

Review

# Review of Possibilities for Evaluating the Performance of an Organization in the Aspect of Greenness

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**Abstract:** Due to the increasing relevance and importance of sustainable development pursuit, it can be assumed that organizations are striving to develop in a green direction. This is not only related to raising awareness of modern society but also to legal regulation and strategic documents for achieving the goals of sustainable development at the international level, especially affecting certain fields of activity such as energy or manufacturing. It is noticed that there is still a lack of definition in the scientific literature of what kind of organization is considered green. Therefore, it is appropriate to create a green organization benchmark against which organizations can assess their current level of greenness and identify areas for improvement. This research aimed to choose the most suitable approach for developing a green organization benchmark by examining the methods for evaluating an organization's performance in terms of greenness according to defined attributes. Applying the methods of systematic and comparative analysis of scientific literature and strategic documents, content analysis, grouping, and synthesis, it was determined that the approach of resources of an organization can be considered the most suitable for creating a green organization benchmark. However, it is reasonable to supplement it with an evaluation of external environmental factors.

**Keywords:** green organization; performance evaluation; sustainable development goals; resources; value chain; management functions



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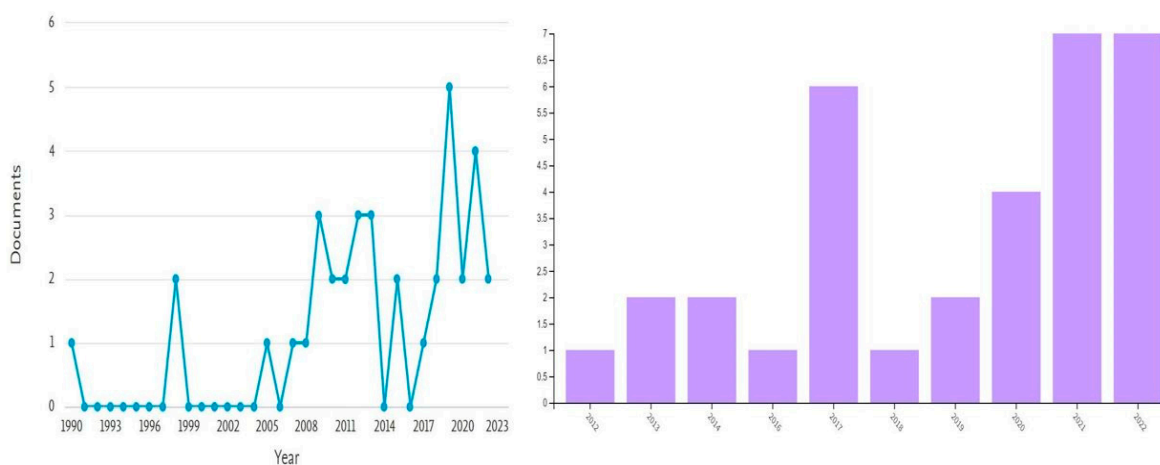


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## 1. Introduction

In the modern world, global society is increasingly focused on the pursuit of sustainable development. This is evidenced by the active involvement of public figures, such as Greta Thunberg and James Hansen, and organizations of global significance such as the OECD and the UN, as well as countries around the world, in tackling the challenges of economic development, social welfare, and environmental quality. The importance and relevance of the pursuit of sustainable development are further supported by a number of strategic documents and directives at the international level, such as the European Green Deal, the Paris Climate Change Agreement, the EU Biodiversity Strategy, the “From Field to Table” strategy, the European Climate Pact, the European Climate Law, the European Industrial Strategy, GreenComp: European Competence Framework for Sustainable Development, and others. In 2015, the UN approved the Sustainable Development Agenda 2030 [1], which sets 17 Sustainable Development Goals, covering the areas of improving the social environment, economic development, environmental protection, and cooperation. All UN member states are committed to implementing these goals [2]. It can be stated that mentioned strategic documents and directives especially affect certain fields of activity, such as energy or manufacturing, where organizations are directly related to net-zero global commitments, that means cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere, by oceans and forests [3]. According to [3], the energy sector is the source of around three-quarters of greenhouse gas emissions today and holds the key to averting the worst effects of climate

