

Review

An Innovative Model for Performance Analysis of Sustainability Reports

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Abstract: ESG reporting has developed as a global standard of corporate reporting, representing the driver of the implementation of the concept of sustainability in the business model of the company. The findings indicate that despite the existence of internationally accepted standards, many ESG reports suffer from a lack of transparency, inconsistency in the presentation of data and excessive focus on positive aspects, while challenges and risks are often marginalized. The aim of the research is to identify a possible practical framework for analyzing the quality of corporate sustainability reports. The outcome of the research is the formulation of an analytical model based on a three-level scaled assessment of the structure, visualization and information spectrum of sustainability reports. The conclusion of the research is the necessity of improving the assessment methodology through the serious application of standardized metrics, and the contribution of the work is reflected in the creation of practical guidelines for improving the quality of sustainability reporting, as well as in creating a basis for further research in this area. The results may be useful for companies, but also for regulators, investors and all interested stakeholders who strive for a more competent presentation of sustainable business practices.

Keywords: sustainability reporting; performance analysis; innovative model.

1. Introduction

In recent decades, ESG reporting has become a global phenomenon in the corporate world, as an instrument for improving the transparency and responsibility of companies. The development of digitalization and globalization implies the need for a holistic approach, but above all a rational management of accounting information [1]. Despite the growing consensus on the importance of such reporting, inconsistencies in reporting standards, methodologies, and quality remain a significant challenge. The problem of subjectivity in the selection of data that companies decide to include is particularly pronounced [2], which often results in excessive emphasis on the positive aspects of business, while potential risks and challenges are marginalized. These weaknesses compromise the credibility of ESG reports, making them less useful to stakeholders.

At the same time, the dynamic development of international standards, such as GRI (Global Reporting Initiative) and TCFD (Task Force on Climate-related Financial Disclosures), opens up room for improvement [3]. However, their application is not universal, and in many developing countries, including those with insufficiently developed legislative frameworks, ESG reporting is often not aligned with best practices. This makes it even more difficult to assess the real impact of such reports on the decision-making of investors and other interested parties. There are conflicting opinions in the literature about the extent to which current reporting quality assessment methodologies are reliable and practically applicable, which creates room for further research.

The aim of this research was to identify a practical framework for evaluating the quality of ESG reports of companies, with a focus on evaluating their structure, visualization and information spectrum. The research hypothesis was that through an analytical model based on a scaled rating, the evaluation of ESG reports can be improved, increasing their transparency and reliability. This research contributes to the scientific and practical debate by providing proposals for a standardized and comprehensive approach to assessing the quality of ESG reporting.

2. Challenges and limitations of ESG reporting methodology

Corporate social responsibility is now a given and a good practice in developed economies, primarily because it has been shown that all involved benefit from this practice [4]. In this sense, ESG reporting has become a key innovative concept for demonstrating the sustainability of corporate operations, which continuously faces a number of challenges and limitations that threaten its credibility and applied value. Although international standards such as the GRI (Global Reporting Initiative), SASB (Sustainability Accounting Standards Board) and TCFD (Task Force on Climate-Related Financial Disclosures) have set frameworks for harmonizing practices, their application is often inconsistent and the results are often controversial. One of the most significant challenges of ESG reporting is the limited transparency in the presentation of data. Companies often tend to selectively present information, favoring a positive reflection of sustainability information. Such a practice leads to the creation of the effect of “greenwashing”, where actual results are exaggerated or presented in a way that does not reflect the real state of affairs [5]. In addition, the lack of a clear overview of the data sources and reporting methodology reduces the perception of trust in these reports.

ESG reports are often characterized by inconsistency, in terms of quality and quantity of information. Different industries and markets have specific requirements, which results in heterogeneity in the application of standards. Individual companies use different metrics to measure the same dimensions of sustainability, which complicates the process of analyzing their performance. Such a practice not only complicates the analysis, but also reduces the credibility of the report as a platform for decision-making.

