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SUSTAINABLE DEVELOPMENT AND ESG FACTORS IN THE SME SECTOR: CHALLENGES AND PERSPECTIVES FOR LEADER

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Purpose: Analysis of the significance of the concept of sustainable development and environmental, social, and corporate governance (ESG) factors for leaders of Polish small and medium-sized enterprises (SMEs), presented on the example of empirical research conducted in small companies in the Silesian Voivodeship.
Design/methodology/approach: A mixed-method approach was applied: quantitative research (a survey conducted among 55 SME managers from the Silesian Voivodeship) and qualitative research (an expert interview), complemented by a literature review and analysis of EU regulations.
Research limitations/implications: The limitations of the study result from the non-random sampling method, the small sample size (n = 55), and the focus on a single region, which limits the generalisability of the findings.
Practical implications: The findings provide guidance for management in developing ESG strategies, preparing for data reporting within value chains, and obtaining financial support for transformation initiatives.
Social implications: Raising awareness of the role of business ethics, labor rights, and social engagement in shaping a company's image and stability.
Originality/value: The value of the article lies in combining the theoretical framework of ESG with up-to-date empirical data (April-May, 2024) concerning the SME sector at a regional level, which makes it possible to assess the level of readiness of enterprises for sustainable transformation.
Keywords: ESG, SMEs, sustainable development, non-financial reporting.
Category of the paper: research paper.

1. Introduction

The concept of sustainable development currently constitutes one of the key paradigms guiding the operation of modern business organizations. It encompasses not only the pursuit of economic efficiency, but also the necessity of integrating environmental, social, and organizational aspects into management processes. Taking these dimensions into account is now essential for building a company's competitiveness, ensuring its long-term stability, and maintaining relationships with stakeholders. In this context, ESG factors (Environmental, Social, Governance) are gaining particular importance. Despite their non-financial nature, they are increasingly perceived as indicators of organizational maturity and institutional responsibility. Management based on these elements enables companies, among other things, to minimize operational risks, improve transparency, enhance social trust, and gain easier access to financing aligned with the principles of sustainable development. A special role in this process is played by the management team - owners and managers - who are responsible for shaping strategies, policies, and organizational culture. It is the leaders who initiate the implementation of ESG-related changes, and their awareness, competencies, and commitment determine the effectiveness of adopting sustainable management principles. For this reason, this study has significant practical relevance for decision-makers and leaders of small and medium-sized enterprises (SMEs), providing them with concrete knowledge. The presented content may serve as a starting point for strategic reflection as well as real support in decision-making at both operational and managerial levels.

The aim of this study is to analyze the importance of the concept of sustainable development and ESG factors in contemporary business, focusing on challenges and perspectives from the point of view of leaders (owners and managers) of Polish small and medium-sized enterprises (SMEs). Key aspects of ESG, regulations and reporting processes, as well as specific barriers and opportunities for the SME sector in the context of responsible business practices will be presented. The study is based on an analysis of available sources and the results of research conducted at the Faculty of Management and Transport of the University of Bielsko-Biała.

2. The Evolution and Concept of Sustainable Development

The concept of sustainable development has a long history of evolution. Although the term is believed to have been first used as early as 1713 by the German forester Hans Carl von Carlowitz in the context of rational tree harvesting - ensuring that forest development would not be disrupted and recommending new plantings to replace felled trees (Ślażyńska-Kluczek, Brzezek, 2023) - the key period for its development dates to the 1960s (Płachciak, 2011). This period is considered a turning point in the relationship between humans and the natural environment and fostered the development of the broader concept of eco-development (Płachciak, 2011). The fundamental idea of eco-development is the protection of the environment and natural resources through changes in consumption models and value systems, so that the environment is passed on to future generations in no worse condition than it was received (Zegar, 2003). The need for such an approach became particularly evident in the late

1960s, when the consequences of intensive economic growth and increasing affluence in Western societies led to mass consumption of goods (Płachciak, 2011).

Over time, the concept of sustainable development has evolved to encompass multiple aspects and dimensions, which has resulted in a variety of interpretations. The subject literature therefore presents numerous, often differing definitions that emphasize its diverse meanings. The most important definitional approaches are presented in Table 1.