change. Replacing polluting coal, gas, and oil-fired power with energy from renewable sources, such as wind or solar, would dramatically reduce carbon emissions [3]. The energy sector is responsible for more than 75% of the EU's greenhouse gas emissions, so increasing the share of renewable energy across the different sectors of the economy is therefore a key building block to reach the EU's energy and climate objectives of cutting greenhouse gas emissions by at least 55% (compared to 1990) by 2030 and becoming a climate neutral continent by 2050 [4]. The relevance of the pursuit of sustainable development is also confirmed by the active localization of international strategic documents at the national level. For example, based on the set of recommendations for Sustainable Development Goals [2], the implementation of the sustainable development goals in Lithuania at the national level is ensured by legal regulatory measures and at least 52 strategic documents, which include national-level strategies, development and prevention action programs, institutional plans, and recommendatory guidelines. The sheer volume and content of such documents suggest that the implementation of the sustainable development goals should be considered high priority when determining the direction of legal regulation and state policy-making. It should be noted that both the instructions of strategic documents and legal regulatory measures, as well as the growing awareness of people's resolve to pursue the sustainable development goals, influence the aspirations of modern organizations to transform themselves toward the implementation of sustainable development priorities [5–7]. It is noted that green organizations can be considered as one of the measures to achieve the sustainable development goals [8]. Organizations' willingness to develop in a green direction is stimulated not only by the organization's own pursuit of sustainable development, but also by certain benefits, such as increasing the organization's competitive advantage [9,10] and a positive impact on operational profitability [9,11]. Although much scientific research is currently devoted to the development of organizations in a green direction, it is noticeable that there is still a lack of definition of what kind of organization is considered as green [12,13]. It can be noted that topic of green organization is not still widely discussed in the scientific literature. Search for the studies on the topic was conducted among Scopus and Web of Science scientific databases using keywords "green organization" OR "green organisation" OR "green company" since 1990 (All fields). The search on the Scopus database resulted into 37 publications on the topic since 1990. The search on the Web of Science Core Collection database resulted into 41 publications on the topic since 1992. Search results in both databases show growth of publications on the topic since 2017 (see Figure 1).



**Figure 1.** Publications on the topic in the Scopus (left) and Web of Science (right) databases since the year 1990 (source: Scopus and Web of Science search analysis tools).

To compare with, other search was conducted in order to analyze the number of publications with keyword "green" in the field of social (and closely related) sciences

since 1990. The search on the Scopus database (Subject Area: Social Sciences) resulted into 16,028 publications on the topic. The search on the Web of Science Core Collection database (Web of Science Categories: Economics or Business or Business Finance or Social Sciences Interdisciplinary or Management) resulted into 5839 publications on the topic. It is noticed that term green is used by the scholars defining different areas of organization's performance. It can be assumed that there is a lack of constant studies of an organization as a whole in the aspect of greenness. While analyzing the research made on the level of greenness of the organization in the scientific literature it is noticed that most of the research focuses on the more detailed aspect of the greenness of certain elements of the organization or on increasing the greenness, and lacks a systematic approach to the interrelationships of these elements with other elements of the organization [14,15]. According to previous research [8,15] on the topic of green organization done by the authors of this review, it can be assumed that there is a need for a tool that can be used by organizations to assess their current situation in terms of greenness and to determine developmental directions. Therefore, it is reasonable to create a green organization benchmark against which organizations can assess their current level of greenness and identify areas for improvement. It is also noticed by the authors of this review that the topic of green organization from perspective of creation of green organization benchmark is not very studied by scholars yet. Thus, guidelines for the development of green organization benchmark are not provided in the scientific literature. After studying a number of scientific literature sources authors of this review decided to develop green organization's benchmark by evaluating the performance of an organization in terms of greenness. For that purpose, it is first necessary to choose the most suitable approach for evaluating performance of an organization in order to create a green organization benchmark, which would be applicable for organizations with different fields of activity (energy, manufacture, services, etc.). The most suitable approach chosen for evaluation of performance of an organization in terms of greenness will be used as a basis for further creation of a green organization benchmark and its approval in companies will be conducted as a follow-up to this study in the future.

The purpose of the research is to examine the methods of evaluating performance of an organization, to determine their potential in the terms of ability to evaluate performance of an organization from the aspect of greenness and to choose the most suitable one for creating a benchmark.

Objectives of the research:

1. To identify the attributes based on which the suitability of the organization's performance evaluation methods for developing a green organization benchmark can be analyzed;
2. To examine a variety of methods for evaluating an organization's performance and assess its suitability for creating a green organization benchmark;
3. Based on the comparison of suitability assessment results, to choose the most suitable approach for creating a green organization benchmark.

The following methods were used for the research: systematic and comparative analysis of scientific literature and strategic documents, content analysis, grouping, and synthesis.

## **2. Challenges in Selecting an Approach to the Organization's Performance Evaluation in Terms of Greenness: A Literature Review**

Various issues of organization's performance evaluation have been studied for several decades. It can be argued that the choice of an organization's performance evaluation system must be understood as an individual system formation for each organization [16–19]. Organizations can choose to develop their own individual performance evaluation systems or to adapt existing performance evaluation systems (models/methods). The scientific literature offers a wide variety of methods for evaluating an organization's performance. The analysis of these methods reveals that the authors of such works have identified many different objects of evaluation (see Table 1).

