

Exploring a Shared Benchmark for Measuring ESG Performance*

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Abstract

The evolution of ESG (Environmental, Social and Governance) criteria is an ever-growing process. The relevant organizations and bodies have started to develop ad hoc initiatives and guidelines for the assessment and measurement of ESG criteria using different lines of assessment. As a result, investors have begun to use these indices as tools to direct their investments towards companies that stand out for the careful and enlightened use of environmental, social and governance variables.

Subsequently, the ESG criteria were further refined and standardized, with the goal, not always achieved, of producing consistent and reliable measurements.

The objective of this work is to propose a sector-based benchmark as useful as possible to standardize the results, in order to have a potential reference index for comparing the results of companies also operating in different sectors and with different characteristics.

Keywords: ESG Performance; Shared Benchmark; Standard Results; Common Index; Sector-based Approach; Global Markets

1. The Evolution of ESG (Environmental, Social and Governance) Criteria

The development of ESG (Environmental, Social and Governance) criteria has become increasingly important over time. It has been recognized that corporate performance in ESG areas can affect both long-term financial results and the overall impact the firm has on society both on a financial and an environmental level. (Ademi & Klungseth, 2022).

Relevant organizations and bodies have started to develop ad hoc initiatives and guidelines for the assessment and measurement of ESG criteria using different lines of assessment (Arvidsson & Dumay, 2022).

The general principles of ESG ratings are common to all rating agencies. Although adequate disclosure on ESG issues is required (UNPRI, 2022) with standardized reporting on ESG issues and information from companies regarding the adoption/adherence to relevant norms, standards and codes of conduct. The diversity of the nature of the

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companies combined with the lack of standardization of the results obtained, have made it impossible to produce an index that can be applied transversally to all or most of the companies. Each rating agency applies its own methodology to manage different information acquired from different sources and arrives at defining ratings that become essential for the decision-making process of the investment community (Das, 2023).

Few studies have focused the analysis on quantity, quality and ESG performance. Methodologies, results and scores are contradictory and poorly integrated with all stakeholder perspectives (Xie et al., 2019; Aureli et al., 2020, Linnenluecke, 2022). The disclosure of ESG data, mostly of which is essentially non-financial, and the subsequent evaluation of ESG performance are still disorganized and lack generally agreed upon reference standards (Das, 2023).

As awareness and interest in the importance of ESG criteria grew, the need to establish a benchmark for measuring corporate performance within specific sectors began to become apparent. The presence of a sector-based benchmark could be useful in order to be able to compare companies, in order to evaluate their results and their progress in improving ESG performance over time (Das, 2023).

This work aims to highlight the need for an ESG performance measurement system according to a shared and meaningful approach. In particular, an operational tool is proposed to catalog ESG performances, favoring the contextualization of performances in specific industrial sectors.

2. Literature Review

Over time, the importance of the ESG rating has assumed an ever-greater value, in parallel with the development of ESG criteria within the portfolio of employment opportunities by the main international investors.

If the main objective for a company is the generation of profit, it can easily be seen how all the variables that lead to an increase in profit must necessarily be evaluated by the governance, also in relation to the medium-long term results (Salvioni & Gennari, 2017).

Recent studies have shown how companies that value ESG variables in their strategic decisions generate a competitive advantage that often translates into higher profits (Edmans, 2011; Deng et al., 2013; Dimson et al., 2015).

Likewise, a strong correlation between social and economic results has been demonstrated for companies that have also invested in the development of the reference community, as well as in projects to improve environmental and social conditions.

Again, the potential consumer, once made aware of the sustainability of the actions implemented by the company, tends to be more loyal over time, thus increasing the company's potential profits (Albuquerque & Koskinen, 2019).

A company that adopts sustainable policies conveys the concepts of differentiation and waste reduction (Porter et al., 2019), generates loyalty among its employees (Park, 2020), as well as transversally improving their working conditions.

Lastly, in parallel with the development of sustainable policies, the number of investors attentive to this evolution has also increased, both in industrialized and

developing countries, resulting in an ever-increasing need for companies to update their reporting methods to avoid being cut off from the market increasingly looking for punctual and periodic information. (Park & Jang, 2021).

Once the importance of ESG variables has been outlined, the topic of this study becomes central, i.e., offering a potential reference benchmark for the reporting of these criteria.

As reported by Berg et al. (2019) the ambiguity of the different types of rating currently existing in relation to ESG criteria effectively prevents investors from making truly informed decisions, which would guarantee a greater positive impact from an environmental point of view. economic and social.

Likewise, Chatterji et al. (2016), who underlines how the differences relating to the various reference indices lead to potentially opposite conclusions from each other, thus generating results which, the author, considers difficult to trust given their differences.

D'Amato, D'Ecclesia and Levantesi (2021) add how a correct reporting of ESG variables can help a company to guide its financing strategy on the market, with a greater probability of obtaining better results than companies that do not adequately report own sustainable strategies.

After all, Schnabel (2020) also reports how it is the European Central Bank (ECB) that suggests the reporting of ESG criteria in a consistent and standardized manner as much as possible, to avoid information being published in a distorted manner which would make the comparison superfluous.

To describe the profound differences in the reporting methodology of the various companies, it suffices to return to the impressive research work of Serafeim & Kotsantonis (2019), who collated directly at the source the reports of more than 50 listed companies on the health and safety issues of their employees.

From their study it can be deduced that, out of 50 sampled companies, there were as many as 20 different reporting methods, making the data in fact impossible to compare.

In support of this objective problem comes Eccles & Klimenko (2019), who underlines how the large amount of different data available for reporting on ESG issues can undermine the importance of the data itself, as a third-party investor could be misled by the different methods of research and publication, considering such data inaccurate, and consequently not useful.

