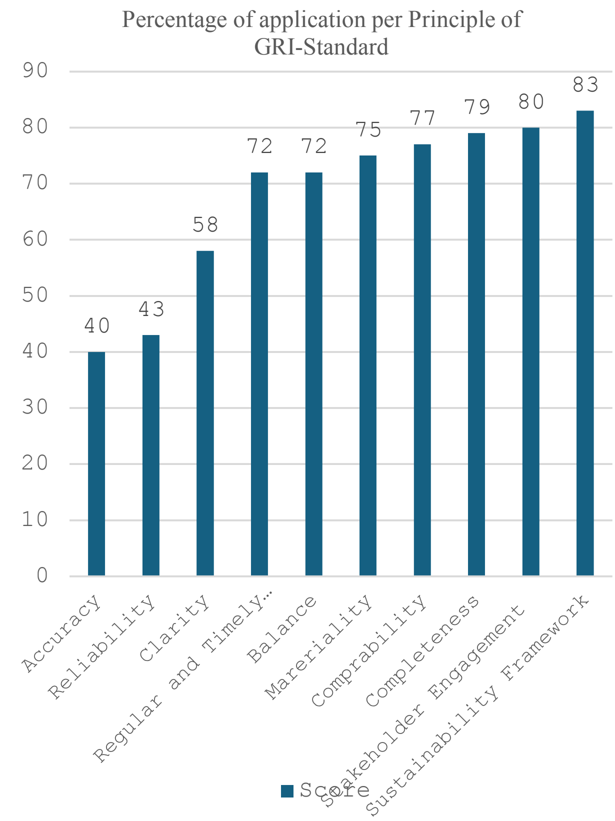

Fig. 12: Percentage of applications per Principle of GRI-Standard guidelines in all corporate reports
Source: created by the authors

Table 5. Use of widely recognized CSR reporting and progress reporting protocols and adherence to the principles of the UN Global Compact and the Greek Sustainability Code

Companies	General Acceptable Protocols	Progress Report or Declaration of Compliance	Measuring Protocols
Motor Oil	• AA1000AP • GRI Sector Disclosures	• UNGC (COP), • Hellenic Code of Sustainability	√
Titan	• GRI Sector Disclosures	• UNGC (COP) • Hellenic Code of Sustainability • Global Cement and Concrete Association (GCCA)	√
Helleniq Energy	• AA1000AP • Athens Stock Exchange Guide	• UNGC (COP) • Hellenic Code of Sustainability	√
Aegean Airlines	• GRI Sector Disclosures • ISO 45001:2018 • Athens Stock Exchange Guide	• Hellenic Code of Sustainability	√
Mytilinaios Group	• AA1000AP • ISO 26000 • Sustainability Accounting Standards Board (SASB) • GRI Sector Disclosures	• UNGC (COP) • Hellenic Code of Sustainability	√
Lamda Development	• ISO 45001:2018 • GRI Sector Disclosures	• Hellenic Code of Sustainability	
Alumil	• GRI Sector Disclosures	• Hellenic Code of Sustainability	√
Piraeus Financial	• Athens Stock Exchange Guide	• UNGC (COP) • Hellenic Code of Sustainability	

Source: created by the authors

In particular, seven out of eight companies use at least one of the widely recognized reporting protocols beyond the GRI guidelines. Likewise, five out of eight corporate reports (65%) include at least one statement of compliance or progress with respect to the principles or criteria of the UN Global Compact or the Greek Sustainability Code and five out of eight corporate reports use at least one of the widely recognized reporting protocols outside of the GRI-G4 guidelines (just over 40%).

13 Analysis of the Findings in the Application of Methodology

The degree to which the basic principles of the GRI-Standard guidelines are adopted and integrated into the preparation, drafting, and drafting of Corporate Social Responsibility reports is critical to the quality of each company's published CSR performance with the participation of interested parties. Determine the most significant issues for the running of each firm based on its own qualities. It aids in goal setting, [69]. At the same time, it provides interested parties with access to information that meets their expectations and creates a common value between societal goals and expectations and economic progress, allowing the effectiveness of each company's social responsibility to be evaluated, [70], resulting in shared value with societal goals and aspirations and economic progress, [71]. The evaluation of the corporate reports of the Greek companies in the sample showed that in half of them (Regular and timely information, Involvement of Stakeholders, Clarity, Completeness, and Materiality), they had a high integration rate of more than 70%.

However, there were some rules for the remaining four, except for the first position, where the level of information integrity of all criteria was high. Specifically with regard to the development of Participatory Governance, there were limited references to the procedures for the selection of interested bodies (in 45% of the reports sufficient information was available), to their participation procedures provided specifically for this purpose (in 79% of the reports there were ambiguities or gaps, in contrast to 68% of the corresponding report of [72] and in the detailed analysis of the issues arising from their participation and the reaction of the organization (in 74% of cases there were gaps and ambiguities). Regarding the principle of disclosure, each report does not have access to people with special difficulties (mobility, for example) and shows an adequate coverage rate of more than 60% according to other criteria, while according to the principle of completeness, 43% of the report does not express it briefly or at all. Limitations of important aspects of activity inside and outside the organization with uncertainties and gaps.

The principle of importance is that the scope of the criteria related to the process of determining the content of the report is limited, and 52% leave it blank or define it briefly in an ambiguous way (44% write an [73]. Regarding the criteria for presenting important issues, the same is true for the hierarchical criteria, where 43% of corporate reports have gaps or ambiguity, while 72% of corporate reports are ambiguous or fragmentary. The level of integration of the three principles (Comparability, Sustainability Framework, and Balance) was satisfactory at around 75%, again due to the limited coverage of some sub-criteria. Regarding the principle of comparability, the application of the criterion of using performance measures that are comparable and widely recognized to a benchmark was limited. For the criterion of using comparable and widely recognized performance measures, the scope was limited, and a large proportion of reports (89%) reported either few indicators or gaps and ambiguities. Furthermore, regarding the criterion of using the GRI or other generally recognized reporting protocols, only 53% of all reports met this criterion.