**Table 1.** The variety of methods for evaluating an organization's performance according to the objects of evaluation.

Objects of Evaluation	Author(s)
Assessment of the impact of information and communication technologies (e.g., Industry 4.0, the Internet of Things, machine learning, artificial intelligence, robotics, cloud computing) on 22 organizational performance indicators identified according to Lean Six Sigma and quality management standards (e.g., ISO)	Yadav et al. [20]
Human resources results, financial performance, non-financial performance	Khan and Naeem [21]
Management functions	Sabiu et al. [22]
Organization's establishment decisions, organizational environment, core activities, labor resources, assets, costs, solvency, investments, operational efficiency	Bivainis [17]
Leadership, people management, policy and strategy, resources and processes, people satisfaction, customer satisfaction, impact on society, and business results (European Foundation for Quality Management)	Dror [23]
Areas of activity: <ul style="list-style-type: none"> <li>- Analysis of the main (production, commercial) activities (company environment, types of operational risks, organizational technical level, marketing activities, long-term tangible assets, long-term financial assets, intangible assets, short-term assets, work indicators (for employees' productivity, wages, working hours), expenses, cost—volume—profit, probability of bankruptcy, activity, and prospects)</li> <li>- Financial performance analysis (financial statement indicators, short-term solvency, long-term solvency, working capital, financial leverage, profit, profitability of sales, profitability of assets, capital efficiency, capital market, cash flows)</li> <li>- Analysis of investment activities (types of investments, current and future value of money, periodic value of cash flows, securities risk, shares and bonds, investment projects, efficiency of investment activities)</li> </ul>	Mackevičius [24]
Resources of an organization: human, financial, organizational (intangible), technical-technological	Sekliuckienė [25], Úbeda-García et al. [26], Sabiu et al. [22]
Supply chain (suggests evaluating relationships with suppliers, the information exchange process)	Giannakis [27], Baihaqi et al. [28], Alfalla-Luque et al. [29], Gawankar [30]
<ul style="list-style-type: none"> <li>- Financial measures related to revenue, profit margins, or investment profitability indicators</li> <li>- Customer/market measures relating to the relationship between the company and its customers</li> <li>- Process measures that show the effectiveness and extent of continuous business process improvement in the organization</li> <li>- People development tools (e.g., quality of employee skills, commitment to technological leadership, and human resources development)</li> <li>- Preparing for future measures (e.g., excellence in strategic planning, critical partnerships and pacts, anticipation and preparation for future challenges in the business environment, and investments in new markets and technologies)</li> </ul>	Maltz et al. [31], Tubigi and Alshawi [32]
Finance, customers, internal business processes, training, growth	Kaplan and Norton [33], Folan and Browne [34], Večerskienė and Valančienė [35]

Source: compiled by the authors.

It should be noted that the performance of an organization can be evaluated according to various objects of evaluation, such as financial indicators, quality criteria, areas of activity, resources of an organization, supply chain, and management functions.

Depending on the exact objects of evaluation, the relevant instruments for evaluating an organization's performance are selected, which some authors refer to as methods and others as systems or models. In this research, the wording *organization's performance evalua-*

*tion methods* has been chosen to refer to the instrument for evaluation of the performance of an organization. Ref. [18] distinguished four main groups of methods for evaluating the performance of small and medium-sized enterprises: (1) Performance evaluation, where evaluation systems are created by adapting the performance evaluation systems of large companies; (2) Performance evaluation using integrated performance evaluation systems for small and medium-sized businesses; (3) Performance evaluation using models designed to analyze specific performance evaluation issues of small and medium-sized businesses, such as performance and customer orientation; (4) Performance evaluation using performance evaluation systems that are formed on the basis of scientific research. Within the framework of this research, the methods chosen to evaluate an organization's performance are based on scientific research.

It is noticed that performance of organizations is evaluated with more and more recent approaches, taking into account contemporary global and organizational development issues. For example, Ref. [20] suggested a performance evaluation which takes into account the impact of Industry 4.0, the Internet of Things, machine learning, artificial intelligence, robotics, and cloud computing on an organization.

The scientific literature presents a wide range of methods for evaluating the performance of organizations, and in order to make an informed choice, it is necessary to determine the attributes of the analysis methods for evaluating the performance of an organization (see Table 2).

**Table 2.** Attributes of the analysis methods for evaluating an organization's performance.

Attribute	Kaplan and Norton [33]	Folan and Brownie [34]	Rudzkiene and Burinskiene [36]	Večerskiene and Valandienė [35]	Mackevičius [24]	Dror [23]	Derfuss [37]	Christauskas and Kazlauskienė [38]	Slizytė [16]	Sousa and Aspinwall [39]	Carlucii [40]	Venckevičiūtė and Subačienė [18]	Alfalla-Luque et al. [29]	Kozyriūtė [19]	Total
Adaptability	+		+	+					+	+		+			6
Relevance													+		1
Feasibility										+					1
Complexity (Systematicity)	+	+		+		+		+	+	+		+	+		9
Flexibility (Dynamics)		+										+			2
Consistency		+											+		2
Objectivity					+										1
Comparability													+		1
Measurability	+	+	+	+	+	+	+		+			+		+	10
Simplicity, Comprehensibility		+								+	+				3
Reliability (Validity)										+	+				2
Sustainability										+		+			2

Source: compiled by the authors. Attributes of the analysis methods for evaluating an organization's performance identified during the analysis of the scientific literature sources are marked in the table by "+".