Still and Chatterji (2016) examining six different ESG indices (KLD, ASSET 4, CALVERT, FTSE4GOOD, DJSI and INNOVEST) verified how the parameters used were profoundly different, how different were the ratings even for the same variables considered, thus generating opposite results despite the information analyzed was the same.

Some discrepancies within the various existing instruments can also be found in the type of variables considered; just think of the work of Montero (2009) who underlined that the issues concerning the working conditions of employees varied according to the existing legislation in each given country, producing very dissimilar results according to the specific laws existing in a precise historical moment.

These delicate issues have been the subject of various research works overtime, demonstrating how even social orientations and their reporting have held ever-increasing importance. (Perez et al., 2019; Wass, 2021).

3. Need for a Common Benchmark for Measuring ESG

Using a benchmark to measure ESG performance is essential for evaluating and comparing companies' performance in terms of sustainability and corporate responsibility. A benchmark provides a standardized basis for the analysis and assessment of ESG factors, allowing for comparability and objective assessment across different entities.

There are several reasons why a reference benchmark is useful to both companies and stakeholders, from a reason of objectivity and standardization, for which a single criterion would offer an objective basis for assessing ESG performance, to a reason of measurability and traceability, which would define the key metrics and parameters for sustainability assessment, making performance quantifiable over time. (Singhania, 2021)

This would make it possible to compare companies and their results in a coherent way, eliminating potential biases or subjective interpretations, allowing progress in achieving sustainability objectives to be monitored and any areas for improvement to be identified. (Lovins, 2003)

The potential alignment of stakeholders would also benefit, as the use of an accepted and recognized benchmark would foster consensus among stakeholders such as investors, companies, regulators and target audiences. After all, CSR is considered an integral part of the concept of reporting in relation to ESG criteria, as broadly postulated by Freeman & Dmitriyev (2017).

The possibility of having a unique code would at the same time facilitate communication, understanding and sharing of information both among insiders and towards potential investors.

A clear benchmark would also provide a sound basis for making informed decisions about investments or potential corporate partnerships, enabling investors and organizations to assess sustainability-related risk and opportunity, improving portfolio management and integrating ESG aspects into corporate strategies (Eccles et al., 2014).

To date there are several reference indices recognized and used in the field of sustainable investments, such as:

***Dow Jones Sustainability Index (DJSI):** Created in partnership with S&P Dow Jones Indices, the DJSI is one of the best-known sustainability indices. It covers different regions and sectors and assesses the ESG performance of companies as a whole.*

***MSCI ESG Ratings:** MSCI provides ESG ratings for a broad range of companies and issuers of bond products.*

***Sustainalytics ESG Risk Ratings:** Sustainalytics is an ESG rating company that provides risk assessments for thousands of companies worldwide. Sustainalytics ratings are often used as a benchmark to evaluate the ESG performance of companies.*

***CDP (Carbon Disclosure Project):** The CDP assesses companies' transparency and risk management related to climate change. Companies participating in the CDP are evaluated and*

ranked according to their performance in terms of reducing greenhouse gas emissions.

Bloomberg Gender-Equality Index (GEI): *The Bloomberg GEI index measures companies' commitment to gender equality and inclusion in the workplace. Companies included in the index are evaluated on gender equality and inclusion criteria.*

In order to provide the reader with an immediate understanding of the various indices existing today, the main characteristics of each of them are briefly reported in Table 1. Table 1 also highlights both the strengths and gaps that these indices intrinsically possess.

The objective of this paper is propose a new index therefore, to synthesize the various existing indices, improving the quality of the results obtained, and at the same time filling the gaps that each tool currently contains.

Table 1: *Main Characteristics of Sustainability Indices.*

Sustainability Index	Dow Jones Sustainability Index.	MSCI ESG Ratings.	Sustainalytics ESG Risk Ratings.	Carbon Disclosure Project.	Bloomberg Gender-Equality Index
Main Focus	Environmental, social and governance factors	Environmental impact, stakeholder involvement and reference community, corporate ethics	ESG risk assessment for a company	Greenhouse gas emissions and water consumption	Gender equality and inclusion in workplace
Peculiarities	Index among the best known and appreciated	Focuses mainly on the long term	Focuses on ESG risks not managed on known by companies	Cities can also participate in this index	Stimulate change at an organizational level
Score Type	Valuation from 1 to 100	Valuation from “AAA to CCC”	Valuation from 1 to 100	Valuation from “A to D (-)” for greenhouse emissions. Valuation from “A to F” for water consumption	Valuation from 1 to 100

Sustainability Index	Dow Jones Sustainability Index.	MSCI ESG Ratings.	Sustainalytics ESG Risk Ratings.	Carbon Disclosure Project.	Bloomberg Gender-Equality Index
Point of strengths	Historical reliability	International company coverage on a wide range of ESG aspects	Detailed assessments on sustainability criteria	Wide participation from public	Social responsibility message
Point of weakness	Short-term orientation lack of sectorial uniformity breadth and randomness of ESG criteria	Focus on data publicly available, focus on larger companies, lack of division by sector	Limited coverage of companies on the market, lack of sectorial uniformity	Focus on climate change, self reported data retrieval	Limited rating factors, lack of standardization data

Source: Own elaboration

As can be seen from the Table 2, the proposed new index differs substantially from any existing index. Specifically, the proposed innovations can be summarized in:

1. Full coverage of all three areas of Environment, Social and Governance. (Not present in 2\5).
2. Focus on easily comparable analytical results. (Not present in 2\5).
3. Standardization of results for each market sector. (Not present in 4\5).
4. Reference also to smaller companies, and not just to international companies. (Not present in 2\5).