Regarding the principles of the sustainability framework, the criteria that are not sufficiently covered in the corporate report are that of covering the performance of the companies with reference to the wider conditions and sustainable development objectives as well as the size of the impacts and their contribution in an appropriate geographical context (58%), performance in understanding the framework of sustainable development and appropriate information on sustainable development indicators on the topics covered in the report (59%) and linking long-term sustainability performance to the sustainability framework (59%). Also, regarding the "balance principle", a large proportion of reports (over 70%) have limited coverage of the criterion for reporting adverse effects and contain limited information on the magnitude of these effects. The criteria of Reliability and Accuracy showed the lowest coverage in all the CSR reports of the Greek companies in the sample.

The higher rate of incorporation (80%) of the principle of Participation in the social responsibility reports of Greek companies responds to the need to ensure that information will be available in a timely manner, for stakeholders to make informed decisions, [74]. These decisions can have a direct impact on businesses, positively or negatively affecting performance, reputation, and the ability to obtain investment capital. This is also supported by

[75] regarding the motivations of companies to issue and disclose non-financial reports as a means of fulfilling their environmental and social responsibility. At the same time, the low coverage of integration of the principles of Accuracy (40%) and Reliability (43%) weakens the main disclosure objectives of social responsibility reports in terms of the integrity of transparency, honesty, effectiveness, and reliability towards stakeholders, expectations, and their demands, [76]. The percentage of externally audited corporate social responsibility reports of the Greek companies in the sample is 79%, increased compared to the 14% of the 2009 reports [77] , the 45% in the 2013 report [78] , and 50% of 2014 accounts [79], the percentage of non-externally audited reports is considered to be decreasing in line with international growth trends, [80].

The external evaluation examines the quality of published information and the process of submitting a Corporate Social Responsibility (CSR) report, providing important information about the company's management and review for the analysis of significance, the involvement of stakeholders, and overall management of the organization's sustainability, [81]. The insufficient application of the principle of Accuracy in Greek social responsibility reports indicates that the information on the report's performance on important CSR issues is not sufficiently accurate, detailed, and reliable to allow stakeholders to assess the organization's performance. The principle of Accuracy relates to data measurement techniques, estimates, assumptions, and qualitative statements, as well as the corresponding reports for further information, [82].

Previously, there was a lack of evaluation of corporations' performance in terms of their Corporate Social Responsibility (CSR) operations, both in Greece [83] and on a global scale, [84]. Nevertheless, the extensive adoption of core principles in the sample Greek corporate accounts published in 2015 validates previous estimates of higher scores in some areas, while it may mask low scores in others. For example, the extent of coverage of some general areas of business activity related to CSR, such as corporate governance, profile, labour relations and social contribution, compared to the limited or unclear coverage of areas such as environmental impact, safety and workplace health and corruption, demonstrates the need for more and more detailed information in order to create a comprehensive, balanced and reliable CSR report, [85]**.** Out of all the reports, 7 are in "agreement" with the basic editorial choice (core) and only two with the comprehensive (comprehensive), compared to the one recorded in 2013, [86]. Regarding widely accepted reporting protocols, in addition to using the GRI-G4 guidelines, 3 out of 8 reports (42%) use ISO 26000, compared to 24% in 2013 [87], 5 out of 8 accounts (22%) use AA1000APS, while a total of 3 (32%) out of 8 corporate accounts use at least one of the above protocols. Similarly, six out of eight corporate reports (75%) are accompanied by at least one statement of compliance or progress according to the principles or criteria of the UN Global Compact or the Greek Sustainability Code.

14 Statistical Analysis

All software code analyses that are to be presented in this paper were done in Python version 3.11 using the numpy, pandas, SciPy, and statsmodels libraries. Company-level descriptive statistics, along with overall adoption percentages and per-principal averages presented in the paper, inferential tests determine differences between groups and heterogeneity on the principal level. Throughout, a nominal alypha= 0.05 (two-tailed) is used. Effect sizes with 95% confidence intervals and CIs, are reported, where appropriate.

Primary inferential procedures

- **Welch's t-test** (two-tailed) compared the mean overall GRI adoption between Large firms and multinational enterprises (MNEs). Welch's test was selected to accommodate unequal variances and unequal group sizes. Cohen's *d* (pooled SD) quantifies the standardized effect size; 95% CI for the mean difference was computed using the Welch df.
- **Categorical association** between firm size and Above-Average performance (threshold = 67.8%) was assessed using **Fisher's exact test** and an exhaustive **permutation test** (28 possible 2-firm labelings), because several contingency cells contain small counts (including a zero).
- **Principal group comparison**: per-principal averages (Table 4; 0–4 scale) were grouped conceptually into Content (Stakeholder Engagement, Sustainability Framework, Materiality, Completeness) and Quality (Balance, Comparability, Accuracy, Timeliness, Clarity, Reliability) dimensions. A one-way ANOVA (equivalent to an independent two-group test for these aggregated scores) quantified the difference;

Cohen's *d* and 95% CI for the mean difference are reported.

- **Exploratory repeated-measures analysis (simulated supplement)**: A reproducible simulation was conducted (multivariate normal draw matching the Table 4 means; within company SD= 6 percentage points; compound symmetry ρ= 0.5). The simulated dataset was subjected to repeated measures ANOVA (AnovaRM) and a linear mixed effects model with a random intercept for Company. Paired comparisons were corrected for multiple testing (Holm).