During the analysis of the scientific literature, 12 attributes were identified, three of which may be considered more emphasized in the scientific literature than the others:

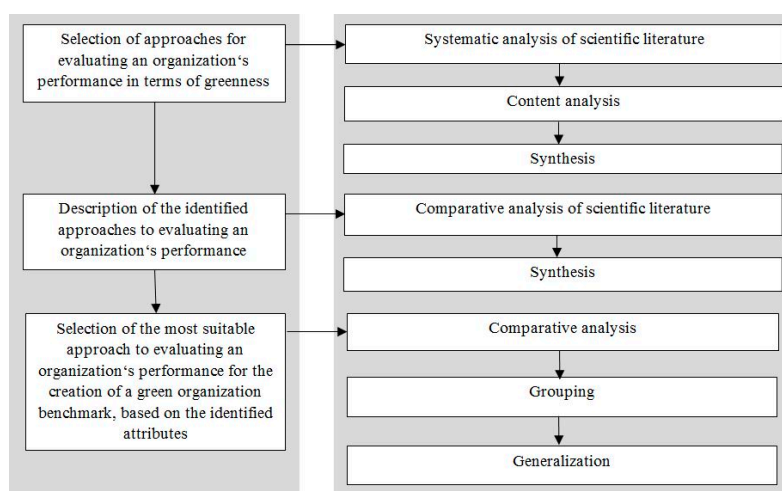
- Measurability—the possibility to select measurable evaluation indicators. Many of the analyzed scientific literature sources [16,18,19] emphasize the importance of quantitative indicators, which can be used to quantify any complex phenomenon

- expressed by many indicators. A set of quantifiable indicators would allow the creation of a benchmark for a green organization—a tool that would help organizations assess their current level of greenness and identify areas for improvement by comparing the absolute values of the benchmark with the results of their performance indicators. It should be emphasized that multi-criteria evaluation methods integrating quantitative and qualitative indicators are also used to evaluate an organization's performance;
- Complexity—the ability to examine an organization as a system by assessing its elements and their interrelationships and taking into account the external environment of an organization. According to [23,29,39], complexity allows to analyze an organization in a comprehensive way, taking into account both the internal and external factors affecting the performance of an organization. Evaluating the elements of an organization not in isolation but as a whole and analyzing their mutual interactions considering the impact of the external environment provides a basis for a detailed evaluation of an organization's performance from the aspect of greenness, diagnosing strengths and weaknesses. Based on the results of such studies, reasonable solutions can be found for improving the performance of an organization and increasing efficiency;
  - Adaptability—the ability to adapt an organization's performance evaluation method to organizations that are different in the nature of their activities. In order to make the green organization benchmark applicable to various organizations, consideration should be given to the possibility of adapting the benchmark to various types of organizations.

Considering the results of the analysis, it can be stated that the attributes of adaptability, complexity and measurability, which are mostly mentioned in the scientific literature, are the most suitable for assessment of organization's performance evaluation methods in order to choose the most suitable for the creation of the benchmark for the evaluation of the organization's performance in terms of greenness.

### 3. Research Methodology

With the aim of examining the variety of approaches to evaluating an organization's performance, assessing their suitability for the creation of a green organization benchmark, and selecting the most suitable approach for the creation of a green organization benchmark, it is appropriate to conduct the theoretical study in several stages, each of which is defined by the appropriate research method (see Figure 2).



**Figure 2.** Methodological scheme of the research (source: composed by the authors).

*In the first stage*, the selection of approaches to evaluate an organization's performance in terms of greenness was carried out. To identify the approaches to evaluating an organization's performance associated with green organizations in the scientific literature, the

content analysis method was applied within the framework of this study. The content analysis method allows textual information and written sources to be examined according to a selected indicator, for example, a topic that reflects certain attitudes, interests, values, norms of activity, etc. [41,42]. According to [43], in the preparation stage of the content analysis method, it is important not only to select documents for analysis but also to assess their authenticity, representativeness, meaningfulness, completeness, and reliability. Therefore, the keywords *green organization* and *performance*, which correspond to the objective of this research, were used to find information and select an approach to evaluating a green organization's performance. Ref. [43] noted that a disadvantage of this research method may be the fact that the indicator chosen for analysis (for example, a word) may be understood differently by different authors and therefore be given different meanings. It should be noted that the adjective *green* used in the scientific literature is no longer just a characteristic of the color of a physical object. As early as 2012, Ref. [44] stated that the color green can be assigned to a group of metaphorical terms in which colors are given certain meanings. According to this author, in economic terminology, the color green is associated with things that are ecological and environmentally friendly, such as green tax, green tourism, green energy, and the use of metaphorical terms in the terminology of a certain field of science is closely related to the research objects in that field. According to [45], the color green is most often included as an active element in the composition of a term to create a metaphor related to environmental protection, environmental goals, nature conservation and nurturance, and the fight against climate change (green economy, green growth). Ref. [44] identifies the concept of the adjective *green* as problematic because it has many meanings, and emphasizes that administrative language increasingly uses the adjective *green* in the sense of "ecological, conforming to the laws of nature, harmless to the environment, preserving it, produced from renewable sources" as in green accounting, green diplomacy, green energy, green electricity, green enterprise, green (environmental) tax, green product, green revolution, green public procurement, green zone. According to [46], the color green in advertising communications usually indicates that the product is natural, not artificial. In conclusion, it can be assumed that the adjective *green* may be attributed to metaphorical terms, which have different meanings depending on the research object of the scientific branch. In this research, the adjective *green* used in the wording *green organization* refers to those organizations that integrate green initiatives and practices into their activities in different areas to meet their environmental objectives, social well-being, and economic growth. The selection of scientific sources related to the green organization was focused on literature in the field of social sciences. The results of the content analysis of the selected scientific literature sources were processed according to the general features of the topic, which can be attributed to the possible methods for evaluating an organization's performance.

