

Comparative Analysis

Regarding the Sustainability Reporting Practice in Romania at the Level of Sustainability Reports

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Abstract

There is currently a heated debate surrounding the proliferation of non-financial reporting regulations, which is why there is great concern about the less likely scenario of harmonization of the various reporting frameworks. Increasing efforts to define global or at least regional non-financial reporting regulations and their implementation through reliable corporate reporting systems is limited by the barriers and challenges raised by specific country, industry and company characteristics. The question is how companies adapt to this confusing corporate reporting landscape. The purpose of this paper is to perform a reference analysis regarding the completeness of the reports drawn up from the perspective of the degree of coverage of the GRI checklist. Thus, the Global Reporting Initiative, respectively GRI, developed a template in the form of a checklist for sustainability reporting called the GRI Content Index template, considered a reference element in our analysis regarding sustainability and sustainable development and the mapping of the various SDGs (respectively Sustainable Development Goals known in Romania as Sustainable Development Goals), on a sample of companies listed on the Bucharest Stock Exchange. The purpose of the research is to provide an image of the level of transparency of companies listed on the stock exchange, regarding the sustainability of business models. The methodology used is based on the quantitative analysis of the GRI index and the practical implications of the study mainly reveal the best practices in the field of sustainability reporting, viewed from the perspective of neo-institutional theory, which highlights the coercive, normative and mimetic forces related to sustainability disclosures.

Key words: sustainability; sustainable reporting; GRI;

JEL Classification: M21, M40, M41, M42

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Introduction

In the current context of European sustainability reporting regulations, Directive 2014/95/EU (NFRD) plays an important role in requiring large companies to disclose non-financial information regarding their impact on the environment, society and corporate governance. This directive was created to improve the transparency and comparability of this information, thus responding to the demands of investors and other stakeholders who want a clearer assessment of sustainability risks (European Parliament and Council, 2014). Empirical studies have shown that mandatory regulations on sustainability disclosures had a significant positive impact on corporate behavior, causing an increase in both the quantity and quality of reported information (Ioannou and Serafeim, 2019).

In Romania, the implementation of these regulations still presents challenges for companies listed on the Bucharest Stock Exchange (BSB), especially in the context of preparations for compliance with the requirements of the CSRD Directive (Corporate Sustainability Reporting Directive), which will enter into force from 2024 and which modifies fundamentally the current way of reporting sustainability. The CSRD introduces more reporting requirements and expands the number of companies that must comply.

In this context, our study examines the degree of completeness of the non-financial reports prepared from the perspective of the degree of coverage of the Global Reporting Initiative (GRI) checklist, considered a reference element in our analysis, and the way in which they adopt the Sustainable Development Goals (SDGs) for a sample of companies listed on the Bucharest Stock Exchange (BSB). The purpose of the research is to provide an image of the level of transparency of companies listed on the stock exchange, regarding the sustainability of business models, which is why the research is limited to the analysis of sustainability reports related to the year 2022. The study uses the Data Envelopment Analysis (DEA) methodology to assess the effectiveness of sustainability reporting, highlighting best practices and emphasizing the importance of convergence of reporting practices to ensure greater transparency and accountability to investors and consumers.

The studies carried out so far highlight, on the one hand, the fact that regulations in the field of sustainability and sustainable development have positive effects on corporate behavior, causing an increase in the quantity

and quality of information disclosed and at the same time attracting more investors interested in sustainability (Ioannou and Serafeim, 2019). On the other hand, however, the obligation to disclose corporate social responsibility (CSR) information influences the performance of firms, changes the behavior of entities and generates positive externalities, such as reducing water and air pollution, but causes increased costs, which is detrimental to shareholders (Chen, Hung and Wang, 2018).

Thus, considering that there is no consensus regarding non-financial reporting, currently witnessing non-uniform practices of corporate sustainability reporting, our research aims as the main objective (MO):

- ✓ *MO: to outline the implications of the financial results on the level of transparency of companies listed on the Bucharest Stock Exchange, regarding the level and ways of aligning business models with sustainability principles.*

In this context, we consider relevant a comparative analysis of the sustainability reports at the BSB level, in order to identify the motivation behind these reports, especially since these reporting practices are based on a voluntary disclosure. In such conditions, we question to what extent these sustainability reports represent practices of the greenwashing type (ecological disinformation), or are relevant channels of corporate communication with the shareholders and stakeholders of the companies alike.

The proposed study is structured in five sections. Thus, if the first section, here, highlights the preliminary aspects of the undertaken scientific approach, respectively the context of the case study, the second section finds its counterpart in the analysis of the specialized literature. The following two sections present the research methodology, respectively the results obtained and a discussion on them. Finally, the fifth section draws the final conclusions of the research undertaken.