All results are reported with exact test statistics, dfs, p-values, effect sizes, and CIs where appropriate. Simulation outputs are explicitly labeled as exploratory.

14.1 Descriptive Statistics

Across the eight companies, the mean overall GRI adoption was **67.70%** (SD = **8.83**; range 51.85%–76.64%). Company values (extracted from the manuscript) are presented in Table 6.

Table 6. Company overall GRI adoption (%)

Company	Size	Overall adoption (%)
Piraeus Financial	Large	51.85
Alumil	Large	57.00
Aegean Airlines	Large	68.53
Hellenic Energy	Large	69.97
Lamda Development	Large	70.20
Titan Cement	Large	70.93
Motor Oil	MNE	76.50
Mytilineos Group	MNE	76.64
Mean ± SD	—	**67.70 ± 8.83**

Note: Mean ± SD = 67.70 ± 8.83 %. MNE = Multinational Enterprise.
Source: created by the authors

14.2 Large vs MNE: Welch t-test

Large firms (n = 6) had a mean overall adoption of **64.75%** (SD = 6.40); MNEs (n = 2) had a mean **76.57%** (SD ≈ 0.10 across the two observations). Welch's t-test indicates a statistically significant difference (Table 7):

- **t(≈5.00)** = −3.533, **p = 0.0167**.
- Mean difference (Large − MNE) = **−11.82%**; **95% CI = [−20.42%, −3.22%]**.
- **Cohen's d = 1.58** (large).

Table 7. Welch t-test summary (Large vs MNE)

Group	n	Mean (%)	SD
Large	6	64.75	6.40
MNE	2	76.57	0.10

Source: created by the authors

Test results: t(≈5.00) = −3.533, p = 0.0167; mean difference = −11.82 % (95 % CI [−20.42, −3.22]); Cohen's d = 1.58 (significant effect).

Interpretation. In this sample, MNEs show substantially higher reported alignment with GRI criteria than Large domestic firms. The effect is practically large; however, the MNE sample size (n = 2) is small, thus findings should be treated as strong indicators rather than conclusive proof.

14.3 Categorical Association: Size × Above Average

The distribution of companies classified as above or below the sample mean adoption level (≥ 67.8 %) across the two size categories is presented in Table 8. Fisher's exact and permutation tests assess independence between firm size and GRI performance level.

Table 8. Cross-tabulation of firm size and above-average GRI performance

Size	Below Avg	≥ 67.8% (Above Avg)	Total
Large	2	4	6
MNE	0	2	2

Source: created by the authors

Interpretation. Fisher's exact (two-sided) p = 1.000; exhaustive permutation test over all C (8,2) labelling also yields p = 1.000. Because of the zero cell and small counts, asymptotic inference is unstable; rely on the continuous Welch result and descriptive counts.

14.4 Principle-level Analysis (Content vs Quality)

Per-principle means (Table 9) were converted to percentage of maximum for interpretability. High coverage appears for *Sustainability Framework* (85.0%) and *Comparability* (72.5%); low coverage occurs for *Completeness* and *Balance* (50.0%). Average company scores for each GRI reporting principle (0–4 scale) and corresponding percentage of the maximum possible value. Principles are grouped into Content and Quality dimensions for further comparative analysis.

Aggregating these principles into Content (n = 4; mean = 2.725) versus Quality (n = 6; mean = 2.350) dimensions yields:

- ANOVA: **F(1, 8) = 1.728**, **p = 0.225**.
- Mean difference = 0.375 (0–4 scale); **95% CI = [−0.477, 1.227]**.
- **Cohen's d = 0.85** (moderate–large practical effect).

Interpretation. The fact that content principles are numerically higher than quality principles indicates that businesses prioritize strategic and stakeholder content over technical report quality. The effect size suggests practical relevance that warrants additional research with larger samples or paired per-company data, even though the difference is not statistically significant at $\alpha = 0.05$.

Table 9. Average adoption scores of individual GRI principles. Per-principal averages (0–4 scale) and % of maximum

Principle	Mean (0–4)	% of max
Stakeholder Engagement	2.70	67.5
Sustainability Framework	3.40	85.0
Materiality	2.80	70.0
Completeness	2.00	50.0
Balance	2.00	50.0
Comparability	2.90	72.5
Accuracy	2.30	57.5
Regular / Timely Update	2.60	65.0
Clarity	2.10	52.5
Reliability	2.20	55.0

Source: created by the author

14.5 Simulated Repeated-Measures Supplement (Exploratory)

A reproducible simulation reconstructed a company by principal matrix consistent with means is presented in Table 10 (multivariate normal, SD = 6, $\rho = 0.5$). Analyses of the simulated data show strong principal heterogeneity.

Table 10. Statistical Outcomes from the Simulated Repeated-Measures Study

Repeated-measures ANOVA	$F(9, 63) = 41.85$	$p < 0.001$	Partial $\eta^2 \approx 0.86$.
Mixed-effects	(random intercept for company) corroborated principle fixed-effect contrasts.		
Paired comparisons	(Holm adjusted) identified multiple significant differences between low and high principles.		

Source: created by the authors.

At the simulated company level, Large – MNE differences were small and non-significant ($\Delta \approx 1.83\%$; bootstrap 95% CI [−2.74%, 5.95%]; permutation $p \approx 0.071$). These simulation results are exploratory and illustrate sensitivity of the company-level contrast to within-company variance assumptions.