*In the second stage*, after performing a comparative analysis and synthesis of the scientific literature, the identified approaches to evaluating the organization's performance were described. *In the last stage*, a comparative analysis of the suitability of each organization's performance evaluation approach to creating a green organization benchmark was performed according to the identified attributes. After grouping, interpreting, and generalizing the results of the analysis, the most suitable approach to evaluating an organization's performance was determined to create a green organization benchmark.

#### **4. Selection of Organization's Performance Analysis Approaches Suitable for Creating a Green Organization Benchmark**

To clarify which approach to an organization's performance evaluation is suitable for the analysis of the organization's performance from the aspect of greenness, a selection of scientific literature was carried out for further content analysis. The scientific literature sources were selected in the Web of Science Clarivate Analytics database according to the search criteria: "green organization" (All fields) or "green organisation" (All fields) or "green company" (All fields), and "performance" (All fields). According to these search

criteria, 60 sources of scientific literature were found. After narrowing down the search to only literature sources attributable to the categories of social sciences (Web of Science Categories: Social Sciences Interdisciplinary or Management or Business or Economics), 17 articles were selected for further analysis, 12 of which met the following criteria set for the documents selected for content analysis: authenticity, representativeness, meaningfulness, completeness, and reliability. After analyzing the content of all 12 selected articles according to the selected topic indicator, the obtained results were processed distinguishing the common characteristics of the *topic*, which can be attributed to the possible methods of evaluating an organization's performance (see Table 3).

**Table 3.** Determining the suitable approaches to analyzing a green organization's performance.

No.	Year	Authors	Analyzed Topic	Method of Organization's Performance Evaluation			
				Resources of an Organization	Value Chain	Management Functions	Other
1	2009	Yu et al. [11]	Resources efficiency	+			
			Sustainable value		+		
			Environmental management				+
2	2009	Rocky J. Dwyer [47]	Performance management				+
			Management accountability				+
3	2010	Jennings and Zandbergen [12]	Ecological sustainability of organizations				+
4	2012	Ormazabal and Sarriegi [48]	Environmental management				+
5	2013	Cai and He [9]	Corporate environmental responsibility				+
			Market efficiency				+
6	2015	Yusoff et al. [13]	Green human resources management	+			
7	2016	Fan et al. [5]	Green supply chains				+
			Resource-based view	+			
8	2017	Bangwal et al. [49]	Workplace design				+
			Green building	+			
			Work satisfaction				+
9	2019	Leszczynska and Karman [14]	Green human resource management	+			
			Environmental management				+
10	2020	Ormazabal et al. [50]	Eco-innovations	+			
			Leading green company				+
			Maturity stages				+
11	2021	Liu et al. [51]	Green human resources management	+			
12	2021	Yoo et al. [7]	Green supply chain				+
Total:				8	3	6	6

Source: compiled by the authors. Possible methods of evaluating an organization's performance according to the results of conducted content analysis of each selected scientific literature source are marked in the table by "+".

Based on the results of the analysis, the following three approaches to evaluating an organization's performance related to the purpose of the research were determined: resources of an organization (adopting a resource-based view), value chain, management functions. General topics that did not fit into any or fit all of the sections of the organization's performance evaluation were assigned "Other" (for example, market efficiency, workplace design, job satisfaction, and others) and were not considered during further analysis. For a



deeper analysis of the suitability for the development of a green organization benchmark, the three mentioned approaches to an organization's performance evaluation were selected for examination according to the defined attributes.

#### 4.1. Suitability Assessment of the Approach of Resources of an Organization to Developing a Green Organization Benchmark

Organizations have certain resources at their disposal. According to [52], a resource can be considered anything that has an enabling capacity, and the concept of a resource-based approach plays a key role in helping companies gain a competitive advantage. The scientific literature provides many different classifications of an organization's resources (see Table 4).

**Table 4.** Organization's resources classification diversity.

Classification	Author
Physical (plant, equipment, physical technology, access to raw materials, geographical location), human (intelligence, experience, training, relationships, characteristics, and abilities of employees and managers), organizational capital (reporting structures, informal and formal planning, the company's entire organizational process), financial resources (property, debts, retained earnings)	Barney [53,54], Khan and Naeem [21]
Perceived human resources practices, clarity of organizational goals, senior management leadership, organizational adaptivity, strategic alignment, organizational autonomy	Albrecht et al. [55]
Human, financial, organizational (intangible), technical-technological Tangible, intangible	Sekliuckienė [25]
Labor resources, financial resources, technical (technological) resources, organizational culture	Bivainis [17]
People, money, raw materials, capital Tangible, intangible	Certo and Certo [56] Martín-Hidalgo and Pérez-Luño [57]

Source: compiled by the authors.

It is also noticeable that the scientific literature presents different opinions on the distribution of the components of resources of an organization, such as in the case of components of organizational (intangible) resources [58,59]. Although there are different classifications, it is possible to distinguish the main groups of resources of an organization: human resources, organizational resources, technical-technological resources, and financial resources. It can be argued that by applying a systemic approach, these resource groups can be treated as elements of the organization as a system.