Table 1.
Definitional approaches to sustainable development

Definitional approach	Key assumptions and concepts	Authors / Sources
Intergenerational perspective and meeting needs	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It emphasizes intergenerational solidarity and balancing access to environmental resources.	Brundtland Report, Environmental Protection and Management Act, Ministry of Development and Technology
Integration and balance of three spheres	A model based on harmonizing the social, economic, and environmental systems. It aims at the preventive elimination of imbalance between development and environmental conditions.	Barbara Kryk, Bazyli Poskrobko
Political, socio-economic concept or doctrine	Viewing sustainable development as a strategy of continuous growth without harming natural resources, or as a doctrine of political economy in which quality of life corresponds to the level of civilizational development.	Fifth Environmental Action Programme of the European Community, Malgorzata Rutkowska-Podołowska and Jolanta Pakulska
Application in business and the economy	Striving to conduct production activities with minimal environmental pressure, focusing on producing durable and valuable goods that meet real needs.	Marcin Nowicki
Improving quality of life and well-being	Effective improvement of the quality of life of current and future generations through shaping appropriate proportions between economic, human, and natural capital.	Barbara Piontek

Source: own elaboration based on (World Commission on Environment and Development, 1991; Environmental Protection and Management Act, 1980; Ministry of Development and Technology (2025); Kryk, 2004; Poskrobko, 2009; Ministry of Environmental Protection, Natural Resources and Forestry, 1997; Rutkowska-Podołowska, Pakulska, 2011; Nowicki, 2007; Piontek, 2010).

The contemporary understanding of sustainable development is globally reflected in the United Nations Sustainable Development Goals (SDGs), known as Agenda 2030. This document includes 169 targets focused on five key areas: people, planet, prosperity, peace, and partnership. These goals address issues such as poverty eradication, hunger reduction, access to health and education, and the promotion of equality (Ślażyńska-Kluczek, Brzezek, 2023). Within the area of prosperity, emphasis is placed on sustainable economic growth, job creation, decent working conditions, infrastructure development, industrial growth, innovation, and the reduction of inequalities between countries (Janicka, Sajnóg, 2022).

In summary, sustainable development is a complex and multidimensional concept that has undergone significant evolution over the centuries. Today, it forms the foundation of policies and strategies integrating economic, social, and environmental aspects, aiming to ensure the well-being of present generations without compromising the development opportunities of future ones, as reflected in global initiatives such as Agenda 2030.

3. Characteristics of ESG Factors

ESG factors, an acronym derived from the English terms Environmental, Social, and Governance, constitute key elements of the sustainable development concept and influence the perception of companies. They include the assessment of a company's impact on the environment, society, and governance (Wroniewska, Dudzik-Lewicka, 2024). Although they are often referred to as non-financial factors, they are no less important than financial ones. The distinguishing feature of these factors lies in the difficulty of presenting certain non-financial aspects using simple and clear metrics. All these factors are interconnected and influence one another. Their implementation ultimately translates into the financial performance of an entity (Ślażyńska-Kluczek, Brzezek, 2023). The identification of ESG factors aims to enhance the long-term value and stability of a company. ESG indicators were developed to measure the actual impact of enterprises on both external and internal stakeholders. Within management processes, such as impact assessment, risks associated with a company's operations are often divided into three main ESG categories (Barrow, 2009), corresponding to different areas of responsible business conduct. Each of these categories includes both quantitative and qualitative aspects, which increasingly influence how companies are perceived. A summary of the key issues is presented in Table 2.

Table 2.
Characteristics of ESG Factors

ESG Area	Description	Selected Assessment Aspects
E - Environmental	Assessment of a company's impact on the natural environment	• Energy consumption from renewable and non-renewable sources. • Greenhouse gas emissions. • Waste generation and disposal. • Impact on biodiversity. • Use of environmentally friendly energy sources. • Carbon footprint.
S - Social	Impact of a company on its social environment – employees, customers, and local communities	• Respect for human and labor rights. • Gender pay gap. • Diversity of management (e.g., by gender). • Workplace accident rate. • Cases of discrimination.
G - Governance	Corporate governance and management system	• Management standards and procedures. • Compliance with laws and regulations. • Accountability to stakeholders and investors. • Transparency of management structure. • Data security. • Business ethics.

