

## Contemporary Challenges in Accounting in the Context of Sustainable Development\*

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### Abstract

Sustainable development encompasses multiple aspects of human life and activity, including the field of accounting, which plays a crucial role in maintaining the financial stability of the economy and supporting entrepreneurship. Accounting systems generate information for diverse groups of stakeholders interested in sustainable development—that is, development aimed at harmonizing economic, social, and environmental objectives. *Accounting as a tool for supporting sustainable development provides essential insights into an organization's economic, environmental, and social activities.* This article explores contemporary challenges in accounting and the emerging issues related to the sustainable development concept, with particular attention to its three pillars. Implementing ESG principles in a company can bring tangible benefits to businesses, but it also generates additional costs and obligations. The research methods used in this article include analysis of literature, legal acts, and online sources.

**Keywords:** accounting and sustainable development, sustainable development, natural environment, emerging economies

### Introduction

Sustainable development is interpreted as a shared vision for the future, assuming that at the current level of civilization, sustainable growth is possible—one that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. Three fundamental pillars of sustainable development have been identified: economy, environment, and society. The key conceptual assumptions of sustainable development are based on the claim that modern civilization has achieved a level of prosperity that can be maintained, provided that resources are managed rationally and the relationships between economic growth, environmental care, and quality of life are consciously shaped.

The purpose of this article is to answer the question of whether contemporary accounting is capable of meeting the demands of an ever-changing and continuously evolving world. The paper discusses current issues in accounting and the challenges it faces in the context of the concept of sustainable development, taking into account its three pillars: environmental, economic, and social. Implementing ESG principles within an enterprise can bring measurable benefits to economic entities. On the other hand, the introduction of sustainable development standards in a company involves additional costs and responsibilities. The research methods applied include the analysis of literature, legal acts, and online sources.

## Accounting and Sustainable Development

Accounting is currently viewed both as a theory of measuring economic value and as a system for this measurement, designed to assess the current and future condition of economic entities (Bielawski P., 2010). S. Skrzywan defines accounting in a traditional way, describing it as a “system of continuous recording, classifying, presenting, and interpreting general and detailed numerical data expressed in monetary terms and balancing each other, concerning economic activities and the financial position” (Skrzywan S., 1973). According to A. Jarugowa, accounting is a science due to its methodology, but as it is goal-oriented, it should also be considered an applied science (Jarugowa A., 1991). K. G. Szymański argues that accounting is both a practical and theoretical science — its theoretical aspect is expressed through the formulation of descriptive and explanatory statements, while its practical aspect lies in the application of purposeful directives (Szymański K. G., 1988). E. A. Hendriksen and M. F. van Breda define accounting theory as a coherent, consistent, and logically structured set of hypothetical, conceptual, and pragmatic principles forming a general framework for studying the nature of accounting. This framework enables better understanding of existing practice, provides a conceptual structure for its evaluation, and guides the development of new methods and procedures (Hendriksen E. A., et. al., 2002). W. Brzezina identifies the following functions of accounting theory (Brzezina W., 1998):

- **Generalizing** – organizing and combining appropriately generalized statements into a logical whole across subject, object, functional, and methodological dimensions;
- **Communicative** – providing information (general concepts) that are equally understandable to specialists in the field;
- **Predictive** – studying the changing environment of accounting and forecasting potential changes;
- **Practical** – applying the “findings of accounting theory” within various accounting areas through appropriate generality and consistency with specialized disciplines.

In light of these views, accounting theory can be considered in two aspects:

- as a science that generalizes the practical experiences of accounting as an economic recording system and studies the theoretical issues related to its functioning (Gmytrasiewicz M., et. al., 1980), and
- as a general theory of accounting understood as a set of hypotheses, concepts, models, and theories that explain, assess, and predict accounting phenomena and provide a foundation for developing new concepts and procedures (Dobija M., 2005).

Modern scientific research in accounting—as a social discipline—is characterized by a diversity of research directions, topics, and theories borrowed from other scientific fields to provide research assumptions or guide reasoning processes (Mokrzycka-Kogut K., 2022). This has resulted in a large number of publications by authors from various countries, with the dominant role in the development of accounting science currently played by researchers from the English-speaking world. For many years, international academia has been classifying and describing research, theories, paradigms, perspectives, and research streams in accounting (Chua W. F., 1986).