Literature review

Regarding the concepts of sustainability and sustainable development, there are deep theoretical and conceptual foundations, especially related to multiple concepts or theories that allow the choice between stakeholder theory and legitimacy theory or between "sustainability reporting", "ESG reporting" or "CSR reporting". There is thus a visible hegemony in standard-setting sustainability

reporting (ISSB, EFRAG, GRI, etc.) and numerous ESG disclosure frameworks (eg: GRI, SASB, xxx).

At the European level, the Non-Financial Reporting Directive 2014/95/EU (known by the acronym NFRD) has significantly improved transparency and comparability in sustainability reporting within companies that have been required to report and for those that wish to voluntarily align with these regulations.

In today's spotlight, introduced as part of the European Commission's sustainable finance package, the new sustainability directive, namely the CSRD, notably extends the scope, sustainability disclosures and reporting requirements of its predecessor, the NFRD.

Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amends Directive 2013/34/EU with regard to the disclosure of non-financial information and diversity information by certain large entities and groups. It requires large companies to include in their financial reports a non-financial statement that provides a comprehensive picture of environmental, social, human rights and anti-corruption policies, results and risks. The purpose of the directive is to increase the transparency and comparability of non-financial information disclosed by companies, thus contributing to the identification of sustainability risks and increasing investor and consumer confidence (European Parliament and Council, 2014).

In recent years, companies' voluntary disclosure of social and environmental performance has increased substantially (KPMG, 2013, 2015, 2017, 2020). In addition to voluntary disclosure, made out of the desire to increase the level of transparency and trust in business models, the European Union has required, through directives issued, certain companies to report their performance in non-financial matters, including environmental issues, social and employee, human rights, anti-corruption and bribery (European Union, 2014).

In this context, researchers have begun to investigate the role of non-financial reporting regulations in shaping corporate behaviors (Pizzi et al., 2022; Stolyow and Paugam, 2018). Also, some studies have focused on the impact of regulations in increasing the quality and quantity of disclosure (Ioannou and Serafeim, 2019), while others have examined its effects in relation to CSR activities (Jackson et al., 2020), corporate performance (Chen, Hung and Wang 2018) and social impact (Chen, Hung and Wang, 2018; Jackson et al., 2020).

The analysis of Directive 2014/95/EU highlights the various challenges and opportunities in the context of non-financial reporting. The study by Venturelli et al. (2022) point out the need to revise the directive to address issues related to the comparability, reliability and relevance of reported non-financial information. It also emphasizes the importance of including the concept of "double materiality" and the development of common reporting standards to improve transparency and corporate accountability. These adjustments are essential to ensure that non-financial reporting meets the expectations of investors and other stakeholders (Venturelli et al., 2022).

The analysis carried out by Nicolò et al. (2022) emphasize the importance of gender diversity in boards of directors for improving ESG (Environmental, Social, Governance) disclosure practices. The study, which analyzed 1,392 European companies over a six-year period, demonstrates that the presence of women on boards of directors has a significant positive impact on the level and quality of ESG disclosures. This suggests that gender diversity can contribute to increasing corporate transparency and accountability, facilitating the transition to sustainable corporate governance (Nicolò et al., 2022).

Directive 2014/95/EU was a major catalyst for improving the transparency and quality of non-financial information reported by large companies in the European Union. Implemented to address environmental, social and governance reporting needs, this directive obliges companies to disclose relevant data reflecting their impact on society and the environment. Studies by Ioannou and Serafeim (2019) demonstrated that these regulations had positive effects on corporate behavior, causing an increase in the quantity and quality of information disclosed and also attracting more investors interested in sustainability.

In their analysis, Ioannou and Serafeim point out that regulations on mandatory sustainability disclosures have led to a significant increase in the level of ESG (Environmental, Social, Governance) disclosures among companies in various industries. They used a differential approach to assess the impact of regulations in China, Denmark, Malaysia, and South Africa, finding that treated firms significantly increased disclosures compared to control firms. In addition, companies have shown an increased tendency to obtain voluntary assurances to improve the credibility of disclosures and to adopt reporting lines that improve the comparability of information (Ioannou and Serafeim, 2019).

Chen, Hung, and Wang (2018) investigated how the obligation to disclose corporate social responsibility (CSR) information influences firm performance and social impact in China. Using a difference-in-differences methodology, the study compared firms that were required to report CSR information with those that were not. The results showed that firms required to disclose this information experienced a decrease in profitability after the implementation of the mandate. Cities with a large number of firms affected by the mandate also saw a reduction in water and air pollution. These findings suggest that mandatory CSR reporting led to changes in firms' behavior and generated social benefits, although these changes came at a cost to shareholders (Chen, Hung, & Wang, 2018).

Methodology

The main objective of the paper is to outline the implications of the financial results on the level of transparency of companies listed on the Bucharest Stock Exchange, regarding the level and ways of aligning business models with sustainability principles. So, the starting point of the empirical analysis is represented by the analysis of sustainability reports.