Table 2: *Summary of Proposed Innovations*

NEW RESULTS: YES / NO	Dow Jones Sustainability Index.	MSCI ESG Ratings.	Sustainalytics ESG Risk Ratings.	Carbon Disclosure Project.	Bloomberg Gender-Equality Index
Full coverage of ESG areas	YES	YES	YES	NO	NO
Easily comparable analytical results	YES	YES	NO	YES	NO

NEW RESULTS: YES / NO	Dow Jones Sustainability Index.	MSCI ESG Ratings.	Sustainalytics ESG Risk Ratings.	Carbon Disclosure Project.	Bloomberg Gender-Equality Index
Standardization of sectoral results	NO	NO	NO	YES	NO
Referment to smaller companies	NO	NO	YES	YES	YES
Total Yes	2	2	2	3	1
Total NO	2	2	2	1	3

Source: Own elaboration

Some of these indices are used for specific components, such as the CDP which focuses mainly on greenhouse gas emissions, or the GEI, which focuses on social components, such as equality and inclusion within the company structure. The attentive reader will notice that what is missing is a transversality of these structures, since there are no connection points between many of these indices, consequently making them extraneous to each other. The analysis of current standards reveals that we are still far from reaching the drafting of a shared structure that allows sharing the results achieved and the way to perpetrate the ambitious objectives that cultural and social evolution impose on companies operating in the market.

In conclusion, the proposed New Index embodies most of the strengths of the other tools, also adding some dimensions that fill the uncovered areas and consequently the weaknesses. In the process of creating the index, some key pillars were chosen, such as the search for analytical and non-random results, and the possibility of integrating all ESG areas within the index.

The ambitious objective is to have a complete index, which analyzes the various sustainability structures, which proposes results that are not susceptible to subjective evaluations but are easily comparable between companies in the same sector.

A dry and streamlined index that can be used by companies of any size, in order to create a sector comparison model that facilitates the reporting and sharing of data relating to sustainability.

4. Creation of a Common Reference Index

After having analyzed the indices existing today and having examined in depth the lack of transversality and sharing between them, the ambitious goal that this research sets itself is to propose a structure that can contain the information, but above all the data, most relevant in terms of sustainability (Musu, 2003).


The reference index must necessarily contain the three macro-areas Environment, Social and Governance, as cornerstones of the ESG sustainability criteria. Within each single macro-area there will be some sub-structures which will be subject to analytical examination, the results of which will contribute to the attribution of scores for calculating the sustainability of a given company.

The objective of the index will be to provide a final result that is as analytical as possible, in order to avoid subjective assessments that could increase the uncertainty of the results obtained.

4.1 Environmental Indicators

Environmental indicators (Figure 1) are outlined with 5 specific indicators. Four of the five parameters used in this section are easily comparative as they are numerical results. In fact, only "the impact on the surrounding natural habitat" is the issue of a subjective evaluation which must inevitably be made by a third party 'agency'.

Figure 1: Reporting Matrix - Environmental Structure.

ENVIRONMENTAL INDICATORS		ANALYTICAL CALCULATION CRITERIA	GENERIC CALCULATION CRITERIA	SCORE
	Greenhouse Gas Emissions	Calculation of emission volume		0 - 30: Emissions higher than competitors. 30 - 65: Emissions in line with competitors. 65 - 90: Zero emission. 90 -100: Carbon credits creation.
	Energy consumption	Calculation of total consumption		0 - 30: Consumption higher than competitors. 30 - 65: Consumption in line with competitors. 65 - 90: Zero consumption. 90 -100: Energy production > consumption.
	Water usage	Calculation of cubic meters per year		0 - 30: Usage higher than competitors. 30 - 65: Usage in line with competitors. 65 - 90: Usage lower than competitors. 90 -100: -
	Waste management	$\frac{\% \text{ of recycled waste}}{\% \text{ of total waste}}$		0 - 30: Production higher than competitors. 30 - 65: Production in line with competitors. 65 - 90: Total waste recycling. 90 -100: -
	Natural habitat impact		Potential impact on the surrounding environment	0 - 50: Significant damages. 50 - 90: Contained damages. 90 - 100: Improved surrounding environment.

Source: Own Elaboration

Greenhouse Gas Emissions

Calculating greenhouse gas emissions can be a complex process that requires the collection of accurate data and the application of appropriate methodologies. The basic elements for an accurate calculation of these emissions can be summarized as follows:

1. **Identification of Sources of Emissions:** Determine the different sources of greenhouse gas emissions within the organization. These can include direct emissions (starting from industrial production operations up to the use of company vehicles) and indirect emissions (from the purchase of energy needs on the market to the consumption used for logistics).
2. **Data Collection:** Contains relevant data for each identified emission source. This may include information such as fuel consumption, electricity usage, production data, transportation information, etc. It is important to ensure that the data reported is analytical and accurate, as well as representative of the period in question.
3. **Calculation of Emissions:** Certainly, the most delicate procedure, as it is necessary to use appropriate calculation methods to determine greenhouse gas emissions. There are currently several internationally accepted methodologies, such as the Greenhouse Gas Protocol (GHG Protocol) or the guidelines of the United Nations Organization (UNFCCC). These methodologies provide specific emission factors for different emission sources, which are multiplied by the collected data to derive the total emissions.
4. **Verification and Validation:** With the aim of transparency, it is advisable to submit the emissions calculations to a verification and validation process by an independent third party to ensure the reliability and accuracy of the results.
5. **Reporting and Disclosure:** The final procedure of the reporting process is the drafting of a periodic disclosure document certifying the results obtained.