In the 21st century, a new definition of accounting emerged, describing it as a “technical, social, and moral practice related to the sustainable use of resources and appropriate responsibility toward stakeholders, enabling the development of organizations, people, and nature” (Carnegie G., et. al., 2021).

It can therefore be concluded that over the years, the interpretation of the accounting system has evolved and adapted to the needs of the modern world. In the cited definition, we can see for the first time a direct reference to accounting in the context of sustainable development, as well as an indication that this concept is indeed important in contemporary accounting (Poliszewska A., et. al., 2024).

The concept of **sustainable accounting** should be understood as achieving a satisfactory balance between accounting theory, practice, and legal regulation, including its tasks and functions within the information system of business entities. This ensures the generation of a set of information necessary for making both operational and strategic decisions. There is no doubt that the functioning of accounting aligns with the principles of sustainable development, influencing the economic and financial decisions made by enterprises, which in turn shape their assets and capital (Bąk M., et. al., 2017). Sustainable business development is a current and widely discussed topic in academic literature. Today, increasing attention is given to environmental protection, employee welfare, and support for local communities as elements of competitive advantage, even if they require sacrificing part of the profit (Oželienė D., 2017).

Ongoing socio-economic changes and growing social awareness have led businesses to adopt socially and environmentally responsible actions to meet the challenges of competitiveness and maintain or strengthen their market position. The concept of sustainable development forms the foundation of economic activity at local, national, and international levels. It is based on reliable and up-to-date information about processes taking place within organizations and enterprises — concerning specific tasks and actions that support sustainable development (Sadowska B., 2017). The concept must be implemented by states, international organizations, communities, and enterprises to produce measurable results. The role of businesses is particularly crucial, as rapid industrialization and globalization have led to environmental degradation (Amin A., et. al., 2021). Sustainable business development is often equated with ecological development, Corporate Social Responsibility (CSR), or Environmental, Social, and Governance (ESG) principles (Park J. G., et. al., 2022). Researchers linking sustainable development with ecological progress emphasize eco-innovation, environmental protection initiatives, energy conservation, and the implementation of environmentally friendly technologies or electric vehicles (Pichlak M., et. al., 2021). Other scholars highlight social responsibility — toward employees and society — by stressing the importance of training and education for sustainable development (Sagan M., 2021). Many researchers also note that sustainable business development involves responsibility toward stakeholders — including actions that support local communities, environmental conservation, and strengthening competitive position — while empowering stakeholders and supporting new shareholders' interests (Krasodomska J., et. al., 2022). Sustainable development is determined by a range of internal factors (financial results, level of assets, human capital, management style, strategies and business models, ecological awareness of management) and external factors (macroeconomic and geopolitical conditions, legal regulations, access to external financing, and investment in R&D) (Misztal A., 2023). An overview of selected definitions of sustainable business development is presented in Table 1.

The three approaches to corporate social and ecological responsibility discussed here are constantly evolving, aiming to strengthen competitive advantage and create shared value through the integration of activities across all functional areas of enterprises. Accounting has not achieved sustainability, either scientifically or practically. The dominance of accounting policy and accounting practice are focused on the information function. They serve to satisfy the diverse information needs of stakeholders. These are the main causes of disruptions to sustainability in accounting. The lack of theoretical studies that address current practical needs is interpreted by various academic communities and practitioners as a detriment to accounting as a scientific discipline. Disclosure of information on the environmental impact of economic entities remains a challenge. Information on environmental costs should enable the assessment of an entity's attitude towards the environment and the impact of its operations on its financial results. In particular, it should allow for the assessment of an entity's negative environmental impact, the planning of environmental protection projects, the evaluation of project implementation, the analysis of environmental costs over time in individual entities, and the monitoring of the impact of its operations on the natural environment. Therefore, efforts should be made to standardize and harmonize environmental information disclosure reporting. This requires the development of universally accepted principles for measuring and valuing costs and recognizing them in accounting records.