The dynamics of the regulatory framework regarding sustainability reporting (durability) at the level of the Romanian capital market, through which the institutional framework made sustained efforts to align with the community acquis, which culminated in the approval of the Romanian Code of Sustainability, raises serious questions regarding the level of preparation of companies at the local level in terms of the future requirements transposed by the CSRD directive, applicable starting from 2024. However, the European Commission has published the decision to postpone the application of sector-specific ESRS standards (European Sustainability Reporting Standards) in the case of European companies, opting only for the application of general European sustainability standards, until June 30, 2026.

However, this decision helps companies to intensify their efforts to implement sustainable reporting systems, processes, and tools. An opportune approach in this context could be that of benchmark

analysis, through which public authorities and professional bodies alike, support the initiatives of de facto convergence of reporting practices regarding the sustainability of companies. This approach should aim to outline a set of good practice elements developed with reference to a sustainability reporting framework, such as the ESRS standards, for the implementation of which EFRAG has published a series of implementation guides to date.

However, considering the complexity of the sustainability reporting framework and at the same time the complexity of the companies' business models, largely determined by the specifics of the sector, we are currently witnessing non-unitary practices of corporate sustainability reporting. In this context, we consider relevant a comparative analysis of the sustainability reports at the BSB level, in order to identify the motivation behind these reports, all the more since these reporting practices are based on a voluntary nature. In such conditions, we question to what extent these sustainability reports represent greenwashing practices, or are relevant channels of corporate communication with the shareholders and stakeholders of the companies alike.

This research context informed the design of the research design. Basically, the present paper is part of the area of positivist research, based on an empirical analysis, which studies the sustainability reports of the most liquid companies listed on the BSE, within the limits of the availability of information from public sources, such as the web pages of the analyzed companies.

The purpose of the research is to provide an image of the level of transparency of companies listed on the stock exchange, regarding the sustainability of business models, which is why we limited the research to the analysis of sustainability reports for the year 2022. Out of the total of 87 companies listed at BSB at the level of the regulated market segment, we obtained the information necessary for the empirical analysis only in the case of 22 companies, which operate in several sectors of activity (see **Table no. 1**). Therefore, most of the sample is made up of companies operating in the industrial sector, which implies an increased level of expectations regarding the volume of information regarding the sustainability of the business model, at least from the perspective of the increased degree of incidence of risks to which these companies are exposed, as is the case with environmental risks or social risks.

Table no. 1. Composition of the sample of analyzed companies

Majority capital	Sector	No. of companies
private	Construction	2
	Financial	3
	Industry	9
	Logistics	1
	Medical	1
	Natural Resources	1
	Communications	1
public	Medical	1
	Natural Resources	3

Source: authors projection

The comparative analysis of the level of transparency of the analyzed companies is reported to an analytical approach that consists in identifying companies that represent models to follow in terms of the practice of sustainability reporting. In this direction, we consider relevant a DEA (Data Envelopment Analysis) analysis through which we

identify the companies with the highest level of transparency in the field of corporate sustainability, evaluated from the perspective of financial constraints (motivations). Thus, the results will reflect the gaps of the analyzed companies, in terms of transparency regarding sustainability reporting, compared to the companies considered role models.

Table no. 2. Description of the variables used in the empirical analysis

Variable DEA	Variable	Description
Input	ESG scor	The index is calculated as the weight of the items found in the verification matrix integrated in the sustainability report of each company, from the total of 126 items considered from the checklist proposed by GRI until 2021. The maximum level reached is 100%.
	E scor	The index is calculated as the weight of the items found in the verification matrix integrated in the sustainability report of each company specific to the reporting requirements regarding the impact of the business model on the environment, from the total of 43 items considered from the checklist proposed by GRI until 2021. The maximum level reached is 100%.
	S scor	The index is calculated as the weight of the items found in the verification matrix integrated in the sustainability report of each company specific to the reporting requirements regarding the impact of the business model on the community, from the total of 36 items considered from the checklist proposed by GRI until 2021. The maximum level reached is 100%.
	G scor	The index is calculated as the weight of the items found in the verification matrix integrated in the sustainability report of each company specific to the reporting requirements regarding the implementation and effectiveness of ESG governance mechanisms and tools, from the total of 17 items considered from the checklist proposed by GRI until 2021. The maximum level reached is 100%.
Input	Sector	It indicates the number of distinct sectors in which each company operates. This factor is essential in evaluating the degree of transparency of companies regarding sustainability performance, considering that an increased number of divisions operating in different sectors generates an increase in the number of risks and the magnitude of the effects associated with their occurrence, especially in the case of some sectors traditionally known as being characterized by a significant negative impact on the environment, or on the values, rules or commitments towards the community. This indicator is all the more important, given that companies fail to find viable solutions regarding corporate governance mechanisms and tools aimed at achieving ESG goals.