Calculation of Energy Consumption and Water Use

Measuring a company's energy and water consumption can be done by following a series of steps:

1. **Identification of Energy Sources:** Determine the different energy sources used by the company, such as electricity, natural gas, fossil fuels, renewable or non-renewable sources.
2. **Identification of Water Consumption Sources:** Determine the different sources of water consumption in the company, such as water used for production purposes, sanitation, daily use for employees, or other specific business purposes.

3. **Data Collection:** Consists of reporting detailed data on the company's consumption. This information can come from energy bills, consumption records, meter readings, or water and energy monitoring systems installed in buildings.
4. **Unit of Measure Conversion:** Make sure all measurements are in the same consistent unit of measure. For example, if you use different units of measure for different energy sources (such as kWh for electricity and liters for water), you need to convert them into a single unit of energy measure, such as kilowatt-hour (kWh) or megajoule (MJ).
5. **Calculation of Energy Consumption:** For each energy source, multiply the amount of energy consumed for the reference period (for example, on a monthly or annual basis) by the appropriate conversion factor. For example, for electricity, the consumption in kWh can be multiplied by the conversion coefficient for electricity (usually expressed in kilograms of CO₂ equivalent per kWh).
6. **Analysis of the Results:** Analyze the data obtained to identify the main energy consumption of the company and the areas in which it is possible to implement energy efficiency improvement measures. This analysis can include the breakdown of energy consumption by company sectors, by individual buildings or facilities, or by specific activities or processes.

Waste Management Process

Waste management in a business is an important aspect of reducing environmental impact and promoting sustainability. The basic elements for an accurate calculation of these processes can be reported as:

1. **Identification and Classification of Waste:** Identify the different types of waste produced in the company and classify them according to the environmental laws and regulations in force. Waste can include paper, plastic, glass, metals, chemicals, organic waste, hazardous materials, etc.
2. **Source Reduction:** Promote waste reduction at source by adopting business practices to avoid excessive waste generation. This can include optimizing manufacturing processes to reduce waste, adopting sustainable purchasing strategies to minimize packaging, and educating employees about waste reduction as part of the company's life process.
3. **Recycling:** Implementing an effective recycling program in the company can become a fundamental practice for achieving sustainability goals. This may include the separate collection of 100% recyclable materials such as paper, plastic, glass and metals, and handing them over to an authorized recycling Centre. In addition, a further implementation of the recycling concept lies in making sure that special containers are provided within the company premises for the separate collection of waste and making employees aware of the importance of recycling even outside the company concept.

4. **Correct Waste Disposal:** non-recyclable waste must be disposed of correctly to avoid negative impacts on the environment. Identifying hazardous waste and following specific disposal procedures, in accordance with local and national regulations, may require the use of specialized waste management services or coordination with licensed treatment facilities.
5. **Monitoring and Measurement:** Maintain a company waste monitoring system to evaluate the quantities produced, the type and their final destination. This will allow evaluating the effectiveness of waste management policies and identifying areas where further improvements can be made over time.
6. **Employee Involvement:** Engage employees in waste management through awareness, training and incentive programs. The key element will be the promotion of a corporate culture oriented towards sustainability and the adoption of responsible behavior with regard to the consumption of recyclable and non-recyclable materials.

Impact on the Natural Habitat

The impact on a company's natural habitat depends on several factors, including the nature of the company's activities, the location of the company and the measures taken to mitigate the negative effects on the environment. The environmental impact assessment is conducted in order to identify and evaluate the effects of company activities on the natural habitat. This assessment must necessarily consider the biodiversity, ecosystems, critical habitats and protected species present in the surrounding area where the company impacts its life cycle.

The choice of the company headquarters can influence the impact on the natural habitat, as choosing an already compromised or degraded area can reduce the negative impact on the environment, as, at the same time, avoiding the location in areas of great environmental value or with high biodiversity can help preserve sensitive natural habitats.

Once the company headquarters have been chosen, a practice to help the concept of sustainability arises in taking measures to conserve and protect the surrounding ecosystems. This may include creating conservation areas within the company site, promoting biodiversity through the creation of green areas or wildlife habitat, and implementing sustainable practices where applicable (Bernabe, 2021).

Finally, the company must implement an environmental monitoring system to evaluate the effectiveness of the measures adopted and identify any impacts on the surrounding environment. This action can help identify areas for further improvement and allow for adaptation of business practices to minimize impact on natural habitat.


4.2 Social Indicators

The social structure consists of 5 indicators useful for providing specific information for the company in the field of social sustainability (Figure 2). Three of the five parameters reported in this segment are the subject of numerical calculation, excluding "supply chain management and the protection of human rights", which as stated above will have to be part of an external control in order to certify any score reported in the matrix.

Health and Safety at Work

Occupational safety means the set of measures to be adopted in companies for the prevention of any injuries or accidents at work and to ensure that workers are prevented from contracting occupational diseases. Each individual sector of activity contains its specific risks which can therefore be different from one company to another, and from one sector to another (Wass, 2021).

Figure 2: Reporting Matrix – Social Structure

SOCIAL INDICATORS		ANALYTICAL CALCULATION CRITERIA	GENERIC CALCULATION CRITERIA	SCORE
	Health and safety at work	Number of workplace injuries per year		0 - 30: Number higher than competitors. 30 - 65: Number in line with competitors. 65 - 90: Number lower than competitors. 90 -100: Zero injuries.
	Diversity and inclusion	Calculation of the number of employees by gender and ethnicity. Results in %		0 - 30: Results % higher than competitors. 30 - 65: Results % in line with competitors. 65 - 90: Results % lower than competitors. 90 -100: -
	Community involvement	Established local partnership		0 - 30: Number lower than competitors. 30 - 65: Number in line with competitors. 65 - 90: Number higher than competitors. 90 -100: -
	Supply chain management		Application of sustainable methodologies by the company to its supplier chain	0 - 50: Results lower or equal to 50 % of the suppliers. 50 - 90: Results from 50% to 90%. 90 - 100: Full integration with the supplier chain.
	Human rights protection		Cooperation for the protection of the rights of all those involved in the company's production process	0 - 50: Policies for employees protection. 50 - 90: Policies for employees and suppliers protection. 90 - 100: Policies for employees, suppliers and local community protection.