Excessive focus on positive aspects of business is another significant controversy of ESG reporting. Companies often gloss over the challenges and risks they face, which gives a distorted picture of their sustainability performance. For example, the most common issues related to greenhouse gas emissions, labor rights, or supply chains are marginalized or presented in a way that minimizes their importance.

Although international standards for ESG reporting exist, they are usually not binding, resulting in varying interpretations and applications. This makes it difficult to create a consistent, practical framework for analyzing the quality of reports. In addition, many companies do not strive to present sustainable quantitative metrics, but instead use narrative descriptions that are subjectively argued and subject to obfuscation.

Many ESG reports are not independently audited, which leaves room for potential manipulation and reporting accuracy. Without external auditing, stakeholders cannot be confident in the accuracy of the reports presented. Such a limitation further requires stricter regulatory frameworks and more transparent reporting processes, as many ESG reports selectively present only those non-financial metrics that are favorable to them [6].

In transition countries, ESG reporting is further hampered by underdeveloped institutional capacities and low awareness of the importance of sustainability. The lack of resources, expertise and regulatory support is a key constraint to the widespread adoption of standardized reporting practices, making their reports unreliable and less attractive to global investors.

The limitations of ESG reporting practices clearly indicate the need for further improvement of standards, in terms of transparency and more consistent unification of reporting practices. The development of an integrated and simple methodology for implementation, which includes independent auditing and standardized metrics, is a way to significantly increase the credibility and competitiveness of ESG reporting. Only by solving these challenges can ESG reporting become a reliable tool for monitoring the sustainable development of companies and making informed decisions. It is also recognized that showing ESG performance affects capital market change [7,8]. One study conclusively demonstrates that ESG disclosures significantly enhance the quality of financial reporting for nonfinancial firms listed on the Saudi Stock Exchange [9], and in other markets as well [10]. The findings suggest that enterprises with strong ESG performance have easy access to equity funding via stock markets [11] and ESG performances promote corporate value [12].

According to the International Federation of Accountants IFAC (2021) study [13] of the global state of sustainability assurance of 100 largest companies, 91% of them reported some level of sustainability information, and that 51% of them provided some level of sustainability assurance.

3. A concept for evaluating the performance of ESG reporting

Assessing the quality of ESG reporting requires an integrated and multi-layered approach [14] that includes all aspects relevant to the credibility, transparency and usability of these reports. The process of creating and presenting business reports implies certain rules and standards that should be followed, whether it is verbal or visual presentation, for successful business communication [15]. The key to improvement lies in the application of the so-called reporting pyramid that includes three levels: message, visualization and information spectrum, and each of these levels has a specific role in ensuring that the sustainability report becomes clearer, more standardized and more informative for all interested parties [16].

1st level - Message (SAY: say the message - STRUCTURE: organize the report)

The first level of the reporting pyramid focuses on defining the key message of the report and organizing its content. Companies should clearly articulate their ESG goals, results and challenges, creating a narrative that is consistent and meaningful. A quality report must:

- **Say a clear message (SAY):** Reports should have clearly defined thematic units, which deal with key aspects of sustainability – environmental, social and governance. Messages should be concise and precise, so that readers can easily understand the basic information.
- **Organize content (STRUCTURE):** The structure of the report must be logical and intuitive, allowing users to quickly find relevant information. This means well-defined sections, with clear headings and sub-headings that facilitate navigation.

2nd level - Visualization (UNIFY: standardize content - CONDENSE: summarize information - SIMPLIFY: avoid complications)

The second level of the pyramid is focused on the presentation of data through visualization, which includes standardization of content, condensing information and avoiding unnecessary complications. The goal is for the reports to be visually appealing, but also informative.

- **Standardize content (UNIFY):** Visual elements, such as tables, charts and diagrams, should be in accordance with international standards to facilitate comparison between companies. This includes consistent use of colors, symbols and formats.

- **Condensing information (CONDENSE):** Large amounts of data should be condensed into key metrics and indicators, allowing users to quickly gain insight into performance.