Variable DEA	Variable	Description
	Size	It represents the natural logarithm of the level of assets reported on the balance sheet, which suggests the level of operational and financial capabilities available to each company. A high level of assets, especially at the level of the PPE indicator, indicates an increased level of environmental risks, especially in the conditions of extended production capacities at the level of several geographical regions, or national jurisdictions, which are subject to regulatory frameworks distinct.
	Sales	is the natural logarithm of the level of reported sales, which suggests the volume of activity that each company carries out. An increased volume of activity suggests a higher incidence of associated ESG risks, conditions in which companies are tempted to report as much non-financial information as possible precisely to reduce possible non-compliance costs or costs related to controversial ESG contractual obligations .
	Profitability	It constitutes the rate of return on economic assets, translated by the ROA percentage level reported by each company. Based on the specialized literature, a close relationship was drawn between financial performance and, respectively, the level of the sustainability reporting index. On the one hand, a high level of profitability gives companies the opportunity to cover the costs of preparing sustainability reports, which reduces the level of managers' reluctance. On the other hand, an increased level of transparency in the sphere of sustainability may represent a desire of companies trying to send signals to the capital markets, in order to improve the attractiveness of securities issued by the company.
	Financial leverage	is defined as the ratio between equity and debt capital, to suggest the degree of dependence of the company on borrowed financial resources, respectively the level of involvement of creditors in the strategic decisions of the company, including in terms of investment and financing decisions of some projects sustainability strategies.
	Employees	The number of employees is important in explaining the level of corporate transparency regarding the sustainability information of business models. On the one hand, based on the theory of legitimacy, employees must understand the company's commitment to its role in the community and to its employees, whether it is about respecting the rights provided by the law or about their professional development, or protecting their well-being. On the other hand, employees are perceived as a key element in sustainable reporting, at least from the perspective of their skills, experience and professional expertise and their commitment to the company's goals.

Source: authors projection

To carry out this analysis, we start from a series of financial and non-financial information regarding the 22 analyzed companies. In **Table no. 2** we provide a brief description of the main variables included in the DEA (Data Envelopment Analysis) benchmarking analysis.

The DEA model can be formalized according to the following mathematical optimization program (Lofti et. al., 2020). This model is Output-oriented, with constant returns to scale, which implies a maximization of the output variables from **Table no. 2**, considering a fixed level of the input variables.

$$\begin{aligned}
 & \max \sum_{i=1}^m v_i \cdot x_{ij} + v_0^+ - v_0^- \\
 & \sum_{j=1}^n \lambda_j \cdot x_{ij} - v_0^- = x_{ij0}, \forall i \\
 & \sum_{j=1}^n \lambda_j \cdot y_{rj} + v_0^+ = y_{rj0}, \forall r \\
 & \sum_{j=1}^n \lambda_j = 1 \\
 & \lambda_j \geq 0, \forall j, \emptyset \text{ free}
 \end{aligned}$$

In this mathematical optimization program, we consider n analyzed firms (DMUs - decision making units), which are analyzed from the perspective of m output variables (x_{ij}), and which produce s input variables (y_{rj}). The DEA model generates an optimal solution for each analyzed company in relation to the other companies included in the sample. The mathematical model for optimizing the outputs (sustainability reporting indices) in relation to the financial constraints of each company, generates the gap between it and the top companies in terms of sustainability reporting (v_0^+ / v_0^-), where λ_j represents the weight of each financial constraint (motivation). The objective function seeks to maximize the sustainable reporting indices, considering the financial restrictions specific to each firm.

Based on these data, we will proceed to an analysis of the sustainability reports of two companies, a company

from the class of "model" companies, compared to a company from a similar activity sector, but from the class of "inefficient" companies in terms of level of transparency regarding the disclosed sustainability information, in the specific context of financial restrictions. For this purpose, we will proceed to a basic text mining analysis, with the help of Nvivo, which consists in evaluating the most frequent words and, respectively, identifying the main themes addressed in the sustainability reports.

Results and discussions

The descriptive analysis of the analyzed sample is summarized in **Table no. 3**. Based on these statistics, we observe a relatively high level of homogeneity at the level of the analyzed sample. It should be noted that the sustainability reports indicate a unitary approach of the companies in terms of addressing the general aspects regarding the sustainability of business models, from the perspective of the GRI reporting framework.