Source: Own elaboration

The protection and prevention measures can be summarized in:

1. Risk Assessment: Carry out a risk assessment to identify potential hazards and assess the level of risk associated with specific work activities. This includes identifying physical, chemical, biological, ergonomic, and psychosocial risks.

2. **Accident Prevention:** Take preventive measures to minimize workplace accidents. This may include properly maintaining equipment and facilities, properly training employees in safety procedures, using personal protective equipment, and implementing specific safety measures for risks once identified.
3. **Training and Awareness:** Provide regular and appropriate training to employees to ensure awareness of risks, safety procedures and best working practices in order to minimize risks in the workplace. Promote a culture of workplace safety in which all employees are accountable for their own safety and that of their colleagues.
4. **Health Surveillance:** Implement health surveillance programs to monitor the health of employees and identify any health risks or problems related to the work environment.
5. **Employee Involvement:** Involve employees in promoting health and safety at work, encouraging the reporting of potential risks or problems, as well as active participation in the definition of solutions and improvements.

Diversity and Inclusion

Promoting diversity and inclusion requires constant effort and a systematic approach; the goal is to create a work environment in which each individual feels respected, valued, and has equal opportunities for growth and success. The key aspects to consider fostering diversity and inclusion in a company can be found in:

1. **Policies and Values:** Have company policies and values that emphasize the importance of diversity and inclusion within the workplace. This should be supported by governance leadership committed to promoting an open, respectful, and inclusive workplace.
2. **Recruitment and Selection:** Adopt recruitment practices that encourage diversity, avoid discrimination, and promote equality of opportunity. Evaluate candidates' skills and qualifications objectively, without bias based on race, gender, age, religion, or other factors not relevant to the selection of any candidate.
3. **Training and Awareness:** Provide regular training and awareness on diversity and inclusion issues. This may include workshops, seminars, or training programs to educate employees about discrimination and inclusion issues.
4. **Inclusive Work Environment:** Create an inclusive work environment where all employees feel accepted, respected, and valued. Promote collaboration, mutual respect and diversity of perspectives and opinions.
5. **Flexibility and Inclusion:** Offer flexible work opportunities that allow for greater inclusion of people with different needs, such as parents, people with disabilities or individuals with different personal responsibilities.
6. **Monitoring and Measurement:** Regularly measure and monitor the company's progress in promoting diversity and inclusion. This may include collecting employee demographics, analyzing hiring and

promotion practices, and evaluating the effectiveness of training and awareness programs.

Community Involvement

The involvement of the community by a company is a crucial aspect to establish a meaningful and constructive connection with the surrounding environment, as it not only creates a positive social and environmental impact, but can also help improve the company's reputation, build relationships of trust, and develop a competitive advantage by creating entry barriers for any competitors (Rasche & Morsing, 2023). Community engagement metrics can be measured in:

1. **Active Listening:** Practice active listening to understand the needs, concerns, and values of the community in which the business operates. This can be done through meetings, focus groups, surveys or by creating an open communication channel with local stakeholders.
2. **Local Partnerships:** Collaborate with local organizations, institutions, and community groups to identify opportunities for collaboration. This may include sponsoring community events or projects, sharing resources, participating in volunteer initiatives, or collaborating on sustainable development projects.
3. **Creating Shared Value:** Identify areas where community needs align with company expertise and resources. Look for opportunities to create shared value, developing initiatives that benefit both the company and the community, such as training programs, local economic development initiatives or environmental projects related to the surrounding environment.
4. **Transparency and Communication:** Communicate transparently with the community regarding the company's activities, ongoing projects, environmental and social impacts, as well as progress and sustainability goals. Use appropriate communication channels, such as websites, public meetings, or sustainability reports, to keep the community informed.
5. **Employee Involvement:** Engage employees in community interaction, offering opportunities to volunteer and get involved in community projects. This can help create a sense of belonging and strengthen ties between the company and the local community.

Supply Chain Management

Sustainable supply chain management involves adopting practices and strategies aimed at reducing environmental impact, promoting human rights, and ensuring ethical management along the entire supply chain.

Some key aspects to consider for sustainable supply chain management can be found in:

1. **Supplier Evaluation:** Evaluate suppliers not only on the basis of cost and quality criteria, but also on the basis of sustainability criteria. Consider

- their environmental impact, labor practices and human rights when selecting and maintaining business relationships.
2. **Transparency and Traceability:** Require suppliers to guarantee clear and complete information on their supply chain, including the materials used, working conditions and environmental policies. Maintain a traceability system to identify the origin of materials and ensure compliance with sustainability standards.
 3. **Reduction of Emissions and Environmental Footprint:** Work with suppliers to reduce greenhouse gas emissions and the resulting environmental impact. This can include adopting energy efficient practices, using renewable energy, reducing waste and optimizing transportation.
 4. **Promotion of Human Rights and Decent Work:** Ensure suppliers respect human rights and offer decent working conditions. This may include the elimination of child labor, the protection of trade union freedom, occupational safety and fair remuneration.
 5. **Risk Management:** Identify potential risks within the supply chain, such as lack of sustainable resources, reliance on vulnerable suppliers or exposure to unethical labor practices.

Human Rights Protection

The protection of human rights should be an ongoing commitment and integrated into business ethics and operating practices. A company that is actively committed to protecting human rights not only promotes the well-being of the people involved in its activities, but also contributes to building a more equitable and sustainable society (Kell, 2020).