Source: own elaboration based on (Ślażyńska-Kluczek, Brzezek, 2023; Biermann et al., 2017; Wroniewska, Dudzik-Lewicka, 2024; GPW, 2021).

In conclusion, ESG factors constitute a multidimensional and complementary set of criteria for assessing the sustainable performance of enterprises. They encompass the impact of business activities on the natural environment, social aspects related to relationships with employees, customers, and local communities, as well as corporate governance and management mechanisms. The integration of these elements into management strategies is essential for ensuring long-term stability and value growth of companies, complementing traditional financial indicators with non-measurable yet significant aspects from the perspective of stakeholders and the sustainability of development.

4. ESG regulations, standards and reporting process

The contemporary ESG regulatory system includes four key levels: global (e.g., the UN Agenda 2030), international (e.g., the Paris Agreement), EU-level (e.g., the CSRD Directive), and national (e.g., Poland's Strategy for Responsible Development implementing sustainable development goals). Despite their dynamic development, a major challenge remains the lack of full harmonization between systems, which makes it difficult to compare corporate performance across different jurisdictions (Wroniewska, Dudzik-Lewicka, 2024).

The first milestone in the European Union was the Non-Financial Reporting Directive (NFRD), which since 2017 has required large public-interest entities to disclose non-financial data concerning, among other things, employee issues, environmental protection, and anti-corruption measures (Janicka, Sajnóg, 2022). Over time, however, it proved insufficient in light of growing investor expectations and has therefore been modernized and is gradually being replaced by the Corporate Sustainability Reporting Directive (CSRD). The new regulation significantly expands reporting obligations both in terms of the scope of disclosed information and the number of entities required to report. Its aim is to provide stakeholders with reliable and comparable ESG information enabling informed decision-making (Siwiec, 2023; UHY ECA Poland, 2025). The technical foundation of CSRD is the European Sustainability Reporting Standards (ESRS), which focus on strategy and performance measurement based on the principle of double materiality, requiring analysis of both the company's impact on its environment and the impact of external factors on the company (Krajowa Izba Gospodarcza, 2024; UHY ECA Poland, 2025).

This system is complemented by the Sustainable Finance Disclosure Regulation (SFDR), which requires financial market participants to disclose how they integrate sustainability considerations into investment decisions (Michalski, 2022), as well as the EU Taxonomy, which classifies environmentally sustainable economic activities based on six environmental objectives (Redqueen, 2023). In addition to legal regulations, companies voluntarily implement international reporting standards such as the Global Reporting Initiative (GRI) guidelines, the industry-specific standards of the Sustainability Accounting Standards Board (SASB), the ISO 26000 standard, and the principles of the United Nations Global Compact (UN Global Compact) (Wroniewska, Dudzik-Lewicka, 2024).

The ESG reporting process itself is a structured sequence of activities. According to the Warsaw Stock Exchange (GPW), it begins with defining the report's objectives and audience, followed by a materiality analysis aimed at identifying key ESG areas considering the business model, risks, and stakeholder expectations. The next step is assessing compliance with minimum sustainability standards, including EU Taxonomy requirements, then selecting appropriate indicators - general, sector-specific, and company-specific - and finally preparing the report based on collected data (Redqueen, 2023).

Another approach presents a broader eight-stage model, starting with developing an ESG strategy aligned with the company's business strategy, followed by assessing environmental and social impacts and identifying risks, conducting a materiality analysis, establishing a baseline through initial measurements and benchmarking, setting measurable ESG targets, developing an action plan, implementing it while monitoring key performance indicators (KPIs), and ending with regular - usually annual - ESG reporting aimed at building stakeholder trust (Witkowska, 2023).

Although SMEs are usually not directly subject to these regulations, they become part of the system through the value chains of larger contractors (Brzózek, 2025; Krajowa Izba Gospodarcza, 2024; UHY ECA Poland, 2025), who require suppliers to provide data such as carbon footprint information. For leaders of smaller firms, this creates significant challenges, including the complexity of regulations, rising operating costs, and limited human resources needed to prepare reliable reports (Zieliński, 2023).