14.6 Discussion (Brief, Focused)

There are two strong patterns in the evidence. First, there is a great deal of variation among GRI principles: companies consistently prioritize strategy-oriented and stakeholder-facing indicators (such as the Sustainability Framework and Stakeholder Engagement) over technical standards pertaining to data completeness and accuracy. Second, a substantive size-related gap favors MNEs, who show higher overall adoption in this sample. The small number of MNEs means the latter finding is indicative and merits confirmation with larger cross-sectional or panel datasets.

Practical implication. Regulators, investors, and auditors should note that narrative completeness does not imply technical data quality; targeted efforts to improve accuracy and assurance are required.

15 Limitations of the Research

An extensive analysis of the corporate social responsibility reports issued by Greek companies in the year 2022 was carried out. This analysis aims to evaluate the compliance of said reports with the most recent guidelines of the GRI-Standard, to facilitate the comparison process of results. To collect the reports, the GRI database was used, from where the reports published by the company websites were retrieved. However, due to the limited time frames for the submission of the dissertation, the sample of reports was limited to those published by December 2023. It is noted that no reports were evaluated by other external evaluators to limit the subjectivity of the analysis.

When discussing the results of this study, certain limitations should be considered. The first reason is that the sample size is quite small ($n = 8$); this sample included only 6 of the largest domestic firms, as well as 2 multinational firms. As a result, this significantly detracts from the statistical power of the analyses. This further detracts from the potential ability of the results to be generalized to the overall population of firms located within Greece. As a result, the differences noted between the groups, while being both statistically significant as well as practically so, will need to be interpreted with care. They should also be seen as being suggestive of the truth, rather than being conclusively so. The second reason results from the lack of the specific data set, which consists of raw scores being held by individual firms, as well as their principled scores, which also had to be considered when building the structure for the empirical data.

To partially address this gap, a reproducible simulation was conducted to approximate within-company variability, but the resulting exploratory analysis should not be viewed as a substitute for analysis based on real observations. Third, the contingency analysis comparing size category and above-average performance was constrained by small and uneven cell frequencies, including a zero count, which reduced the reliability of asymptotic significance tests such as the χ^2 and Fisher's exact test.

Despite these limits, the degree of agreement between descriptive, inferential, and simulation results provides a reasonable level of confidence in the direction of the observed effects. Future research should strive to collect the entire matrix data from all participating companies, allowing for potentially conclusive mixed-effects or MANOVA analyses. Larger and more balanced samples would also enable for more accurate evaluation of interaction effects between company size, sector, and individual GRI principles, resulting in a more complete picture of sustainability reporting maturity in the Greek corporate landscape.

16 Conclusions

The actions that belong to the Corporate Social Responsibility (CSR) framework of businesses show a positive trend worldwide and in Greece. This positive trend is not only due to pressures exerted by governments, organizations, and other bodies for transparency and responsibility, but also due to the increasing awareness of societies on issues related to the activity of companies at an economic, social and environmental level. Companies, for their part, not only seek to improve their external image, but also to recognize the impact they have on their overall results, which affect and are affected by stakeholders by implementing CSR practices and diversifying their performance in this context. For reporting activities in social responsibility, widely established protocols for organizing and presenting results are used, either independently or within a more general business account. The most widely used frameworks for the preparation of these reports are the GRI guidelines, which are the most widely used framework worldwide. The fifth and latest edition of these guidelines, known as the GRI-Standard, replaces all previous editions from 2021. In the present study, a methodology was used to evaluate the corporate social responsibility reports of Greek companies, based on the guidelines of the GRI-Standard. The methodology was based on the use of the content analysis method, which is one of the globally accepted methods for evaluating the publication performance of corporate reports on social responsibility. In the framework of this methodology, the degree of integration of the ten basic principles proposed by the GRI for the organization, preparation and writing of a corporate responsibility report was evaluated. This evaluation was carried out on a sample of 8 company reports from various industries.

Through a specific evaluation system of criteria referring to the fulfilment of the requirements of each principle, an increase of 74% was observed in the incorporation of the ten principles for the Greek CSR reports reported in 2022, compared to the previous survey last year, [88]. Although there were a few criteria that were not fully covered. Examples of these criteria include stakeholder selection and engagement processes specific to the content of the report, processes for determining the content of the report, presentation of key issues and their classification, use of identifiable performance benchmarks that can to be compared with appropriate benchmarks, the assessment of business performance in the light of wider conditions and sustainable development goals, the assessment of the magnitude of impacts and their contribution in appropriate geographical contexts and finally the reporting of negative outcomes.

The highest percentage of inclusion in the annual reports of Corporate Social Responsibility (CSR) became the principle of Regular and Timely Information, which reveals the increased sensitivity of Greek companies to the need for the timely provision of information about CSR. This allows stakeholders to make informed decisions. As a result, the principles of accuracy and reliability had the lowest incorporation rates, meaning that CSR accounts' transparency, honesty, and credibility with stakeholders are limited, [88]. In a comparison between the two methodologies for the samples of the 10 corporate reports, it was observed that the average percentage of incorporation of the ten basic principles of the GRI-Standard guidelines is 57.1%, while the corresponding percentage for the publication guidelines of the management approach amounts to 35.6%. The same results are observed at other levels, with the average percentage of involvement of the authorities reaching 59.7% at the sectoral level, while the guidelines for publicizing the administrative approach reach only 36.6%. It follows from these that, even though corporate social responsibility reports largely include the basic principles of the GRI-Standard guidelines, they do not seem to ensure comprehensive, effective, reliable, accurate, and balanced reporting of the most important issues.