**Table 1. Overview of Definitions of Sustainable Development**

Author	Definitions of sustainable development of enterprises
B. Poskrobko (1997)	New ways of organizing and managing business units, manifested by replacing technology that is burdensome for the environment with technological devices that are environmentally friendly and ensure safety and people's comfort. Implementing sustainable development at the level enterprise is done through greening management.
T. Dyllick, K. Hockerts (2002)	Meeting the needs of a firm's direct and indirect stakeholders (...) without compromising its ability to meet the needs of future stakeholders as well
E. Mazur - Wierzbicka (2005)	Sustainable development is expressed by three key areas: "ecological (preserving the environment and its natural resources), economic (economic development stimulated by technological progress and increasing the efficiency of the use of raw materials, and human work) and social (improvement of living conditions and safety for all people)"
B. Colbert, E. Kurucz (2007)	Keep the business going

P. Penfield (2007)	Sustainable development is now about thinking in terms of life cycle costs, parts of equipment or a single process, as well as activities
M. Drljača (2012)	A process in which less and fewer resources are being spent to meet the needs of consumers and in which the environment is less polluted
D.K. Zuzek, B. Mickiewicz (2014)	All activities undertaken by the company and minimizing the negative impact on the natural environment can be considered as a manifestation of implementation sustainable development concept. In this way, companies contribute to maintaining the right amount and quality of natural capital, which is the basis for meeting the needs of current and future generations and adapting the scale of the economy to the ecosystems on which it operates
A. Panasiewicz (2015)	A sustainable company, in accordance with the concept of sustainable development, can maximize its profit and at the same time reduce its negative impact on the environment
G. F. Dias (2015)	Sustainable development is a way for businesses and governments to reverse the negative effects caused by the economic growth model.
E. Lorek (2015)	Sustainable development requires the introduction of an organization management system that allows monitoring and adapting to the conditions external
K. Gryga (2016)	The basis for building a sustainable and sustainable enterprise is sustainable production and consumption. Attention is paid to the modernization of production, leading to the optimization of processes, reduction of energy and materials, as well as for an effective dialogue between entrepreneurs and state authorities
D. Ožalienė (2017)	A holistic approach of thinking of business which seeks to integrate consideration of the three aspects of sustainability—social, environmental and economic
A.A.A. Sharabati (2018)	The continuing commitment by business to behave ethically and contribute to Economic development while improving the quality of life of the workforce and their families as well as the local community and society at large
P. Centobelli (2020)	Sustainable development that encompasses different types of focus, ranging from resource efficiency to the circularity of product usage and disposal
P. Taticchi, M. Demartini (2021)	Corporate sustainability is an integrated approach to business aimed at strengthening competitive advantage and profitability by sustainably creating shared value through close collaboration with all stakeholders and integrating ESG factors into the decisionmaking process
A.J. Costa (2022)	The concept of sustainable development should apply to the external environment of the organization, in other words to a certain region [country, state] in a certain period of time
L. Marrucci et al. (2022)	Sustainable development considers three dimensions: economic, environmental, and social. Therefore, most of the operations in manufacturing companies in the sustainable area face challenges with the mentioned three
G, Zhou L. Liu, S. Luo (2022)	The pursuit of companies to improve their environmental management practices and to pay greater attention to managing ESG performance
H. Sun et al. (2023)	Sustainable development capability is also a part of enterprise values and business method

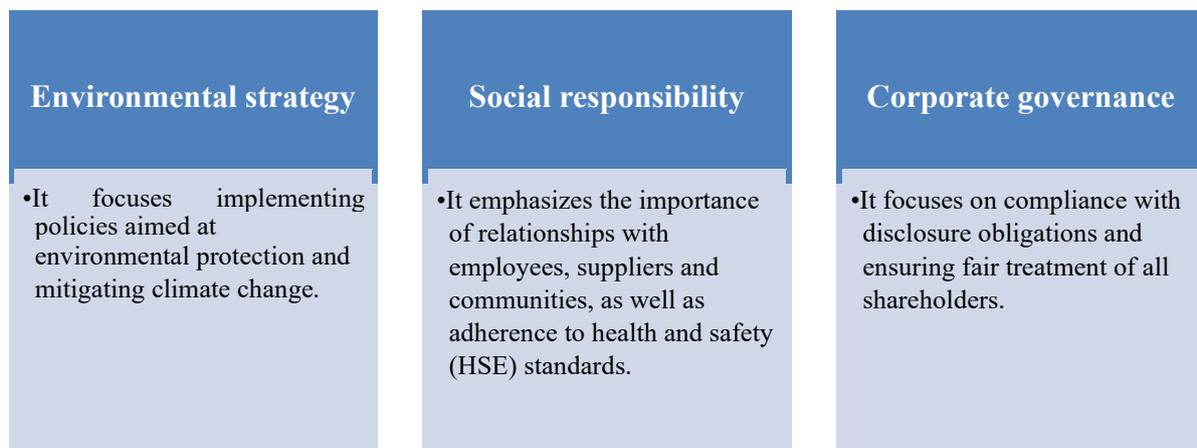
*Source: authors' own elaboration based on literature on the subject*