Some key principles that a company can adopt to protect human rights can be found in:


1. **Statement of Commitment:** The company should adopt a formal statement of commitment to human rights, emphasizing its responsibility to respect and protect human rights in all of its activities.
2. **Policies and Procedures:** The enterprise should develop and implement policies and procedures that place the protection of human rights at the center of action. These policies should address issues such as discrimination, forced labor, child labor, freedom of association, occupational health and safety, and respect for employee privacy.
3. **Risk Assessment:** The company should conduct a risk assessment to identify potential human rights violations in its operations, not only internally but also in relation to the supply chain.
4. **Monitoring and Auditing:** Implement monitoring and audit mechanisms to verify compliance with human rights in the company's operations and its supply chain. These may include site visits, self-assessment questionnaires, anonymous reporting and third-party audits.

5. Grievance and Remediation Mechanisms: Create accessible and secure grievance channels for employees, suppliers and local communities who feel their human rights have been violated. Respond promptly to reports of human rights violations and take appropriate corrective action immediately.
6. Partnering with Stakeholders: Partner with other businesses, organizations, governments and stakeholders to address human rights issues locally and globally.

4.3 Governance Indicators

Finally, the third matrix provides for the use of 5 Governance indicators useful for establishing correct sustainable management (Figure 3). All five parameters develop a numerical result; consequently, third-party intervention is not necessary for reporting the results inherent to this portion of the matrix.

Figure 3: Reporting Matrix – Governance Structure

GOVERNANCE INDICATORS		ANALYTICAL CALCULATION CRITERIA	GENERIC CALCULATION CRITERIA	SCORE
	BoD structure and its independence	Number of internal members vs. number of external members (to safeguard the community)		0 - 30: Lower number than competitors. 30 - 65: Number in line with competitors.. 65 - 90: Higher number than competitors. 90 -100: -
	Remuneration of executives in relation to employees	Executives salaries ----- Employees salaries		0 - 30: Results between 200 and 100 x. 30 - 65: Results between 100 and 25 x. 65 - 90: Results between 25 and 2 x. 90 -100: -
	Career dynamism	Average years to advance positions		0 - 30: Lower number than competitors. 30 - 65: Number in line with competitors.. 65 - 90: Higher number than competitors. 90 -100: -
	Company composition and code of conduct	Employees over 40 ----- Employees under 40		0 - 30: Lower number than competitors. 30 - 65: Number in line with competitors.. 65 - 90: Higher number than competitors. 90 -100: -
	Reporting methods	Frequency of reporting	Content of reports; Participation in reporting initiatives	0 - 30: Lower number than competitors. 30 - 65: Number in line with competitors. 65 - 90: Higher number than competitors. 90 -100: -

Source: Own elaboration

BoD Structure and its Independence

The structure of a company's board of directors is a key element in ensuring effective governance and the independence of decisions made within the

management process, even more relevant if the decisions are taken at the highest levels, i.e. within the board of directors. (Salvioni, 2003).

The independence of the BoD is important to ensure that the decisions taken are objective, therefore for the good of the company, and not influenced by personal interests or any conflicts of interest. The relevant aspects for the structure and independence of the BoD can be configured in:

1. **Number of Independent Members:** It is desirable that the Board includes a significant number of independent members, who must necessarily be free from any significant ties to the company, such as family ties, financial dependence or other types of relationships that could compromise its objectivity.
2. **Skills and Background:** It is important that board members have the skills and experience necessary to understand and evaluate business issues. A diverse mix of skills, such as finance, strategy, industry, law, and human resources, can contribute to more comprehensive and balanced decision-making that will benefit both shareholders and stakeholders.
3. **Independent Committees:** The BoD may establish specialized committees, such as the Audit Committee or the Nomination and Compensation Committee, composed primarily of independent members. These committees can play a key role in overseeing specific issues and ensuring responsible management by the governing body, as there will be cross-checking to significantly reduce the margin of error.
4. **Periodic Evaluation:** The Board should regularly conduct an evaluation of its effectiveness and independence. This assessment may involve an analysis of members' competencies, potential conflicts of interest and the impact of decisions made on company performance.
5. **Transparency and Accountability:** The board should be transparent in communicating its decisions and decision-making processes. This may include disclosing material information about board members, including their connections and expertise, as well as public reporting of meetings and decisions made.
6. **Role of the Chairman of the Board:** The Chairman of the Board plays a key role in ensuring its independence. It must necessarily be a third party and responsible member, with the arduous task of facilitating effective interviews, encouraging the participation of all members and ensuring that conflicts of interest are adequately managed.

Executive Compensation in Relation to Employees

The compensation of executives in relation to employees is a topic of great importance in the context of corporate social responsibility and pay equity. The goal is to ensure a fair distribution of wages within the company and a fair relationship between executive and employee compensation (Rasche & Morsing, 2023). Some approaches that companies can adopt can be summarized in the following criteria:

1. **Proportionality:** The company can adopt a proportionality approach, establishing a ratio or range of compensation between the highest salary of managers and the lowest salary of employees. For example, the company might set a cap on executive pay at a percentage or multiple of the average employee pay.
2. **Benchmarking:** The company may conduct benchmarking of executive compensation against that of employees in its industry or in comparable companies. This can help identify any imbalances and take corrective action to ensure a fair distribution of wages within the firm.
3. **Fair Compensation Policies:** The company may adopt fair compensation policies that promote equal pay and reduce wage inequality within the organization. This could include the implementation of performance evaluation systems, which are transparent and objective, in order to guarantee a remuneration based on merit and fairness.
4. **Employee Involvement:** Involving employees in determining compensation policies can help ensure greater equity. Mechanisms could be created for consultation or participation in the definition of salary policies and decisions relating to executive compensation, also going to make decisions based on the opinion of those directly involved.
5. **Transparency and Disclosure:** The Company may promote transparency and disclosure of information related to executive and employee compensation. This can include publishing compensation reports that clearly show detailed compensation structures and payroll relationships within the company.