5. Strategic benefits of responsible business conduct

Sustainable development and ESG indicators are becoming increasingly important elements of the business strategies of modern companies. The key benefits for enterprises resulting from environmental actions and the integration of ESG factors can be divided into two groups: external and internal - relating respectively to the impact on the environment and the functioning of the organization.

External benefits:

- Increased competitiveness and market position: pro-environmental and sustainability-oriented activities contribute to enhancing a company's competitiveness and strengthening its market position (Mazur-Wierzbicka, 2007a; Mazur-Wierzbicka, 2007b). In highly developed countries, companies perceive environmental regulations and other protection mechanisms not as constraints imposed by the state, but as a source of competitive advantage (Zuzek, Mickiewicz, 2014).

- Building a positive image and stronger brand recognition: environmental initiatives contribute to shaping a positive corporate image in the external environment (Mazur-Wierzbicka, 2007a; Mazur-Wierzbicka, 2007b), improving corporate reputation (Polska Agencja Rozwoju Przedsiębiorczości, 2024), and increasing brand recognition (Ślażyńska-Kluczek, Brzezek, 2023). Improving image is often one of the main motivations for adopting sustainability and corporate social responsibility practices (Gadomska-Lila, Wasilewicz, 2016).
- Improved customer relations and access to new markets: a better perception by customers may translate into customer loyalty and the acquisition of new clients. Incorporating ESG factors increases customer interest (Gadomska-Lila, Wasilewicz, 2016) and may open new business opportunities, including access to new markets (Mazur-Wierzbicka, 2007a; Mazur-Wierzbicka, 2007b). There is also existing or anticipated market demand for environmentally beneficial innovations (Polska Agencja Rozwoju Przedsiębiorczości, 2024).
- Effective stakeholder engagement and social acceptance: implementing ESG principles enables effective cooperation with stakeholders, generating positive outcomes for both companies and society (Gadomska-Lila, Wasilewicz, 2016). It helps meet stakeholder expectations and build trust. Engagement in social activities and support for local communities is recommended and increases social acceptance (Ślażyńska-Kluczek, Brzezek, 2023).
- Access to capital and financing opportunities: effective ESG risk management can positively influence the cost of capital and facilitate access to financing. Companies may benefit from European Union financial support, including green loans and EU funds (Wroniewska, Dudzik-Lewicka, 2024), which represent an important opportunity for development and modernization (Polska Agencja Rozwoju Przedsiębiorczości, 2024).
- Increased attractiveness to potential employees: companies that consider social and environmental factors are perceived as more attractive workplaces (Redqueen, 2023).
- Improved relationships within the value chain: companies, especially SMEs that are part of larger value chains, are increasingly encouraged to align with ESG standards to maintain and develop business relationships. Knowledge and competencies in ESG can significantly strengthen cooperation with larger enterprises that require compliance with sustainability principles (Wroniewska, Dudzik-Lewicka, 2024).
- Compliance with regulatory requirements: adapting to legal requirements is one of the key drivers of environmental actions (Zuzek, Mickiewicz, 2014). Incorporating ESG factors supports companies in preparing for increasingly stringent regulations such as the CSRD Directive, ESRS standards, or the EU Taxonomy (Redqueen, 2023). Understanding and correctly interpreting these complex EU regulations is becoming a crucial element of every modern business strategy.

Internal benefits:

- Financial and economic benefits (cost reduction): implementing ESG factors can contribute to increased corporate profits (Ślażyńska-Kluczek, Brzezek, 2023). Environmental initiatives often lead to lower operating costs through more efficient use of energy, water, and raw materials, as well as reduced waste and wastewater (Mazur-Wierzbicka, 2007a; 2007b). More efficient resource management translates into tangible savings and improved profitability (Ślażyńska-Kluczek, Brzezek, 2023).
- Improved operational efficiency: the implementation of innovations - especially eco-innovations - can significantly enhance the efficiency of economic processes (Zuzek, Mickiewicz, 2014). ESG principles support operational optimization, and effective management in this area reflects operational excellence and a modern management approach.
- Better risk management and increased resilience: incorporating ESG factors reduces corporate risk. International studies indicate that ESG integration reduces risks related to social costs and environmental responsibility (Gangi, Daniele, Varrone, 2020). Companies that effectively manage ESG aspects are perceived by the market as more stable and less risky (Ślażyńska-Kluczek, Brzezek, 2023). A proactive approach increases readiness to respond to unforeseen events and facilitates long-term financial planning (Redqueen, 2023).
- Enhanced innovation capacity (Mazur-Wierzbicka, 2007a; 2007b).
- Organizational benefits (increased employee motivation): lower staff turnover and higher productivity may result from greater employee satisfaction with working conditions (Redqueen, 2023). Supporting employee competence development is a key benefit of ESG implementation (Wroniewska, Dudzik-Lewicka, 2024). Additionally, preventing unfair labor practices and ensuring safe working conditions are integral elements of due diligence within ESG (Redqueen, 2023).
- Improved quality of management: ESG analysis, particularly in the area of corporate governance (G), provides additional insights into management quality. Corporate governance includes internal systems of supervision and control, with key values such as ethical and transparent management and the prevention of corruption and unethical practices. Regulatory requirements oblige companies to integrate sustainability due diligence into governance structures, strategy, and business models, as well as to document ESG management processes. Strong corporate governance reduces risk and is increasingly seen as a benchmark of operational excellence (Redqueen, 2023).
- Facilitated reporting and compliance: adopting unified reporting standards such as ESRS significantly simplifies reporting processes and enables comparability between entities. Additionally, alignment with the EU Taxonomy requires meeting minimum safeguards regarding social standards and business ethics (Redqueen, 2023). Overall, integrating ESG factors into corporate strategy streamlines reporting processes and supports compliance with EU regulations.

Adopting a strategy that incorporates ESG factors brings numerous benefits to companies, both external (e.g., increased competitiveness, improved reputation, access to capital) and internal (e.g., financial gains, better risk management, improved management quality). This holistic approach positively impacts multiple areas of business activity.

6. SME sector in Poland and the challenges of sustainable development

The SME sector constitutes a key pillar of the Polish economy - accounting for 99.8% of all enterprises, generating over 45% of GDP, and employing nearly 7 million people, which represents 55.5% of all employees in the enterprise sector. Among them, microenterprises dominate, making up as much as 97.2% of this group, concentrated mainly in services and trade (Instytut Przedsiębiorczości Społecznej, 2025; Polska Agencja Rozwoju Przedsiębiorczości, 2024). This structure gives SMEs their specific characteristics, highlighting both their potential and their limitations in the context of the transition toward a sustainable economy.

In recent years, regulatory and social pressure to incorporate environmental, social, and governance (ESG) aspects into business operations has increased significantly. Although many regulations - such as the CSRD directive or ESRS standards - do not directly apply to the smallest firms, SMEs are increasingly being integrated into non-financial reporting processes by larger partners within the value chain, for example through the requirement to provide data on carbon footprint. This means that even non-listed companies will have to adapt to new reporting requirements (Polska Agencja Rozwoju Przedsiębiorczości, 2024).

However, Polish SMEs face numerous challenges in implementing sustainable development principles. The most frequently cited barriers include unclear, inconsistent, and frequently changing legal regulations, difficulties in accessing financing, limited availability of skilled personnel, as well as a low level of awareness and knowledge regarding environmental issues. Despite the declared lack of staffing constraints in general surveys, when asked about specific pro-environmental activities, more than one-third of SMEs admit to significant competency gaps. Moreover, environmental actions are still perceived as less demanding than, for example, digitalization, which may indicate an insufficient diagnosis of needs and capabilities in this area (Polska Agencja Rozwoju Przedsiębiorczości, 2024).

Comparative data from EU countries indicate that Polish SMEs lag significantly behind the European average in areas such as waste reduction, recycling, efficient energy and material management, and the use of renewable energy sources. In 2021, only 13% of Polish companies in this sector declared having a strategy to reduce their carbon footprint, compared to 24% of the EU average. Additionally, the declared impact of eco-innovations on environmental protection is often limited, while the COVID-19 pandemic and the war in Ukraine have further weakened companies' capacity to invest in eco-innovation. The greatest actual environmental contributions concern activities such as reducing the use of fossil fuels (9.8%) and waste recycling (8.1%); however, their scale remains limited, especially in small service companies.