- **Avoid complications (SIMPLIFY):** The presentation of information should be simple and understandable, avoiding technically complex language or unclear charts that can confuse readers.

3rd level - Information spectrum (CHECK: ensure quality - ENABLE: implement the concept)

The third level of the pyramid focuses on the quality and implementation of information. This level ensures that the data is credible and relevant, and that the report has practical value for users.

- **Ensure quality (CHECK):** Data included in the report must be accurate, verified and in accordance with standards. This includes independent verification, which increases confidence in the report.

- **Concept implementation (ENABLE):** Implementation of the concept (ENABLE): The report results in users, such as investors, regulators and other stakeholders, making informed decisions. This includes formulating context and clarity related to the company's sustainability strategy.

The application of this methodology involves a weighting system that evaluates each level of the pyramid, allowing for the identification of weaknesses and recommendations for improvements. For example, the structure and organization assessment (level 1) focuses on the clarity and consistency of the message, while level 2 focuses on aspects of visuality and conciseness, and level 3 focuses on the accuracy and applicability of the data. The methodology based on the reporting pyramid provides an integrated and systematic approach to analyzing the quality of ESG reports. The application of the reporting pyramid contributes to companies not only improving their reports, but also strengthening the tools for better understanding and implementing sustainability in practice. The development of the subject concept is key to improving the transparency, standardization, and usability of ESG reporting, thereby contributing to better sustainable business decision-making.

4. Designing a Model for Evaluating the Performance of ESG Reports

Effective analysis of sustainability reports requires a holistic approach that includes different dimensions of quality, focusing on the clarity of the message, accuracy and usability of the information. The defined weighting by levels aims to ensure a balanced analysis of the report, with each level representing a specific component in creating a reliable and useful document. The first level focuses on the crystallization of key messages and organization of content, the second on the visual representation of the information, while the third on the credibility and practical applicability of the data presented.

The weighting of the three levels of analysis is set to reflect their relative importance in the overall assessment of the report, as follows:

Table 1. The structure of the evaluation criteria for the performance analysis of the ESG report.

Level	Task	Weight
1 st Level – Message	SAY – STRUCTURE	35%
2 nd Level – Visualisation	UNIFY – CONDENSE – SIMPLIFY	30%
3 rd Level – Information Spectrum	CHECK – ENABLE	35%
Total		100%

The reasons for the aggregate weighting shown are as follows:

1st level - weight 35% because the clarity and organization of the message are the foundation of every quality report. The key message and structure are the basis for understanding the content, and the focus is on defining ESG goals, consistency of narrative, relevance of information.

2nd level - weight 30% because visualization is essential for the presentation of data, enabling clarity, conciseness and intuitive understanding. The focus is on standardization of graphic displays, clarity and simplicity of visual elements.

3rd level - 35% because the information spectrum ensures the credibility and usability of the report, ensuring that the data is verified and relevant for decision-making. The focus is on data accuracy, application of sustainability concepts and comprehensiveness of topics.

Namely, the model starts from the point of view that level 1 and level 3 have greater importance due to the fundamental impact of the message and the quality of information on the entire report, while level 2, although crucial for transparency and aesthetics, has a slightly lower weight because it supports, but does not determine the essential content of the report. The designed weighting system ensures a balanced evaluation of all aspects of the sustainability report, enabling the identification of key areas for improvement.

Further weighting of the 1st level of analysis is set to reflect the relative importance in the structure of levels for the evaluation of the report, as follows:

Table 2. Designed weighting system of Level 1.