This undermines the transparency and credibility of corporate reporting to stakeholders and does not ensure full coverage of the GRI-Standard guidelines. Furthermore, it underlines that a high rating of a corporate report does not necessarily mean a high rating in all individual aspects, especially those that matter most, while it does not guarantee real corporate performance in social responsibility, especially if there is no high-level external confirmation, which may not be a priority for all businesses. Overall, it can be said that the delay in the preparation of corporate reports in terms of achieving the objectives of covering all the necessary indicators for the publication of performance information in relation to the most important issues of high importance highlights a more superficial approach to the publication of performance. Although this process largely covers the guidelines for incorporating principles, it really avoids detailing the qualitative and quantitative performance information, particularly on the most important issues it should highlight. Regarding the reasons or possible motivations of companies for the level of disclosure, the following can be mentioned: either the lack of suitable specialized personnel, or the non-observance of the required protocols for data collection and analysis, or the lack of necessary financial resources (mainly for small and medium-sized enterprises), either the lack of understanding of the importance of developing an integrated social responsibility reference framework, or the lack of sufficient clarity in the guidelines to cover the individual indicators, or the temporary choice of concealment due to corporate interests or political reasons, or the combination of above. In general, CSR reports in Greece seem to be improving over time. This is in comparison to previous studies and following global trends.

These improvements are achieved through increased stakeholder engagement, meaningfulness, and clarity of reporting, as well as their credibility. In addition, the use of more reporting protocols, beyond the GRI, is observed, as well as the submission of compliance or progress reports, in accordance with either the principles of the UN Global Compact or those of the Greek Sustainability Code. There is a need to pay more attention to the accuracy and reliability of recording and presenting performance, as well as the clear use of metrics and comparison with internationally recognized benchmarks in all areas. This will help to achieve greater transparency and credibility in business reporting to stakeholders. The present research makes a significant contribution to the literature on the evaluation of corporate accounts, as well as to the development and application of a specific methodology, providing conclusions regarding the completeness, transparency, and reliability of corporate accounts in the Greek market.

In line with the current researcher's undertaking, future studies should be data-based, interdisciplinary, and methodologically triangulated to assess CSR disclosures in Greece. Researchers should create longitudinal panel databases that span a range of reporting years (i.e., 2021-2024) and industry-relevant (high impact: energy, shipping, construction versus low impact: finance, services, technology) to reveal heterogeneity in the adoption and implementation of the 2021 GRI-Standard. The greatest methodological concern is the objectivity gap concerning CSR assessment. For comparable assessment, researchers may develop sector-adjusted disclosure indices with weighted aspects for significant material concerns (GRI 11-13) per industry. Reliability and construct validity should be assessed via Cronbach's alpha, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA).

The analytical approach needs to include panel econometric models, fixed-effects, and random-effects regression to examine the effect of the corporate variables on the quality of IARs. The model may also use the Arellano-Bond GMM, which tends to deal with endogeneity, and the difference in differences model, to test the effect of the adoption of the 2024 CSRD.

To improve the complexity evaluation, text analysis computations, such as Latent Dirichlet Allocation and BERT models on narrative tone, topics, and the use of substantive and symbolic disclosure, can be used.

In the third step, the role of the moderating and mediating factors, external assurance, and digital reporting infrastructure (XBRL, Blockchain), and institutional pressures, coercive, normative, and mimetic, could be modeled using moderated-mediation models, respectively, through the application of Structural Equation Modeling. The combined approach would bring much-needed objectivity and an ability to be reproduced across sectors and enable interindustry and cross-border comparability in the field of CSR Reporting.

References:

[1] Ilhan, E., Sautner, Z., & Vilkov, G. (2021). Carbon tail risk. *Review of Financial Studies, 34*(3), 1540–1571. https://doi.org/10.1093/rfs/hhaa071.

[2] Calabrese, A., Costa, R., & Rosati, F. (2015). A feedback-based model for CSR assessment and materiality analysis. *Accounting Forum, 39*(3), 312–327. https://doi.org/10.1016/j.accfor.2015.06.002.

[3] Weber, M. (2008). The business case for corporate social responsibility: A company-level measurement approach for CSR. *European Management Journal, 26*(4), 247–261. https://doi.org/10.1016/j.emj.2008.01.006.

[4] Diligent Institute. (2019). *Stakeholder governance: A survey of boards of directors*. Diligent Corporation.