Career Dynamism

Career dynamism within a company is an important aspect for attracting and retaining talent, promoting the professional development of employees and fostering a motivating work environment. Among the main factors that can contribute to career dynamism, the following have been analyzed:

1. **Growth Opportunities:** The company should offer opportunities for professional growth and career advancement to employees. This can include development and training programs, job rotations, assignment of specific tasks and a system to promote the deserving.
2. **Personalized Career Plans:** Employees should be supported in developing personalized career plans, which take into account their aspirations, interests and skills. This can lead to greater job satisfaction and engagement, as well as targeted career progression. In addition, the possibility of seeing one's growth remunerated can, over time, become a deterrent to brain drain towards other realities.
3. **Feedback and Performance Appraisal:** Regular and constructive performance feedback is essential to enable employees to understand their

areas of strength and potential for improvement. The company should foster a culture of open and ongoing feedback that supports professional growth and learning both as an individual and as part of a larger team.

4. **Internal Mobility:** Fostering internal mobility allows employees to gain experience in different functions or divisions of the company. This practice can enrich employees' professional skills and perspectives, as well as help diversify careers within the company.
5. **Culture of Merit:** Fostering a culture of merit in which promotions and career opportunities are based on employees' skills, achievements and potential, rather than personal or political factors, can foster more equitable and transparent career dynamics.
6. **Recognition and Awards:** The company should recognize and reward employees for their achievements and significant contributions. This can include bonuses, incentives, dedicated development opportunities along with other forms of recognition that value outstanding work and motivate continuous improvement.

An effective career management strategy can lead to greater employee engagement, improved business performance, and an increased ability to attract and retain valuable talent (Murmura et al., 2017).

Company Composition and Code of Conduct

The membership composition of a company refers to the ownership structure and stakeholders involved in the organization. It may include shareholders, investors, directors, employees, customers, suppliers and local communities. The composition of the shareholder structure can influence company dynamics, strategic decisions and attention to ethical and sustainable practices.

In addition, a code of conduct is a set of business principles, values and ethics that define behavioral expectations for all those who work within the company. The code of conduct establishes the rules and guidelines for ethical and responsible behavior within all company activities. It can cover areas such as respect for human rights, integrity, compliance with laws and regulations, fairness, transparency, security and sustainability (Hill, 2020).

The composition of the corporate structure and the code of conduct are closely related as both contribute to corporate social responsibility and business ethics. The key structures of an adequate corporate structure and its compliance with the code of conduct can be reported in relation to the following parameters:

1. **Representation and Inclusion:** Membership composition should reflect fair and inclusive representation of stakeholders involved in the business.
2. **Accountability and Transparency:** The code of conduct must establish the company's obligation to operate in an accountable and transparent manner towards all interested parties. This includes communicating company

- policies, disclosing material information, and publicly reporting on the Company's core activities.
3. **Legal and Ethical Compliance:** The code of conduct must necessarily require compliance with laws, regulations and ethical standards in all company operations. This includes but is not limited to: respect for human rights, prevention of corruption and respect for the surrounding physical and social environment.
 4. **Sustainability:** The code of conduct may include commitments to sustainably manage resources, reduce environmental impact, and promote responsible business practices. This can contribute to a greater focus on sustainability and social responsibility.
 5. **Monitoring and Enforcement:** The company should implement monitoring and enforcement mechanisms of the code of conduct to ensure compliance with and fulfillment of company standards. This may include employee training, anonymous channels for reporting violations, internal investigations and sanctions for behavior that does not comply with the subscribed to within the code.
 6. **Continuous Improvement:** The code of conduct should be subject to periodic review and continuous improvement to address emerging challenges and to adapt to the evolving needs of the business and stakeholders.

The adoption of a diversified corporate structure and a solid code of conduct can help promote a responsible corporate culture based on integrity and sustainability. As can easily be seen, certain governance decisions have effects closely linked to the previous environmental and social matrixes as well. After all, it is the decisions taken at management level that cascade to produce tangible results within the corporate sub-structures; the concept of application is analogous to the role of the Strategic Business Areas in the corporate marketing process, where the macro decisions taken within each of these divisions have direct consequences for the underlying areas (Kerin & Hartley, 2020).

Reporting Methods

Reporting is a process through which a company communicates its performance, impacts and initiatives related to sustainability in a transparent and accurate way. Reporting can involve a series of information and indicators that highlight the sustainable practices implemented by the company. Located in the last structure of the Sustainability Matrix, Governance subgroup, it can be understood as the final document at the conclusion of the work of the matrix, as it can contain definitive information about the reporting of the sustainability process undertaken by the company (Bennet et al., 2006). Among the main methods used can be found:

1. **Sustainability Report:** The sustainability report is a detailed document that represents the company's performance and social, environmental and

economic impacts. This report often follows international guidelines and provides comprehensive information on the strategy, objectives, measures taken, and results achieved in a sustainable environment.

2. **ESG Indicators:** ESG indicators are specific measurements used to evaluate a company's sustainable performance. These indicators can cover topics such as greenhouse gas emissions, resource use, social impact, diversity and inclusion, risk management, business ethics and other relevant areas.
3. **Integrated Financial Reporting:** Integrated financial reporting combines traditional financial information with non-financial elements, including those related to sustainability. This type of reporting aims to provide a holistic view of company performance, highlighting how sustainability can affect financial value and long-term results.
4. **Participation in any External Initiatives:** Companies may participate in external initiatives such as the CDP (Carbon Disclosure Project), the Dow Jones Sustainability Index or other programs and initiatives that promote sustainability and require regular performance reporting.