No.	Description	Structure of criteria – scale from 1 to 5	Weight from criteria
1.	Clarity of key message		30%
	There are no clearly defined messages	1	
	The messages are partly clear, but sometimes unclear or disjointed	3	
	All key messages are clear, precise and consistently communicated	5	
2.	Content relevance		25%
	The information is incomplete and does not cover key ESG topics	1	
	Some important aspects are covered, but key details are missing	3	
	All relevant topics are covered according to industry standards	5	
3.	Consistency		20%
	The report is disjointed and contradictory	1	
	The structure is partly logical, but there is room for improvement.	3	
	The report is completely consistent and structured	5	
4.	Scope of coverage		15%
	It only focuses on a limited number of topics	1	
	It covers a significant part of the topics, but some aspects are neglected	3	
	All relevant topics are covered in detail	5	
5.	Adaptation to the target audience		10%
	The report is too technical or too general for the target audience	1	
	Partially adapted, but not fully suitable for all groups	3	
	Perfectly adapted to different target groups	5	

For the assessment and weighting of the 1st level, the following aspects should be taken into account:

Clarity of the key message - weight 30%, and the key question is: Does the report clearly and consistently define the basic messages related to ESG goals, results and strategies? For evaluation and ranking, answers to the following questions should be obtained:

Are the ESG objectives clearly formulated and understandable?

Are the main messages easily identified?

Content relevance - weight 25%, and the key question is: Does the report include information that is essential for the company and its stakeholders? For evaluation and ranking, answers to the following questions should be obtained:

Are key industry-specific ESG aspects covered?

Is information provided about risks and challenges?

Consistency - weight 20%, and the key question is: Does the report consistently follow the structure and clearly present comprehensive data without contradictions? For evaluation and ranking, answers to the following questions should be obtained:

Is the structure logical and follows common reporting standards?

Are the messages consistent throughout the report?

Scope of coverage - weight 15%, and the key question is: Does the report cover all important topics and areas that are important for the company's ESG performance? For evaluation and ranking, answers to the following questions should be obtained:

Are all key environmental, social and governance aspects covered?

Are local and global contexts considered?

Adaptation to the target audience - weight 10%, and the key question is: Is the report adapted to the needs of different stakeholders (investors, regulators, employees, local communities)? For evaluation and ranking, answers to the following questions should be obtained:

Is the content understandable and relevant for all users?

Is the appropriate tone and language used?

The designed Level 1 weighting model provides a quantitative basis for objectively evaluating and comparing the quality of ESG reports.

Then, the weighting of the 2nd level of analysis is set to reflect the relative importance in the structure of levels for the assessment of the report, as follows:

Table 3. Designed weighting system of Level 2.

No.	Description	Structure of criteria – scale from 1 to 5	Weight criteria
1.	Content standardization		35%
	Failure to adhere to standard visual formats; lack of consistency in tables and graphs	1	
	Visual elements are partially standardized, but not applied consistently	3	
	Visualizations fully follow internationally recognized standards, allowing easy comparison	5	
2.	Summarizing information		30%
	Too much information per graphic or table; a cluttered display that makes it difficult to understand	1	
	The information is partially summarized, but some segments contain redundant details	3	
	The content is completely condensed and reduced to essential information, without losing key messages	5	
3.	Ease of display		25%
	Charts and tables are complex, confusing or require additional explanations	1	
	Most of the visualizations are understandable, but some elements are technically complex	3	
	All visual elements are intuitive and clearly display relevant information	5	
4.	Aesthetics and transparency		10%
	The visual display is unattractive or unsightly; inappropriate styles were used	1	
	The visuals are relatively clean, but the aesthetics could be improved	3	
	Charts and tables are aesthetically pleasing, with a professional design that makes reading easy	5	

The objective of the 2nd level is to ensure that the report is visually clear, structured and easy to understand, and it is desirable to consider the following aspects:

Content standardization - 35% weighting, and the key question is: Are the visual elements in line with international standards and enable comparison with other reports?

Condensing of information (CONDENSE) - weight 30%, and the key question is: Is the content presented concisely, without superfluous details that hinder the understanding of key data?

Simplicity of display (SIMPLIFY) - weight 25%, and the key question is: Are graphs, tables and visualizations designed in a way that is intuitive and easy to understand?

Aesthetics and transparency (VISUAL APPEAL) - weight 10%, and the key question is: Are the visual elements attractive and transparent, making it easier for the reader to navigate through the report?