Table no. 3. Descriptive statistics

Variables	Average	Standard Error	Standard Deviation	Minim	Maxim
Size	20.93	0.472	2.212	16.63	25.62
Sale	20.33	0.475	2.230	15.75	24.92
Profitability	0.102	0.016	0.077	-0.057	0.274
Financial leverage	0.595	0.230	1.077	0.002	4.531
Number of sectors	3.182	0.376	1.763	1	7
Employees	6.460	0.472	2.212	1.099	9.329
ESG score	0.998	0.002	0.007	0.967	1.000
E score	0.395	0.046	0.216	0.000	0.767
G score	0.535	0.056	0.264	0.059	1.000
S score	0.557	0.059	0.275	0.111	0.972

Source: authors projection

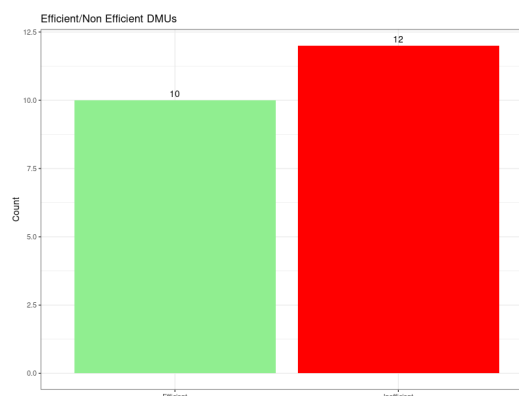
The exception is given by the level of financial leverage, which reveals a significant differentiation between companies from the perspective of financing policy, with

direct implications on the autonomy of the companies' management to make strategic decisions in the area of sustainable development of the business model.

Table no. 4. The average level of gaps of "inefficient" companies

Domain	No. of companies	Average efficiency score	% Gaps
Construction	2	0.654	-0.346
Financial	2	0.232	-0.768
Industry	2	0.588	-0.412
Medical	2	0.201	-0.799
Natural Resources	3	0.506	-0.494
Technology	1	0.520	-0.480

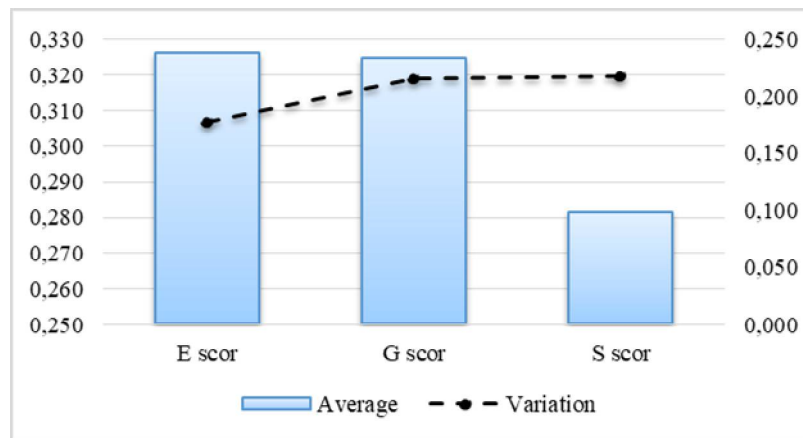
Source: authors projection



The results of the DEA analysis performed at the level of the analyzed sample reveal a relative degree of convergence of sustainability reporting practices, considering a number of 10 companies out of the total of 22 companies analyzed, which reach a maximum "efficiency" score. However, among

the companies that need to improve their sustainability reporting practice, from the perspective of the degree of coverage of the GRI checklist considered a reference element in our analysis, an equal distribution is observed at the level of the activity sectors included in the analysis (see Table no. 4).

Figure no. 1. Gaps in ESG reporting scores



Source: authors projection

The gaps of the companies classified as "inefficient" compared to the companies considered role models based on the DEA analysis, are more important at the level of transparency of the companies in terms of the environmental dimension (E) and respectively the corporate governance dimension in regarding the sustainable development of companies (see Figure no. 1). Therefore, the analysis of sustainability report score reveals a need to improve the sustainability reporting practice of companies, by addressing in the sustainability report as many aspects as possible regarding the impact of the business model on the environment and, respectively, regarding the mechanisms and instruments of corporate governance aimed to contribute to sustainable development. However, these results must be viewed carefully considering the relatively high level of variation of the sustainable reporting indices regarding these dimensions (see Figure no. 1), against the background of the specificity of the activity sector in which the analyzed companies operate, and, respectively, of the model of business of each company.

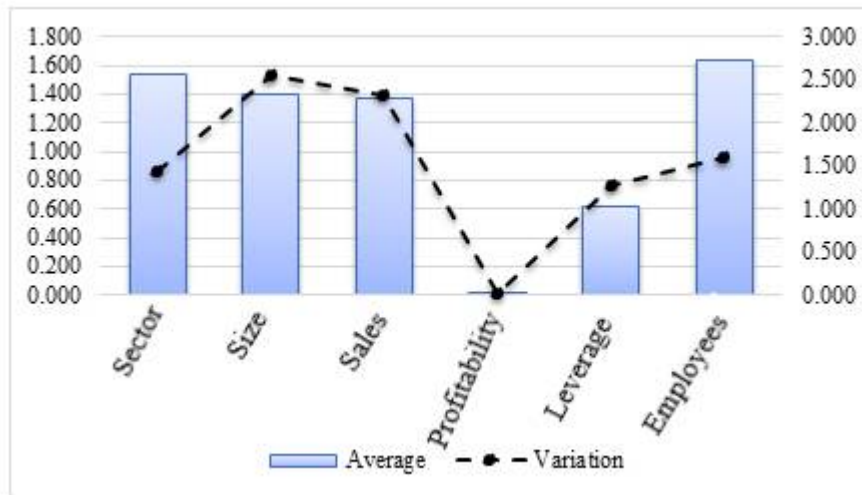
A lower level of the volume of information regarding the impact of the business model on the environment is expected. On the one hand, companies avoid publishing an increased volume of such information, considering possible costs with future lawsuits (litigation costs). On the other hand, we must note that each business model is characterized by particularities that may not include certain environmental aspects included in the GRI checklist used in our analysis.