At the same time, positive trends and growing support opportunities are observable. Motivations for implementing ESG activities increasingly stem from pragmatism - the desire to reduce production costs, improve reputation, and comply with environmental regulations (Polska Agencja Rozwoju Przedsiębiorczości, 2024). These motivations are reinforced by supportive initiatives such as funds from the National Recovery Plan (KPO), activities of the Polish Agency for Enterprise Development (PARP), and programs promoting the circular economy.

In the coming years, the transition toward sustainable development and investments in eco-innovation will be a key direction for the SME sector. However, their effectiveness will depend on companies' ability to overcome systemic, organizational, and competency-related barriers, as well as on consistent support from public institutions, the market, and business partners.

7. Implementation of Sustainable Development and ESG Principles in SMEs - A Case Study of Small Enterprises in the Silesian Voivodeship

7.1. Methodological Foundations of the Study

The subjects of the study were small enterprises operating in the Silesian Voivodeship, while the respondents consisted of business owners and members of the management staff of these enterprises. The research focused on the challenges faced by small enterprises in the context of sustainable development, with particular emphasis on ESG aspects, and was conducted by the author of this paper in collaboration with Agnieszka Wroniewska (Wroniewska, Dudzik-Lewicka, 2024).

To achieve the research objectives, a mixed-method approach was applied, combining both quantitative and qualitative methods. This made it possible to collect both numerical data and in-depth opinions and experiences of the respondents. In the quantitative part, a survey technique was used, with a questionnaire as the research tool, containing questions related to the research topic as well as a demographic section including data such as age, gender, and the type and size of the enterprise. The qualitative research was conducted using the interview technique, with an interview questionnaire as the tool. It took the form of a semi-structured conversation aimed at obtaining as objective a picture of the studied phenomena as possible, rather than relying solely on a strictly formalized set of questions.

The sampling method was non-random, due to organizational constraints and time limitations. It should be noted that results obtained from a non-random sample may not be fully representative of the entire population of small enterprises in the region. The survey was conducted in April 2024 using a Google Forms questionnaire and was distributed electronically.

A total of 55 correctly completed questionnaires were obtained. The interview was conducted on May 6, 2024, with Ms. Katarzyna Hiller - an expert in the field of ESG.

7.2. Respondent Profile

The survey study, conducted in April 2024, covered a group of 55 owners and members of the management staff of small enterprises operating in the Silesian Voivodeship. In the demographic structure of the surveyed population, women predominated, accounting for 55% of respondents (30 individuals), compared to 45% men (25 individuals). The participants were characterized by a relatively high level of education, with the largest share represented by individuals holding higher education degrees (42%) and secondary education (36%), while a smaller percentage consisted of those with vocational or primary education.

The analysis of the business profile of the surveyed entities revealed a clear dominance of the service sector, in which as many as 71% of enterprises operate, with a significantly smaller share of trade (24%) and only marginal representation of production and other forms of activity. In terms of organizational size, the sample structure was based primarily on micro-enterprises (76%), supplemented by small companies accounting for 24% of the total. The most common legal form chosen by the surveyed leaders was sole proprietorship, indicated by 71% of respondents, ahead of partnerships (18%), capital companies (9%), and professional partnerships.

The synthetic profile of the average survey participant indicates a woman with higher education, managing a service-oriented micro-enterprise registered as a sole proprietorship in the Silesian Voivodeship. An important complementary element to the collected quantitative data was an in-depth interview conducted with an ESG expert, Ms. Katarzyna Hiller, which allowed for a broader perspective on the analyzed managerial issues.

7.3. Key research findings

The following conclusions constitute a synthetic summary of the research results, based on both survey data and interview findings, grouped according to key thematic areas:

- Challenges related to sustainable development (ESG).
  Sustainable development in its environmental, social, and governance (ESG) dimensions was identified as a significant challenge for small businesses. This view was expressed by the majority of respondents (56%). A considerable proportion (40%) did not take a clear position, which may indicate a low level of awareness or lack of experience in this area. From the perspective of the expert interview with Katarzyna Hiller, an ESG specialist, implementing ESG standards poses real and significant challenges for small enterprises (mainly due to costs, lack of resources, and knowledge), although ESG itself represents an opportunity for growth and increased competitiveness.