Sustainable development of an economic entity involves quantitative and qualitative changes across three dimensions: economic, social, and environmental. This entails a process of transformation related to production systems, approaches to business management, and the implementation of environmentally friendly technologies and solutions. One sector particularly important for stable and sustainable economic development, aligned with social progress and environmental protection, is the transport sector. Its role in the modern economy is crucial, as it not only contributes significantly to the gross domestic product but also supports the development of other economic sectors (Pereira R. H. M., et. al., 2017; Comporek M., et. al., 2022; Chen X. et. al., 2023). Changing environmental regulations and increasingly strict environmental standards in transport and storage have necessitated the implementation of numerous improvements aimed at reducing the emission of toxic substances into the atmosphere (Kucharčíková A., et. al., 2018; Xie J., 2022; Remyha Y., et. al., 2023). Considering the economic dimension of sustainable development, accounting provides financial information regarding operational results, financial liquidity, investment profitability, and other economic indicators. These data are crucial for

managing a company sustainably, allowing assessment of the profitability of decisions made within a sustainable development strategy. The social dimension of this concept also includes managerial information related to relationships with the local community, stakeholders, and employees. Meanwhile, the environmental dimension involves information on the company's impact on the natural environment, measured through resource consumption, greenhouse gas emissions, and waste production. By providing information across these three dimensions, accounting enables companies to make informed decisions, evaluate the consequences of their actions, and communicate with external stakeholders (Biadacz R., 2016). It is important to remember that accounting operates within socio-economic conditions; therefore, it evolves alongside emerging solutions and new technologies in the market. All methods, principles, and procedures used in accounting are human constructs, reflecting social and economic conditions. Consequently, they must be continuously modified so that the information provided by accounting serves as a basis for achieving the goals set by enterprises (Kwiecień M., 2007).

## The Use of Non-Financial Reporting in Building Sustainable Development

The noticeable increase in demand for information on corporate sustainable development, particularly among investors but increasingly also among various stakeholders, stems from the variable nature of risk for organizations and the growing awareness of investors and stakeholders regarding the financial consequences of such risks. This is especially true for climate-related financial risks. Awareness is also rising regarding risks and opportunities for organizations and investments arising from other environmental issues, such as biodiversity loss, as well as health and social issues, including child labor and forced labor. It should be noted that the growing demand for this type of information is also driven by the expansion of investment products that are explicitly linked to meeting specific sustainability standards, achieving defined sustainable development goals, and ensuring alignment with the ambition level of the Paris Agreement under the United Nations Framework Convention on Climate Change adopted on 12 December 2015 (hereinafter referred to as the "Paris Agreement"), the Convention on Biological Diversity, and the political strategies of the European Union (CSRD Directive, 2022).



**Figure 1. Key ESG Factors Covered in a Company's Non-Financial Report**

*Source: authors' own elaboration*

The ESG concept defines the scope of non-financial reporting in the areas of environmental protection, social responsibility, and corporate governance, which increasingly applies to a growing group of European economic entities. The introduction of the European Parliament and Council Directive 2014/95/EU, i.e., the NFRD directive, in EU countries obliged companies covered by the directive to take active measures and disclose an increasingly wide range of nonfinancial information, shaping corporate policies regarding CSR (Jackson G., et. al., 2020) and sustainable development. These actions have increased the role of sustainable development in companies and, consequently, in supply chains (Bohdanowicz L., et. al., 2023; ESG Report). The directive was also implemented in Poland, which led companies in the country to disclose a significant amount of new information on sustainable development. In practice, this involves publishing data on employment practices or charitable activities, social initiatives, interactions with suppliers and customers, or the impact of products on consumer health and safety. As a result, a new type of corporate reporting emerged — alongside financial reporting, ESG reports began presenting non-financial information (Samelak J., 2014).