The resources of an organization can be examined in various ways, one of which is through the prism of the input-process-output (IPO) concept. Interpreting McGrath's (1964) concept of IPO, Ref. [60] argues that the outcome of an "output" is determined by the "processes" to which the "input" leads. Models based on the IPO concept may differ in certain aspects but share a common "input" factor that influences the "output" factor through a "process" [61]. When applying the IPO concept, it is possible to treat resources as input and examine the output (product) obtained during the transformation process.

When evaluating the measurability of resources of the organization, it has been observed that researchers propose various methods to evaluate each resource. For example, human resources evaluation is characterized by a variety of evaluation methods. Ref. [62] suggests evaluating human resources in several stages, which include: business strategies (costs, innovation, quality); content of human resources management (resources, development, reward, relationships); human resources management processes (distinctiveness, consistency, consensus), human resources management experience (resources, development, rewards, relationships), employee attitudes (job satisfaction, motivation, organizational commitment), employee behavior (employee commitment, organizational citizen behavior, cooperation, intention to leave) and performance (productivity, growth, creativity). In

addition, it has been proposed to examine human capital based on income and expenditure methods, which are based on acquired education, experience, and skills, whereby the value of each individual's human capital is calculated as income received from participation in the labor market [63,64]. Depending on the chosen objective of the organization's human resources evaluation, the selected evaluation indicators will also differ. For example, to assess the supply of employees, it is appropriate to calculate a supply level criterion based on their individual characteristics (profession, nature of work, etc.). To assess the turnover of employees, it is appropriate to calculate the employee turnover rate or the employee stability ratio [17]. It can be concluded that depending on the purpose of the evaluation, evaluation indicators can be selected for each group of organization's resources.

After analyzing the theoretical aspects of resources of an organization, an assessment of the suitability of this approach was carried out according to the established attributes (see Table 5).

**Table 5.** Suitability assessment of the approach of resources of an organization according to identified attributes.

Attribute	Suitability Assessment
Adaptability	Organizational performance analysis from the perspective of resources can be applied to all organizations, as each has resources at its disposal Suitable
Complexity	An organization can be analyzed as a system, evaluating resources as subsystems of this system, but the analysis is limited to the level of the organization's internal environment and does not consider the factors of the external environment Partially suitable
Measurability	Evaluation indicators can be selected for each group of resources of an organization Suitable

Source: compiled by the authors.

The analysis of evaluating an organization's performance through the approach of resources of an organization identified a disadvantage in the application of this approach: the focus of management decisions on increasing the competitive advantage. There is a consensus that the resource-based approach does not focus on the essential consequences of management decisions [65,66]. It can be assumed that such an approach may focus on the most efficient use of resources to achieve a competitive advantage. Therefore, the management decisions of an organization will be focused on profit maximization over the implementation of sustainable development goals.

#### 4.2. Suitability Assessment of the Value Chain Approach to Developing a Green Organization Benchmark

Value is the result of the customer's continuous assessment of the organization, i.e., the customer creates and determines value through simultaneous and determines it in concurrent, repeated consumption experiences, and defines value as the subjective meaning of the repeated and accumulated consumption experiences [67,68]. According to [69], a business model essentially is the logic of value creation and the structure that implements it, as well as the operational environment of value creation logic. The scientific literature presents a variety of value chain concepts (see Table 6).

It should be noted that the value created by different organizations varies depending on the specifics of the organization's activities. For example, the steps of the chain of social value creation are the stages through which social value can be created by solving social problems, and the chain of social value creation partly provides a way of linking economic activity to the social mission [69]. Meanwhile, the added value created by for-profit organizations is oriented toward the result.

**Table 6.** Diversity of value chain concepts.

Definition	Authors
A set of core activities (direct production activities or activities that support the final production of goods offered to customers)	Hitt et al. [70]
The activities required to transform a product from idea to market	Jonikas [71]
A tool that divides a business into strategically important activities	Walters and Lancaster [72], Budrys [73]
Series of activities that add value to a product	Toussaint et al. [74]

Source: compiled by the authors.

There are different opinions on value chain analysis in the scientific literature. Ref. [75] proposed to examine the value chain by distinguishing between core and supporting activities. The core activities include inbound logistics activities, production, outbound logistics activities, marketing and purchasing, and service while supporting activities include corporate structure, human resources, technology development, and purchasing. According to [71], the value chain includes product development, different stages of production, raw material extraction, semi-finished products, component manufacturing and assembly, distribution, marketing, and even waste recycling. McKinsey & Company consultants propose to examine value creation through six different distinct but related groups of actions: technical progress, product design, production, marketing, distribution, and services, and specific actions are carried out in each of these groups [76,77]. Ref. [78] offer three perspectives for examining value creation:

1. Economic value centered on the efficiency of product development. For the customer, economic value is high quality at a low price;
2. Market value is about providing an attractive range of products at the right time and in the right place;
3. Suitability, which includes the customization of value-added services that benefit customers. Convenience value means that products and services are changed, sorted, and grouped in a way that is much more attractive to the customer. Customization is achieved by incorporating specific components into products to enhance the functionality desired by a particular customer.