However, a low level of the volume of information regarding the mechanisms and instruments of corporate governance defined and implemented with the aim of facilitating the achievement of the companies' sustainable development objectives, rather boils down to the specifics of each company. Each company decides to what extent this information should be disclosed, to the extent that these processes, systems, policies and employees, which are incorporated into the mechanisms of corporate governance, prove to be effective or to the extent that they are implemented. Otherwise, either the reduced level of effectiveness, or their non-implementation, may generate negative signals at the level of the capital markets and

may determine potential costs of non-compliance based on checks carried out by public authorities based on

preliminary information of the checks that are collected from these sustainability reports.

Figure no. 2. Gaps in financial restrictions (motivations)



Source: authors projection

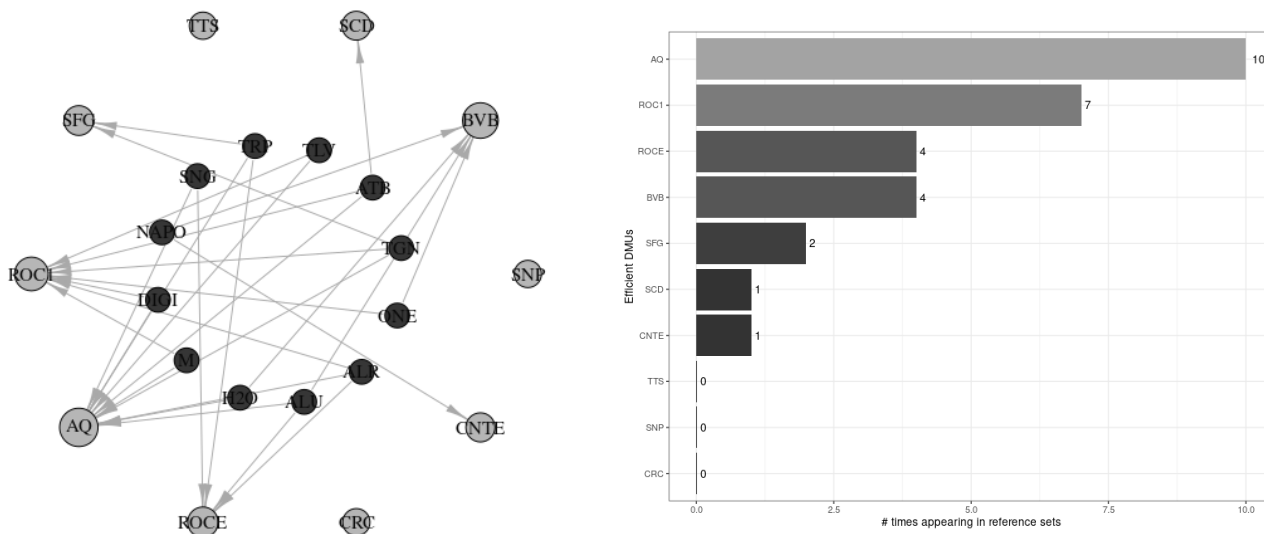
In **Figure no. 2** we represent the main slacks (gaps) resulting among companies that need to improve their sustainability reporting index, especially in terms of the environmental dimension and the corporate governance dimension, respectively. These results reveal significant differences at the level of all the factors considered in the analysis (input variables), except the level of profitability. Therefore, the level of profitability of the companies is not a determining factor in differentiating the companies from the perspective of the level of the sustainability reporting index.

We appreciate that these results suggest the impact of the mandatory nature of sustainability reports, which must be published, regardless of the level of profitability of the companies, or the level of the costs of preparing and providing these reports. It is true that this mandatory nature of sustainability reports translates in many cases into the dissemination of more general, superficial information, without really touching on the relevant aspects regarding the sustainability of business models. This is the reason why at the present time, at the international level there is an intense debate regarding the optimal level of regulation of this type of corporate reports, considering the risk of greenwashing through sustainability reports.