[5] Kolk, A. (2003). Trends in sustainability reporting by the Fortune Global 250. *Business Strategy and the Environment*, *12*(5), 279–291. https://doi.org/10.1002/bse.370.
[6] KPMG. (2013). *The KPMG survey of corporate responsibility reporting 2013*. KPMG International.
[7] AccountAbility. (2008). *AA1000 accountAbility principles standard 2008*. AccountAbility.
[8] Moneva, J. M., Archel, P., & Correa, C. (2006). GRI and the camouflaging of corporate unsustainability. *Accounting Forum*, *30*(2), 121–137. https://doi.org/10.1016/j.accfor.2006.02.001.
[9] Alexander, Gordon & Buchholz, Rogene. (1978). Corporate Social Responsibility and Stock Market Performance. The Academy of Management Journal. 21. 479-486. doi: 10.2307/255728.
[10] Global Reporting Initiative. (2013). *G4 sustainability reporting guidelines*. GRI.
[11] Lee, K. H., & Shin, D. (2010). Consumers' responses to CSR activities: The linkage between increased awareness and purchase intention. *Public Relations Review, 36*(2), 193–195. https://doi.org/10.1016/j.pubrev.2009.10.014.
[12] Capriotti, P., & Moreno, A. (2007). Corporate citizenship and public relations: The communication and management of corporate social responsibility. *Public Relations Review, 33*(1), 84–91. https://doi.org/10.1016/j.pubrev.2006.11.012.
[13] Maon, F., Lindgreen, A., & Swaen, V. (2009). Designing and implementing corporate social responsibility: An integrative framework grounded in theory and practice. *Journal of Business Ethics, 87*(1), 71–89. https://doi.org/10.1007/s10551-008-9804-2.
[14] Turker, D. (2009). Measuring corporate social responsibility: A scale development study. *Journal of Business Ethics, 85*(4), 411–427. https://doi.org/10.1007/s10551-008-9780-6.
[15] Skouloudis, A., Evangelinos, K., & Kourmousis, F. (2009). Development of an Evaluation Methodology for Triple Bottom Line Reports Using International Standards on Reporting. *Environmental Management 44*,298–311, doi: 10.1007/s00267-009-9305-9.
[16] Lamberti, Lucio & Lettieri, Emanuele. (2009). CSR Practices and Corporate Strategy: Evidence from a Longitudinal Case Study. *Journal of Business Ethics*, *87*, 153-168. doi: 10.1007/s10551-008-9876-z.
[17] Nikolaou, I.E. and Evangelinos, K.I. (2010) A SWOT Analysis of Environmental Management Practices in Greek Mining and Mineral Industry. Resources Policy, 35, 226-234. https://doi.org/10.1016/j.resourpol.2010.02.002.
[18] Skouloudis, A., Avlonitis, G. J., Malesios, C., & Evangelinos, K. (2015). Priorities and perceptions of corporate social responsibility: Insights from the perspective of Greek business professionals. Management Decision, 53(2), 375–401. https://doi.org/http://dx.doi.org/10.1108.
[19] Morhardt, J. E., Baird, S., & Freeman, K. (2002). Scoring corporate environmental and sustainability reports using GRI 2000, ISO 14031 and other criteria. *Corporate Social Responsibility and Environmental Management*, *9*(4), 215–233. https://doi.org/10.1002/csr.26.
[20] Skouloudis, A., & Evangelinos, K. (2012). A research design for mapping national CSR terrains. *International Journal of Sustainable Development & World Ecology*, 19(2), 130–143. https://doi.org/10.1080/13504509.2011.606338.
[21] Weber, R. P. (1990). *Basic content analysis* (2nd ed.). Sage Publications. https://doi.org/10.4135/9781412983488.
[22] Alazzani, A., & Wan-Hussin, W. N. (2013). Global Reporting Initiative's environmental reporting: A study of oil and gas companies. *Ecological Indicators*, *32*, 19–24. https://doi.org/10.1016/j.ecolind.2013.02.019.
[23] Calabrese, A., Costa, R., & Rosati, F. (2016). Gender differences in customer expectations and perceptions of corporate social responsibility. *Journal of Cleaner Production*, *116*, 135-149. https://doi.org/10.1016/j.jclepro.2015.12.100.
[24] Venturelli, A., Caputo, F., Leopizzi, R., Mastroleo, G., & Mio, C. (2016). How can CSR identity be evaluated? A pilot study using a fuzzy expert system. *Journal of Cleaner Production*, *141*, 1000–1010. https://doi.org/10.1016/j.jclepro.2016.09.172.
[25] Morsing, M., & Schultz, M. (2006). Corporate social responsibility communication: Stakeholder information, response and involvement strategies. *Business Ethics: A European Review*, *15*(4), 323–338.

https://doi.org/10.1111/j.1467-8608.2006.00460.x.

[26] KPMG. (2017). *The KPMG survey of corporate responsibility reporting 2017*. KPMG International.

[27] Rasche, A., & Esser, D. (2006). From stakeholder management to stakeholder accountability. *Journal of Business Ethics, 65*(3), 251–267. https://doi.org/10.1007/s10551-005-5355-y.

[28] Rupp, D. E., Ganapathi, J., Aguilera, R. V., & Williams, C. A. (2006). Employee reactions to corporate social responsibility: An organizational justice framework. *Journal of Organizational Behavior, 27*(4), 537–543. https://doi.org/10.1002/job.380.

[29] Hahn, R., & Kühnen, M. (2013). Determinants of sustainability reporting: a review of results, trends, theory, and opportunities in an expanding field of research. *Journal of Cleaner Production, 59*, 5–21. https://doi.org/10.1016/j.jclepro.2013.07.005.

[30] Harwood, Ian & Humby, Stuart. (2008). Embedding corporate responsibility into supply: A snapshot of progress. *European Management Journal*, 26, 166-174. doi: 10.1016/j.emj.2008.01.005.

[31] Adams, C. A. (2002). Internal organisational factors influencing corporate social and ethical reporting. *Accounting, Auditing & Accountability Journal, 15*(2), 223–250. https://doi.org/10.1108/09513570210418905.

[32] Blackburn N, Hooper V, Abratt R, Brown J (2018). Stakeholder engagement in corporate reporting: towards building a strong reputation. *Marketing Intelligence & Planning*, 36 (4), 484–497, https://doi.org/10.1108/MIP-10-2017-0236.

[33] Beattie, V., McInnes, B., & Fearnley, S. (2004). A methodology for analysing and evaluating narratives in annual reports: a comprehensive descriptive profile and metrics for disclosure quality attributes. *Accounting Forum*, 28(3), 205–236. https://doi.org/10.1016/j.accfor.2004.07.001.

[34] Boesso G, Kumar K (2009), An investigation of stakeholder prioritization and engagement: who or what really counts. *Journal of Accounting & Organizational Change, 5 (1)*, 62–80, https://doi.org/10.1108/18325910910932214.

[35] Martínez-Conesa, I., Soto-Acosta, P., & Palacios-Manzano, M. (2017). Corporate social responsibility and its effect on innovation and firm performance: An empirical research in SMEs. *Journal of Cleaner Production, 142 (4)*, 2374–2383. https://doi.org/10.1016/j.jclepro.2016.11.038.