In order for sustainability reporting to be accurate, transparent and reliable, it is necessary that it be based on analytical and verifiable data. To this end, it is necessary that all stakeholders can easily ascertain the punctuality and truthfulness of the results reported by the company (Brondoni & Bosetti, 2018). Only a timely report based on concrete information and results will be able to illustrate a truthful situation for the company and for all its stakeholders (Lykkesfeldt & Kjaergaard, 2022).

5. Conclusion

The current lack of a clear and defined reference benchmark for sustainability reports has contributed exponentially to the uncertainty of the results communicated, contributing to the creation of increasingly frequent greenwashing practices. The ambitious goal of this sustainability matrix (Figure 4) lies in providing the market with a potential benchmark that is congruous and concrete, based on obtaining easily verifiable results, given their analytical nature, which indicates the type of reporting following the matrix itself. Some areas will be subject to reporting based on data that cannot be quantified analytically whether they are areas of protection of human rights or areas of impact on the natural habitat, as they are characterized by more symbolic than numerical results.

Figure 4: Reporting Matrix – Summary

Source: Own elaboration

REPORTING MODALITIES	ENVIRONMENTAL MATRIX 	SOCIAL MATRIX 	GOVERNANCE MATRIX 
NUMERICAL REPORTING Total: 1			1. Remuneration of executives in relation to employees
NUMERICAL REPORTING + COMPARISON WITH COMPETITORS Total: 11	1. Greenhouse Gas Emissions 2. Energy consumption 3. Water usage 4. Waste management	1. Health and safety at work 2. Diversity and inclusion 3. Community involvement	1. BoD structure and its independence 2. Career dynamism 3. Company composition and code of conduct 4. Reporting modalities
SYNTHETIC REPORTING Total: 3	1. Natural habitat impact	1. Supply chain management 2. Human rights protection	

However, the structure of the matrix envisages that out of 15 reporting areas, 12 are subject to numerical results (of these 12, 11 are also in relation to the results of competitors), and only 3 areas consist of synthetic and non-analytical reporting, so as to provide an easily comparable situation between competitor companies or companies from similar sectors. The matrix will assign a score to each company based on its performance on these various structures proposed, with the variable, in our opinion fundamental of obtaining results in both analytical and in relation to competitors, thus creating a shared and structured index thanks to the reporting of several companies operating in similar sectors. The goal, certainly ambitious, is to propose results that speak the same language, or that share a uniformity that aims to become a reference benchmark to aspire to for reporting on sustainability variables.

To underline the importance of the study proposed in this research, and for comparative purposes, the Table 3 suggests the innovations proposed by this paper compared to the indices present at the moment.

Table 3: Innovation Proposed Compared to Existing Models

Sustainability index	Dow Jones Sustainability Index.	MSCI ESG Ratings.	Sustainalytics ESG Risk Ratings.	Carbon Disclosure Project.	Bloomberg Gender-Equality Index
Main Focus	Environmental, social and governance factors	Environmental impact, stakeholder involvement and reference community, corporate ethics	ESG risk assessment for a company	Greenhouse gas emissions and water consumption	Gender equality and inclusion in workplace

Sustainability index	Dow Jones Sustainability Index.	MSCI ESG Ratings.	Sustainalytics ESG Risk Ratings.	Carbon Disclosure Project.	Bloomberg Gender-Equality Index
Peculiarities	Index among the best known and appreciated	Focuses mainly on the long term	Focuses on ESG risks not managed on known by companies	Cities can also participate in this index	Stimulate change at an organizational level
Score Type	Valuation from 1 to 100	Valuation from "AAA to CCC"	Valuation from 1 to 100	Valuation from "A to D (-)" for greenhouse emissions. Valuation from "A to F" for water consumption	Valuation from 1 to 100
Point of strengths	Historical reliability	International company coverage on a wide range of ESG aspects	Detailed assessments on sustainability criteria	Wide participation from public	Social responsibility message
Point of weakness	Short-term orientation lack of sectorial uniformity breadth and randomness of ESG criteria	Focus on data publicly available, focus on larger companies, lack of division by sector	Limited coverage of companies on the market, lack of sectorial uniformity	Focus on climate change, self reported data retrieval	Limited rating factors, lack of standardization data
New matrix proposed	Standardization for each sector, focus on analytical results	Data collection from companies, also referring to smaller companies	Standardization for each sector	Greater coverage also from the social and governance areas	Greater coverage also from the environmental and governance areas

Source: Own elaboration

In addition, this research also lays the foundations for a further study, as the only question still open lies in the weight to be given to each area of the matrix.

The contribution of this research aims to be a prerequisite for a future development of the transversality of the proposed model and specifically, thanks to this index, easily comparable analytical results will be obtained between companies operating in the same sector; However, given the objective difficulty of comparing two companies that operate in different sectors, a further research path will have the aim of developing a mathematical parameter useful for giving the right importance to each matrix, depending on the sector it belongs to.

Summarizing, it can be assumed that depending on the nature of the reference company, a different score could be elaborated to be assigned to the overall final result of one of the three matrices. For example, for a company whose core business is the exploitation of oil fields, environmental criteria may have greater weight than social or governance criteria, depending precisely on the nature of the company and its objectives. This classification could also be useful as a deterrent, in order to prevent a certain company that works in close contact with the surrounding physical environment from going to offset its emissions, and therefore its negative score of the environmental matrix, focusing mainly on remaining social and governance matrices.

The final objective will be to have a "thoughtful" numerical result, a consequence of the different importance of various results from each matrix, depending on the sector in which the company operates.

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