On the other hand, we notice that the biggest gaps appear in the analysis of the differences between companies in terms of the number of sectors in which they operate and, respectively, in terms of the number of employees. Indeed, companies that operate in several sectors of activity have a higher level of incidence of ESG type risks, either generated by the specifics of the sector or by the volume of activity of the companies. Also, as the majority of companies involved in the sustainability reporting process note, a fundamental factor in ensuring sustainability reporting is given by human resources. Thus, a larger number of employees implies a higher degree of their specialization (skills, experience, expertise), which outlines a wider area of organizational capabilities that facilitate an increased level of corporate sustainability performance and respectively a high level of accuracy and relevance of sustainability reports.

In **Figure no. 3** we illustrate a representation of the links between the analyzed companies, from the perspective of the gaps between the companies in terms of input variables. We observe that Aquila Prod Com (AQ), Roca Industry (ROC1), or RomCarbon (ROCE) represent the companies with the best sustainability reporting index, under the constraints indicated by the business model and financial restrictions.

Figure no. 3. Analysis of the links between companies from the perspective of comparable companies



Source: authors projection

In Table no. 5 we show the ranking obtained based on the DEA analysis, starting from the ranking of the companies, in ascending order, according to the DEA score, the E score and the G score respectively. At the top of the ranking is the company Aquila, which carries out a predominant activity in the sphere of logistics services,

followed by the company RomCarbon (ROCE), or the company ChimComplex (CRC), which operates in the industrial sector. All these companies paid more attention to environmental aspects and corporate governance, respectively, compared to the other companies with which they were compared (peers).

Table no. 5. Ranking of analyzed companies based on the DEA efficiency score

Domain	Cod BSB	Capital	Head Office	E score	G score	S score	Score DEA	Rank
FMCG	AQ	private	Romania	0.767	1.000	0.972	1	1
Industry	ROCE	private	Romania	0.767	0.941	0.972	1	2
Industry	CRC	private	EU	0.767	0.941	0.972	1	3
Natural Resources	SNP	private	EU	0.628	0.882	0.861	1	4
Industry	SFG	private	EU	0.488	0.588	0.750	1	5
Financial	BSB	private	Romania	0.488	0.706	0.583	1	6
Logistics	TTS	private	Romania	0.442	0.706	0.583	1	7
Industry	CNTE	private	EU	0.419	0.412	0.667	1	8
Industry	ROC1	private	Romania	0.419	0.529	0.444	1	9
Industry	SCD	private	EU	0.465	0.059	0.139	1	10
Construction	NAPO	private	Romania	0.279	0.353	0.639	0.745	11
Industry	ALU	private	EU	0.442	0.294	0.583	0.647	12
Construction	ONE	private	Romania	0.186	0.412	0.194	0.564	13
Natural Resources	SNG	public	Romania	0.442	0.647	0.722	0.559	14
Natural Resources	TGN	public	Romania	0.279	0.824	0.444	0.532	15
Industry	ALR	private	Romania	0.442	0.412	0.722	0.529	16

Domain	Cod BSB	Capital	Head Office	E score	G score	S score	Score DEA	Rank
Telecommunications	DIGI	private	Romania	0.349	0.412	0.528	0.520	17
Natural Resources	H2O	public	Romania	0.256	0.353	0.583	0.427	18
Pharmaceutics	M	private	Romania	0.163	0.294	0.472	0.396	19
Industry	TRP	private	Romania	0.140	0.353	0.194	0.309	20
Financial	TLV	private	Romania	0.070	0.471	0.111	0.155	21
Pharmaceutics	ATB	public	Romania	0.000	0.176	0.111	0.006	22

Source: authors projection

However, the purely quantitative analysis of sustainability reports is not sufficient, considering the fact that companies' practice of completing the GRI checklist is sometimes questionable, as they mark the fact that some aspects provided in the checklist are addressed in the

report, without taking into account by the fact that in many cases the information thus transmitted is often of a general nature, without providing conclusive information for the real assessment of the sustainability of business models.

Table no. 6. Text characteristics of the analyzed sustainability reports

Characteristics		Report Romcarbon 2022	Report TeraPlast 2022	Characteristics		Report Romcarbon 2022	Report TeraPlast 2022
General	Number of page	117	85	Complexity	Number of themes extracted	61	63
	Number of sentences	2656	1996	Sentence classification (sentiment analysis)	extremely negative	47	24
	Count words	29077	31497		moderately negative	160	126
	Words per sentence	15.8	15.8		moderately positive	189	161
	Syllables per word	1.800	1.800	extremely positive	51	22	
	Lexical density	0.56	0.56	Stakeholder engagement	Yes	Yes	
	Lexical diversity	0.12	0.12	Double materiality	Yes	Yes	
Intelligibility	Flesch index	10.6	12.0	The map of double materiality	No	Yes	
	Smog Index	9.9	11.4	Corrective measures Risk management	Yes	No	

Source: authors projection

- Sentiment analysis – specific text mining type of analysis tool that expresses the degree of optimism of the expression of the report (of the studied document)
- Flesch index, Smog index - specific text mining analysis tools that express the level of simplicity / understanding of the analyzed text.