[36] Szczanowicz, J., & Saniuk, S. (2016). Evaluation and reporting of CSR in SME sector. Management, 20(1), 96.

[37] Bebbington, J. (2001). Sustainable development: a review of the international development, business and accounting literature. *Accounting Forum, 25*(2), 128–157. doi: 10.1111/1467-6303.00059.

[38] Global Reporting Initiative. (2013). *G4 sustainability reporting guidelines*. GRI.

[39] Lozano, R. (2012). Towards better embedding sustainability into companies' systems: an analysis of voluntary corporate initiatives. *Journal of Cleaner Production, 25*, 14–26. https://doi.org/10.1016/j.jclepro.2011.11.060.

[40] Jankalová, M. & Radoslav, J. (2017). The assessment of corporate social responsibility: approaches analysis. *Entrepreneurship and Sustainability Issues*, 4, 441-459. doi: 10.9770/jesi.2017.4.4(4).

[41] Deegan, C. (2002). The legitimising effect of social and environmental disclosures. *Accounting, Auditing & Accountability Journal, 15*(3), 282–311. https://doi.org/10.1108/09513570210435852.

[42] Tilt CA (2001), The content and disclosure of Australian corporate environmental policies. *Accounting, Auditing & Accountability Journal*, 14 (2), 190–212, https://doi.org/10.1108/09513570110389314.

[43] Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations and Society, 33*(4–5), 303–327. https://doi.org/10.1016/j.aos.2007.05.003.

[44] Gray, R., Kouhy, R. and Lavers, S. (1995) Methodological Themes: Construction Research Database of Social and Environmental Reporting by UK Companies. *Accounting, Auditing & Accountability Journal, 8*, 78-101. http://dx.doi.org/10.1108/09513579510086812.

[45] Guthrie, J., & Parker, L. D. (1989). Corporate Social Reporting: A Rebuttal of Legitimacy Theory. *Accounting and Business Research, 19(76)*, 343–352. https://doi.org/10.1080/00014788.1989.9728863.

[46] Matten, D., & Moon, J. (2008). "Implicit" and "Explicit" CSR: A Conceptual Framework for a Comparative Understanding of Corporate Social Responsibility. *Academy of Management Review, 33*(2), 404–424. https://doi.org/10.5465/amr.2008.31193458.

[47] Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons, 34*(4), 39–48. https://doi.org/10.1016/0007-6813(91)90005-G.

[48] Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.

[49] Brammer, S., & Millington, A. (2005). Corporate Reputation and Philanthropy: An Empirical Analysis. *Journal of Business Ethics, 61*(1), 29–44. doi: 10.1007/s10551-005-7443-4.

[50] Fombrun, C., & Shanley, M. (1990). What's in a Name? Reputation Building and Corporate Strategy. *Academy of Management Journal, 33*(2), 233–258. https://doi.org/10.2307/256324.

[51] Jamali, D. (2008). A Stakeholder Approach to Corporate Social Responsibility: A Fresh Perspective into Theory and Practice. *Journal of Business Ethics, 82*(1), 213–231. doi: 10.1007/s10551-007-9572-4

[52] McWilliams, A., & Siegel, D. (2001). Corporate Social Responsibility: a Theory of the Firm Perspective. *Academy of Management Review, 26*(1), 117–127. https://doi.org/10.5465/amr.2001.4011987.

[53] Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate Social and Financial Performance: A Meta-Analysis. Organization Studies, 24(3), 403-441. https://doi.org/10.1177/0170840603024003910.

[54] Aguinis, H., & Glavas, A. (2012). What We Know and Don't Know About Corporate Social Responsibility: A Review and Research Agenda. *Journal of Management, 38*(4), 932–968. https://doi.org/10.1177/0149206311436079.

[55] Carroll, A. B., & Shabana, K. M. (2010). The Business Case for Corporate Social Responsibility: A Review of Concepts, Research and Practice. *International Journal of Management Reviews, 12*(1), 85–105. https://doi.org/10.1111/j.1468-2370.2009.00275.x.

[56] Porter, M. E., & Kramer, M. R. (2006). Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility. *Harvard Business Review, 84*(12), 78–92.

[57] Elkington, J. (1998). *Cannibals with forks*: The Triple Bottom Line of 21st Century Business. New Society Publishers.

[58] Bansal, P., & Roth, K. (2000). Why Companies Go Green: A Model of Ecological Responsiveness. *Academy of Management Journal, 43*(4), 717–736. https://doi.org/10.5465/1556363.

[59] Husted, B. W., & Allen, D. B. (2007). Strategic corporate social responsibility and value creation among large firms - Lessons from the Spanish experience. *Long Range Planning, 40*(6), 594–610. https://doi.org/10.1016/j.lrp.2007.07.001

[60] Banerjee, S. B. (2012). Corporate Social Responsibility: The Good, the Bad and the Ugly. Critical Sociology, 34(1), 51-79. https://doi.org/10.1177/0896920507084623.

[61] Branco, M. C., & Rodrigues, L. L. (2006). Corporate Social Responsibility and Resource-Based Perspectives. *Journal of Business Ethics, 69*(2), 111–132. https://doi.org/10.1007/s10551-006-9071-z.

[62] Spence, L. J. (2007). CSR and Small Business in a European Policy Context: The Five "C"s of CSR and Small Business Research Agenda 2007. *Business and Society Review, 112*(4), 533–552. https://doi.org/10.1111/j.1467-8594.2007.00308.x.

[63] Jenkins, H. (2006). Small Business Champions for Corporate Social Responsibility. *Journal of Business Ethics, 67*(3), 241–256. https://doi.org/10.1007/s10551-006-9182-6.