The work of Ref. [79] emphasizes such models of product value creation for the consumer as the theory of economic profit, the consumer value model of the product development process, the risk value method, and the design structure matrix. It can be concluded that the value creation chain can be examined from different aspects, so the choice of indicators depends on the purpose of the evaluation. The analysis of the organization's performance evaluation using the value chain approach resulted in an assessment of the suitability of this approach according to the defined attributes (see Table 7).

The suitability analysis of this approach to developing a green organization benchmark identified a fundamental disadvantage; namely, the authors' opinions on the classification of green supply chain components in the context of the green value chain differ. While some authors consider the green supply chain as part of the green value chain, other authors distinguish certain elements of the green supply chain as separate components of the green value chain [80–82]. It can be said that there is no unified opinion on the definition of the value chain and the elements attributable to it, which increases the risk of inaccuracies when creating a green organization benchmark based on the value chain approach.

**Table 7.** Suitability assessment of the value chain approach according to identified attributes.

Attribute	Suitability Assessment	
Adaptability	Adaptable to different types of organizations, but the identified value created will vary depending on the nature of the organization	Partially suitable
Complexity	The value chain includes both internal and external environments, but the sequential nature of elements in the value chain limits the possibility of applying a systematic approach to the study of the relationships between the elements and their mutual effects	Partially suitable
Measurability	The sequence of elements in the value chain allows for determining the evaluation indicators for each element, but the value created and its evaluation depend on the nature of the organization's activities and the purpose of the evaluation	Partially suitable

Source: compiled by the authors.

#### 4.3. Suitability Assessment of the Management Functions Approach to Developing a Green Organization Benchmark

In the scientific literature, organizational management functions are divided into general and special functions [83]. General management functions are repeated across different processes [84,85]. General management functions include planning, organizing, leading, and controlling. According to Ref. [86], although all organizations share the same general management functions, the management tends to differ due to the diversity of organizations and the diverse nature of their activities. Special management functions refer to those whose composition is determined by the specifics of the managed object's activity. The scientific literature contains a variety of opinions regarding which management functions should be considered special functions, but there is no clear set of special functions (see Table 8).

**Table 8.** Special management functions.

Special Management Functions	Authors
Technical, production, marketing, financial, and other functions	Gerasymchuk [87]
Special management functions include policy control, marketing management, sales control, procurement management, financial management, quality management system, human resources management, production management	Danilava [88]
Organization of the appropriate structure, support, and modification (improvement, adjustment) of optimal advertising of the assortment of consumer goods, continuous internal and systematic external control (audit) of the management	Maleca [89]
Organization policy, human resource management, production management, marketing function, the implementation function is assigned to sales managers, procurement function assigned to supply managers, financial management, the function of the quality management system	Nebelyuk and Shishko [90]

Source: compiled by the authors.

It should be emphasized that the general management functions are common to all organizations, and different evaluation methods are offered for each of the main management functions. Meanwhile, the set of special functions depends on the specifics of an organization and the nature of its activity, so the choice of performance evaluation method will therefore differ accordingly. Analyzing the indicators from the perspective of management functions, it can be stated that there are clearly defined indicators for the evaluation of special management functions in the scientific literature. For example, quantitative (e.g.,

financial return on marketing), qualitative, and balanced indicator analysis methods are applied when evaluating the effectiveness of marketing activities [91]. Ref. [92] claim that financial indicators of marketing efficiency are focused on profit assessment (increasing sales, increasing profits, income, and market share), whereas non-financial indicators are focused on customer satisfaction (brand awareness, consumer satisfaction, quality of goods and services, interpersonal relations, competitiveness). It can be stated that measurable evaluation indicators can be selected for the analysis of an organization's performance in terms of its management functions, depending on the nature of the organization's activity and the purpose of the analysis.

After analyzing the theoretical aspects of the management functions, an assessment of the suitability of this approach was carried out according to the defined attributes (see Table 9).

**Table 9.** Suitability assessment of the management functions approach based on the identified attributes.

Attribute	Suitability Assessment	
Adaptability	Universal in the context of general management functions and limited in the context of special management functions	Partially suitable
Complexity	The analysis focuses on the management of an organization's internal processes without evaluating the factors of the external environment	Partially suitable
Measurability	The evaluation indicators for special management functions will vary depending on the nature of the organization's activities	Partially suitable

Source: compiled by the authors.

Analyzing the suitability of this approach for the creation of a benchmark for a green organization, the essential advantage of the management functions approach was identified, namely the wealth of research into the individual special functions in terms of greenness in the scientific literature. Many studies are devoted to green marketing, green human resources management, and green finance. However, this aspect can also be attributed to disadvantages. Due to the strong focus on the aspects of individual special functions' greenness, there is a lack of linkage with other management functions. This allows assuming that the analysis of an individual organization's special function in the context of the whole organization can be fragmentary. Another identified disadvantage of the management functions approach is the absence of a clear set of special functions.