In addition to the above, including color indicators (eg red, yellow, green for performance) can help easily understand trends. Next, ensure that all graphs include a legend and clearly labeled axes to

avoid confusion, and use simple fonts and a consistent color palette throughout the report to ensure clarity.

And finally, the objective of level 3 is to ensure the accuracy, relevance and usefulness of information for various stakeholders, and it is desirable to consider the following aspects:

Data quality (CHECK) - weight 40%, and the key questions are: Are the data accurate, checked and in accordance with internationally recognized standards? Is an independent audit used for verification?

Implementation of the concept (ENABLE) - weight 35%, and the key questions are: Does the report provide practical guidelines and information that enable users to make informed decisions? Is the data relevant for making strategic decisions?

Comprehensiveness of information (INCLUSIVENESS) - weight 15% and the key questions are: Does the report cover all key aspects of ESG performance, including challenges and risks?

Focus on results and impact (IMPACT) - weight 10%, and the key questions are: Does the report provide insight into the results and impact of sustainable practices, rather than focusing only on goals?

Table 4. Designed weighting system of Level 3.

No.	Description	Structure of criteria – scale from 1 to 5	Weight criteria
1.	Data quality		40%
	Data is unverified, unclear or contradictory; there is no independent audit	1	
	Most of the data is correct, but there is a lack of transparency in terms of verification	3	
	All data is verified, consistent and in accordance with relevant standards, with an independent audit	5	
2.	Application of the concept		35%
	The report does not provide useful information for decision-making; data is generic or incomplete	1	
	It provides partially useful information, but lacks in-depth analysis and context	3	
	The information is practical, contextualized and relevant to the user's strategic decisions	5	
3.	Comprehensiveness of information		15%
	The report covers only a limited number of ESG topics, ignoring key risks and challenges	1	
	Most of the important topics are covered, but certain aspects are not discussed in detail	3	
	The report covers all relevant topics, including potential risks and challenges, with a balanced view	5	
4.	Focus on results and impact		10%
	The report focuses only on objectives, without specific data on results or impact	1	
	Some results are presented, but not in sufficient detail and without a clear impact analysis	3	
	The results and impacts of sustainable practices are clearly presented, with an analysis of their importance	5	

When implementing the criteria, it is desirable to use a single table to display the standards and verification tools used by the company, include industry-specific topics, as well as global challenges, such as climate change, and focus on quantitative metrics (e.g. reduction of CO₂ emissions in % or absolute values) for demonstration of progress. In this way, the methodology ensures that sustainability reports are informative, credible and useful for strategic decision-making.

5. Discussion

ESG reporting, as a key tool for transparency and communication of sustainable business practices, is at the crossroads between growing stakeholder demands and challenges in its implementation. This paper has highlighted a number of limitations of current reporting quality assessment methodologies, including lack of transparency, data inconsistency, positive bias and insufficient standardization. At the same time, a multi-layered methodology based on the reporting pyramid was proposed, which combines message clarity, data visualization and information spectrum as basic elements for improving the quality of sustainability reports.

The research results showed that a comprehensive approach to the assessment of ESG reports, which includes a clear structure, standardized visualizations and verified information, can significantly increase their usability and credibility. Through an analytical framework with clearly defined criteria and weights, this paper offers a practical tool for evaluating reports that can be useful to companies, investors and regulators [17]. The proposed methodology has the potential to reduce subjectivity in the assessment of ESG performance and increase comparability among companies, thus contributing to the creation of more sustainable business models [18].

6. Conclusions

The conclusion of this paper indicates the necessity of continuous improvement of methodologies for ESG reporting. Only through innovative approaches, interdisciplinary research and cooperation among key actors is it possible to achieve sustainability goals in modern business. This study provides a foundation for further development and application of practical solutions that contribute to more transparent and responsible business at the global level. Modern business is more focused on investing in knowledge and intangible rather than in tangible assets, and accordingly, the importance of reporting on sustainability is also clear, and therefore its structure is also very important, so that interested parties can get the required information in an adequate and easy way. The form of the ESG framework should include standardized and specific information in order to create future strategies.

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