[64] Perrini, F., Russo, A., & Tencati, A. (2007). CSR strategies of SMEs and large firms. *Journal of Business Ethics, 74*(3), 285–300. https://link.springer.com/article/10.1007/s10551-006-9235-x.

[65] Montiel, I. (2008). Corporate Social Responsibility and Corporate Sustainability: Separate Pasts, Common Futures. *Organization & Environment, 21*(3), 245–269. https://doi.org/10.1177/1086026608321329.

[66] Visser, W. (2008). Corporate social responsibility in developing countries. In *The Oxford handbook of corporate social responsibility* (pp. 473–479). Oxford University Press.

[67] Maon, F., Lindgreen, A., & Swaen, V. (2010). Organizational Stages and Cultural Phases: A Critical Review and a Consolidative Model of Corporate Social Responsibility Development. *International Journal of Management Reviews, 12*(1), 20–38. https://doi.org/10.1111/j.1468-2370.2009.00278.x.

[68] Morsing, M., Schultz, M., & Nielsen, K. U. (2008). The 'Catch 22' of communicating CSR: Findings from a Danish study. Journal of Marketing Communications, 14(2), 97–111. https://doi.org/10.1080/13527260701856608.

[69] Garriga, E., & Melé, D. (2004). Corporate Social Responsibility Theories: Mapping the Territory. *Journal of Business Ethics, 53*(1–2), 51–71. https://doi.org/10.1023/B:BUSI.0000039399.90587.34.

[70] Lindgreen, A., Swaen, V., & Johnston, W. J. (2009). Corporate Social Responsibility: An Empirical Investigation of U.S. Organizations. *Journal of Business Ethics, 85*(2), 303–323. doi: 10.1007/s10551-008-9738-8.

[71] Skouloudis, Antonis & Evangelinos, Konstantinos. (2009). Sustainability reporting in Greece: Are we there yet?. Environmental Quality Management. 19. p.43-60. doi: 10.1002/tqem.20235.

[72] Deegan, Craig & Blomquist, Christopher. (2011). Stakeholder Influence on Corporate Reporting: An Exploration of the Interaction Between the World Wide Fund for Nature and the Australian Minerals Industry.

[73] Brown, H. S., de Jong, M., & Levy, D. L. (2009). Building institutions based on information disclosure: lessons from GRI's sustainability reporting. *Journal of Cleaner Production, 17*(6), 571–580. https://doi.org/10.1016/j.jclepro.2008.12.009.

[74] O'Dwyer, B., & Owen, D. (2005). Assurance statement practice in environmental, social and sustainability reporting: a critical evaluation. *British Accounting Review, 37*(2), 205–229. https://doi.org/10.1016/j.bar.2005.01.005.

[75] Adams, C. A., & Frost, G. R. (2008). Integrating sustainability reporting into management practices. *Accounting Forum, 32*(4), 288–302. https://doi.org/10.1016/j.accfor.2008.05.002.

[76] Gray, R., Owen, D., & Adams, C. (1996). *Accounting and accountability*. Prentice Hall.

[77] Vogel, D. (1975). The Political and Economic Impact of Current Criticisms of Business. California Management Review, 18(2), 86-92. https://doi.org/10.2307/41164642.

[78] Roberts, R. W. (1992). Determinants of corporate social responsibility disclosure: An application of stakeholder theory. *Accounting, Organizations and Society, 17*(6), 595–612. https://doi.org/10.1016/0361-3682(92)90015-K.

[79] Brown, N., & Dillard, J. (2013). Critical accounting and communicative action: On the limits of consensual deliberation. *Critical Perspectives on Accounting, 24*(3), 176–190. doi: 10.1016/j.cpa.2012.06.003.

[80] Unerman, J., Bebbington, J., & O'Dwyer, B. (2014). Sustainability Accounting and Accountability (2nd ed.). Routledge. https://doi.org/10.4324/9781315848419.

[81] Kolk, A. (2016). The social responsibility of international business: From ethics and the environment to CSR and sustainable development. *Journal of World Business, 51*(1), 23–34. https://doi.org/10.1016/j.jwb.2015.08.010.

[82] Hahn, T., & Figge, F. (2011). Beyond the bounded instrumentality in current corporate sustainability research: Toward an inclusive notion of profitability. *Journal of Business Ethics, 104(3)*, 325–345. https://ssrn.com/abstract=2277831.

[83] Schaltegger, S., Lüdeke-Freund, F., & Hansen, E. G. (2012). Business cases for sustainability: the role of business model innovation for corporate sustainability. *International Journal of Innovation and Sustainable Development,* 6(2), 95–119. https://doi.org/10.1504/IJISD.2012.046944.

[84] Lozano, R. (2015). A holistic perspective on corporate sustainability drivers. *Corporate Social Responsibility and Environmental Management, 22*(1), 32–44. https://doi.org/10.1002/csr.1325.

[85] Bansal, P. (2005). Evolving sustainably: a longitudinal study of corporate sustainable development. *Strategic Management Journal, 26*(3), 197–218. https://doi.org/10.1002/smj.441.

[86] Epstein, M. J., & Roy, M. J. (2001). Sustainability in Action: Identifying and Measuring the Key Performance Drivers. Long Range Planning, 34, 585-604. https://doi.org/10.1016/S0024-6301(01)00084-X.

[87] World Business Council for Sustainable Development. (2002). *Corporate social responsibility: Making good business sense*. WBCSD.

[88] International Organization for Standardization. (2010). *ISO 26000: Guidance on social responsibility*. ISO.

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself

No funding was received for conducting this study.

Conflict of Interest

The authors have no conflicts of interest to declare that are relevant to the content of this article.