In 2022, changes in non-financial reporting were introduced through the European Parliament and Council Directive (EU) 2022/2464 of 14 December 2022, amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC, and Directive 2013/34/EU regarding corporate sustainability reporting. EU estimates indicate that following the implementation of the CSRD directive, obligations for submitting non-financial reports based on ESG factors will cover approximately 50,000 companies across the EU. Under the CSRD requirements, entities must disclose comprehensive and detailed information on sustainability performance and its implications for business strategy (Table 2). The information will be presented according to common European Sustainability Reporting Standards, known as ESRS. A simplified standard will be prepared for small and medium-sized listed companies. All standards have been developed by EFRAG (European Financial Reporting Advisory Group), previously known as the European Financial Reporting Advisory Group, an independent body representing various stakeholders.

**Table 2. Non-Financial Reporting Scope – ESRS**

No.	Environment	Social Responsibility	Corporate Governance
1	ESRS E1. Climate Change	ESRS S1. Human Resources	ESRS G1. Corporate Governance
2	ESRS E2. Pollution	ESRS S2. Employees in the Value Chain	ESRS E2. Pollution / ESRS S2. Employees in the Value Chain
3	ESRS E3. Water Resources	ESRS S3. Impact on Communities	ESRS E3. Water Resources / ESRS S3. Impact on Communities
4	ESRS E4. Biodiversity and Ecosystems	ESRS S4. Consumers and Users	ESRS E4. Biodiversity and Ecosystems / ESRS S4. Consumers and Users
5	ESRS E5. Resource Use and Circular Economy	–	–

*Source: authors' own elaboration based on literature on the subject*

The preparation of a reliable sustainability report requires precise and comprehensive data. Collecting and integrating this information into a coherent framework presents a significant challenge for the personnel responsible for this area. This process demands substantial effort, as the data are often dispersed across the organization, access rights are not always clearly defined, and the information must meet high standards of accuracy. The data encompass a wide range of organizational activities, including human resources, environmental management, training, procurement processes, transportation, production, finance, occupational health and safety, and more. Effective non-financial reporting necessitates the involvement of staff tasked with providing these data (Wyrwich-Płotka S., 2024). Consequently, it requires organizational changes and the creation of a supportive environment for the implementation of the ESG concept.

## Conclusions

The accounting system in the context of sustainable development remains an important and highly relevant topic, given the ongoing changes in the functioning of economies as well as in the perception of accounting's role. The multidimensional nature of accounting analyses determines the classification of economic events and transactions, resulting in the recording of data within the financial accounting system. Currently, relying solely on this system is insufficient and calls for the implementation of changes. Treating accounting oriented toward an entity's sustainable development as a structured set of tools for measurement, reporting, and communication of information related to the three dimensions of sustainability provides the most comprehensive representation of the entity.

Accounting focused on sustainable development is intended to serve an informational and control function, providing an informational basis for decision-making concerning the business entity by various stakeholders and for accountability of managers for the outcomes of such decisions. However, due to the transformation of business conditions and the expansion of responsibility for implemented processes and results in the form of CSR, adjustments or even significant changes in the objectives, structure, and tools of accounting are becoming necessary.

The role of accounting in the theory of sustainable development can be summarized in the following points:

- the concept of environmental accounting should be more frequently applied and more strongly emphasized;

- an attempt should be made to build a system for measuring the effectiveness of economic responsibility in the accounting system;
- reporting standards should be developed incorporating social responsibility accounting theory;
- social responsibility accounting metrics should be developed;
- accounting policy instruments that support sustainable development should be identified.

Implementing the principles of sustainable development and properly reporting them to stakeholders offers not only macro-level benefits—such as environmental protection and the preservation of biodiversity—but also a significant impact on the entity’s image, which can, in turn, influence financial performance and competitive position. However, sustainable development reporting is associated with challenges related to the quality of the information provided, particularly for enterprises that lack prior experience in this area.

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