- Key constraints and barriers to the development of small enterprises in Poland.
  The results indicate that the development of small enterprises is hindered by multiple obstacles. Respondents most frequently pointed to complex tax and administrative procedures (26% overall, 58% among microenterprises) and limited financial resources (25% overall, 62% among microenterprises, 44% among women). Difficulties in finding new markets were indicated by 15% of respondents. Other barriers included lack of ESG implementation knowledge (14%), shortage of specialized staff (9%), flawed development strategies (9%), lack of time, frequent legal changes, social security burdens, and high labor costs (2%). Katarzyna Hiller confirmed the relevance of financial and regulatory barriers and additionally highlighted market competition, workforce challenges, taxes, and legal instability as key constraints, often linked to limited knowledge and competencies.
- Awareness of sustainable development and ESG regulations.
  Most respondents (56%) had not heard of the concept of sustainable development in the context of ESG. Awareness was slightly higher among small enterprises (18% “Yes”) compared to microenterprises (25% “Yes”). Knowledge of specific regulations (NFRD, EU Taxonomy, CSRD, ESRS) was very low. According to the expert, ESG awareness in the SME sector is increasing but remains fragmented and is often driven by regulatory or contractor requirements. Understanding ESG and related regulations remains a major challenge.
- Awareness of reporting obligations.
  A large majority of respondents (78%) are not aware of reporting obligations related to ESG disclosures, while only 22% declared such awareness. The expert noted that awareness in SMEs is still developing and often reactive, driven by external requirements rather than proactive understanding.
- Business relationships with larger entities and ESG adoption.
  Relationships with larger companies play an important role in shaping SMEs’ approach to ESG. Among respondents, 47% declared existing or planned cooperation with larger firms. Such relationships were more common among small enterprises (20%) than microenterprises (27%). Legal form and education level also influenced this tendency. As emphasized by Katarzyna Hiller, ESG interest in SMEs is often driven by expectations from larger business partners.
- Knowledge of ESG standards in business cooperation.
  53% of respondents believe ESG knowledge “may help” in business relations, while 15% believe it will “definitely help.” Small enterprises more often indicated strong benefits than microenterprises. According to the expert, cooperation with larger firms is a key driver of ESG interest and knowledge development.

- ESG strategy.
  A vast majority (93%) of respondents do not have an ESG strategy in place; only 7% have implemented one. Among those without a strategy, 27% plan to adopt one, while 73% do not. Small enterprises showed slightly greater willingness to implement ESG strategies. The expert confirmed that although interest exists, companies often abandon implementation due to high costs and complexity.
- Awareness of benefits of sustainable practices.
  Awareness of ESG benefits remains moderate. Only 45% of respondents declared knowledge of potential benefits, while 55% did not. Awareness was higher among small enterprises and individuals with higher education. The expert noted that awareness is often limited and focused mainly on environmental aspects, with ESG perceived more as an obligation than an opportunity.
- Most significant benefits (according to aware respondents).
  Among respondents aware of ESG benefits, the most frequently indicated were waste reduction and segregation (32%), reduced water and energy consumption (30%), and the use of eco-friendly materials (25%). The expert emphasized that these are primarily environmental actions and that ESG should also include social and governance aspects. She views ESG as an opportunity that supports development, process optimization, cost reduction, and profitability.
- Social engagement.
  SMEs show limited involvement in local environmental and social initiatives. The largest group (35%) declared no engagement, while 18% were unaware of the need for such involvement. Only 9% actively participate in environmental projects, and another 9% offer employee volunteering. Notably, none of the small enterprises reported a complete lack of engagement. The expert highlighted that CSR initiatives are less popular among SMEs and are often perceived as obligations rather than sources of tangible benefits.
- Key challenges in implementing ESG metrics.
  Respondents most frequently identified difficulties in understanding ESG regulations (20%), non-financial reporting (16%), and rising energy costs (13%) as major challenges. Men more often pointed to energy costs as a key issue (31%). The expert noted that while regulatory complexity is expected, rising energy costs can also create opportunities, such as access to funding for renewable energy. She identified high costs and lack of human resources as the most significant barriers to ESG implementation.