To this end, we continue the quantitative analysis with an analysis of the content characteristics, this time summarized in two companies operating in the same

sector of activity, but placed in different optimal classes of the sustainability reporting index (Table no. 6).

The companies analyzed further are RomCarbon (ROCE) and TeraPlast (TRP), respectively, considering the link penciled in Figure no. 3, between the two companies. RomCarbon is considered a model to follow in the practice of sustainability reporting, from the perspective of the sustainable reporting index, compared to TeraPlast which, according to DEA's analysis, should improve the content of its sustainability report.

Figure no. 4. Representation of the SDGs addressed in the analyzed sustainability reports

SDG	1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION
Raport sustenabilitate Romcarbon 2022	-	-	X	X	X	-
Raport sustenabilitate TeraPlast 2022	-	-	X	X	X	-
SDG	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Raport sustenabilitate Romcarbon 2022	X	X	X	-	-	X
Raport sustenabilitate TeraPlast 2022	X	X	X	-	-	X
SDG	13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS	
Raport sustenabilitate Romcarbon 2022	-	-	-	-	-	
Raport sustenabilitate TeraPlast 2022	X	-	X	-	-	

Source: authors projection

However, the analysis of the text features and content of the two reports allowed us to deduce a series of observations relevant to our discussion:

- the RomCarbon report has a larger number of pages;
- both reports have a similar level of intelligibility, from the perspective of the use of complex words, the number of sentences per phrase, or the number of words per sentence;
- based on the Flesch index, we notice that both reports have a low level of intelligibility, explained by the use of technical terms and formulation of ideas through longer sentences;
- both reports create relevant information regarding the stakeholders' interest regarding the content they consider to be relevant to their own decisions (stakeholder's engagement matrix)
- both reports are drawn up in order to illustrate the risks and opportunities, both from a financial and a non-financial perspective, regarding the management of the companies' operations (double-materiality assessment);
- only the TeraPlast report contains a map of the risks associated with meeting the company's sustainable development objectives, represented based on the

financial impact and the impact on the environment and the community respectively;

- only the RomCarbon report includes a detailed matrix of risks associated with meeting the company's sustainable development objectives, including some planned corrective measures;
- both reports represent the information in a neutral note, considering the classification of the sentences from the perspective of the vocabulary used to induce a positive image of the company (53.69% - positive sentences in the case of the Romcarbon report; 54.95% - positive sentences in the case of the Romcarbon report);
- both reports have a similar level of complexity, considering the number of topics addressed; it should be noted that including the Sustainable Development Goals (SDGs) are covered in a similar manner (see Figure no. 4).

Conclusions

Business cannot thrive in a world of "poverty, inequality, turmoil and environmental stress, and therefore ensuring that the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals" are pursued is a fundamental objective (UNGC, 2018, p. 4).

Recently, at EU level, the Corporate Sustainability Reporting Directive (CSRD) and the Taxonomy Regulation have become legally binding, thus requiring the companies under them to monitor, control and report activities in line with development objectives sustainable development (SDG). Comprehensive assessment of the sustainability of business models are therefore crucial to ensure the competitive advantages and sustainability of companies in the future (Villiers et al., 2024 Nowak et al., 2024).

GRI supports the efforts regarding unitary reporting in terms of sustainability, developing a content index by which the information provided by companies is quantified, thus increasing credibility and transparency both in front of investors and in front of the other stakeholders of the company. However, ticking off the checklist does not always reflect reality. The results of our study confirm that only the general section is fully completed by the analyzed companies, and at the level of the other sections there are disparities from one company to another. In this context, obtaining assurance on non-financial information is becoming increasingly important in a world where more and more emphasis is placed on real sustainable development.

The present work is part of the area of positivist research, based on an empirical analysis, which studies the

sustainability reports of the most liquid companies listed on the BSB, within the limits of the availability of information from public sources, such as the web pages of the analyzed companies. The purpose of the research is to provide a snapshot of the level of transparency of companies listed on the stock exchange, regarding the sustainability of business models.

The results of our study highlight the fact that the sustainability reports indicate a unitary approach of the companies in terms of addressing the general aspects regarding the sustainability of business models, from the perspective of the GRI reporting framework. The results of the DEA analysis performed at the level of the studied sample reveal a relative degree of convergence of sustainability reporting practices, considering that 45% of the companies included in the research achieve a maximum "efficiency" score. We believe that the main directions for improving sustainability disclosure should be directed towards the environmental and governance aspects that have a greater financial impact;

However, the present study is limited from the perspective of the sample of analyzed companies. In this context, we appreciate the fact that future research will be able to carry out a more complex analysis based on several company's subject to European directives regarding non-financial reporting.

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