## 5. Identification of the Most Suitable Approach to Evaluating Performance of an Organization for the Creation of a Green Organization Benchmark

Table 10 presents a comparison of the suitability assessment results of the analyzed approaches to choose the most suitable approach to evaluating an organization's performance for the development of a green organization benchmark (see Table 10).

**Table 10.** Comparison of the analyzed approaches in terms of their suitability for the development of a green organization benchmark.

Attribute	Resources of an Organization	Value Chain	Management Functions
Adaptability	+	+/-	+/-
Complexity	+/-	+/-	+/-
Measurability	+	+/-	+/-

Source: compiled by the authors. Suitability for the development of a green organization benchmark of each analyzed approach is marked by + (suitable) or +/- (partially suitable).

Taking into account the identified advantages and disadvantages of an organization's performance evaluation approaches, it can be said that the most suitable option for creating a green organization benchmark is the approach of resources of an organization since this approach corresponds to the attributes of adaptability and measurability more than others. However, when applying an approach of the resources of an organization to creating a green organization benchmark, it was observed that this approach only partially corresponds to the attribute of complexity. Therefore, in order to address the attribute of complexity, it is suggested that the creation of a green organization benchmark based on the resources of an organization should be supplemented with an assessment of the impact of external environmental factors on the organization's activity, i.e., it is appropriate to include an assessment of the impact of general and special external environmental factors on the green organization. The general environment of an organization includes the natural, demographic, economic, social, political, legal, cultural, and technological environment, while the special environment includes consumers, competitors, and suppliers. The evaluation of the external environment is important to reduce the uncertainty of the environment and the negative impact of its changes on organizational performance. It is reasonable to include an assessment of the external environment in the creation of a green organization benchmark since certain factors in the external environment of organizations, such as legal regulation, directly and indirectly, affect the organizations' willingness to transform in a green direction, especially in certain fields of activity, such as energy or manufacturing.

## 6. Conclusions

Responding to the importance of the pursuit of sustainable development in modern society, it can be stated that an increasing number of organizations are striving to develop in a green direction. Therefore, a tool applicable to organizations with different fields of activity (energy, manufacturing, services, etc.) is needed to help organizations to assess the current situation in terms of greenness and determine directions for development. In this research, the aspect of the greenness of an organization's performance refers to an integration of green initiatives and practices into day-to-day activities aiming to meet its objectives of environmental, social well-being, and economic growth. It can be stated that it is appropriate to create a green organization benchmark against which organizations can assess their current level of greenness and identify areas for improvement. When creating such a benchmark, one of the important tasks is to determine the most suitable approach to evaluating an organization's performance. Thus, this research aimed to choose the most suitable approach for developing a benchmark by examining the methods for evaluating an organization's performance in terms of greenness.

After the analysis of the scientific literature, the essential attributes were defined, on the basis of which the suitability of the organization's performance evaluation approaches can be analyzed for the creation of a green organization benchmark: adaptability, complexity, and measurability. After systematizing the results of the methods analysis for evaluating an organization's performance, the three approaches suitable for the creation of a green organization benchmark were selected: resources of an organization, value chain, and management functions. It was determined that the most suitable approach to creating a green organization benchmark is the approach of resources of an organization, as this approach corresponds to the attributes of adaptability and measurability more than the other identified approaches. However, when applying the approach of resources of an organization to the creation of a green organization benchmark, it is important to consider that this approach does not include the impact of factors of the external environment. Therefore, when creating a green organization benchmark for evaluating an organization's performance on the basis of the approach of resources of an organization, it is reasonable to supplement this approach with an evaluation of factors of the external environment to address the attribute of complexity.

The strengths of this research can be defined by its relevance, novelty, and originality. The topic of the research is relevant according to nowadays actualities as the emergence of

green organizations and their further development is considered one of the measures to achieve the Sustainable Development Goals. The research was conducted aiming to fill the gap in the scientific research that there is still a lack of definition of what kind of organization is considered green. The novelty of the research is defined by the decision of the authors to analyze the aspect of the greenness of an organization in terms of its performance evaluation. The originality of this research can be defined by chosen attitude to analyze the topic from different perspectives combining different research methods (systematic and comparative analysis of scientific literature and strategic documents, content analysis, grouping, synthesis) in several stages in order to identify the most suitable approach for evaluating an organization's performance in the aspect of greenness. The limitation of this research is that the Web of Science database was chosen as a basis for the search for documents on the topic. Therefore, the results of the analysis would not be comprehensive enough. However, the content analysis provided in this review paper resulted in the choice of the most suitable approach for evaluating an organization's performance for the creation of a green organization benchmark, so the purpose of the research should be considered reached.

To sum up, the essential results of this research could be described as follows. First of all, the authors suggested analyzing the aspect of the greenness of an organization in terms of its performance evaluation, which could be considered a new perspective to study the topic of a green organization. Secondly, essential attributes were defined by the authors, on the basis of which the suitability of the organization's performance evaluation approaches can be analyzed: adaptability, complexity, and measurability. In addition, the authors identified three possible approaches to evaluating an organization's performance in the aspect of greenness: resources of an organization, value chain, and management functions. The main result of this study is the choice of the approach of resources of an organization as the most suitable for evaluating an organization's performance in the aspect of greenness according to the defined attributes.

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