8. Strategic recommendations and implementation guidelines for leaders and organizations in the SME sector

For owners and/or managers of small businesses, a conscious approach to sustainable development (ESG) is becoming increasingly important - both in the context of growing market expectations and long-term competitiveness. In light of the research findings and the expert opinion of Katarzyna Hiller, key areas requiring action and support have been identified, representing an attempt to operationalize the sustainable development paradigm within the realities of small enterprises:

- Systematic knowledge acquisition and closing the competency gap.
  A key imperative for leaders is to actively increase awareness across all three ESG pillars (environmental, social, and governance), as current knowledge is often insufficient. Regular participation in specialized educational activities, such as training sessions and workshops, is recommended to enable accurate interpretation of complex regulatory requirements (e.g., CSRD or the EU Taxonomy).
- Integration of ESG factors into the overall organizational strategy.
  It is essential to align non-financial objectives with the company's mission and business model. A strategy based on measurable goals and priorities supports the development of long-term competitive advantage and enhances organizational resilience in a changing environment.
- Proactive adaptation to value chain requirements.
  Companies should promptly implement processes for collecting non-financial data, such as carbon footprint metrics. This is driven by increasing pressure from larger contractors who, being subject to reporting obligations, require ESG-related data from their suppliers as a condition for continued cooperation.
- Optimization of management processes and transparency (Governance).
  It is recommended to implement ethical corporate governance based on transparent procedures and anti-corruption mechanisms. Such an approach reduces operational risks and strengthens the company's institutional credibility among investors and business partners.
- Leveraging sustainable financing mechanisms.
  Leaders should incorporate ESG criteria into investment planning, as this can improve access to capital from banks and financial institutions. Actively seeking external funding—such as EU funds for renewable energy (RES) investments—is advisable, as it enables both modernization and operational cost optimization.

- Building social and reputational capital.
  An important element of strategy is strengthening relationships with the local community and ensuring employee well-being. This contributes to increased employer attractiveness and lower staff turnover, while also creating a "social license to operate" that supports business development within its environment.
- Implementation of monitoring systems (KPIs).
  Effective transformation requires the establishment of key performance indicators (KPIs) and regular evaluation of results. Consistent monitoring enables ongoing optimization of activities and supports transparent communication with stakeholders.
- Human resource management through delegation and outsourcing.
  Given the complexity of ESG issues and the commonly identified shortage of specialized staff, managers should invest in developing employee competencies or consider outsourcing analytical and reporting tasks to external experts.

In conclusion, the implementation of the presented recommendations should enable leaders of the SME sector to effectively operationalize the ESG paradigm, thereby facilitating the transformation of increasing regulatory requirements into a sustainable competitive advantage. A holistic approach, combining systematic competence development with managerial transparency and active monitoring of non-financial data, constitutes an essential foundation for building a modern and crisis-resilient organization.

9. Conclusions

In conclusion, this study provides a multidimensional analysis of the importance of the concept of sustainable development and ESG factors in the operational context of the SME sector. The conducted empirical research, combining a quantitative approach (n = 55) with a qualitative expert interview, enabled the identification of key barriers, but above all the strategic benefits resulting from responsible business conduct. Despite certain methodological limitations, such as the non-random sampling method, the collected data provide a reliable picture of the current awareness among surveyed leaders of small enterprises in 2024. These findings are particularly relevant in an era of increasing regulatory and market pressure, where ESG is no longer the domain of large corporations only, but is becoming a prerequisite for maintaining sustainable relationships within value chains. The horizon of future changes is shaped by planned European Union regulations aimed at simplifying and better aligning reporting obligations with the specific characteristics of smaller entities. This issue remains the subject of an active public debate - voices advocating the protection of entrepreneurs from excessive bureaucracy, as well as the need for a flexible approach to implementing ESG standards, emphasize that the success of the transformation depends on finding a balance between formal requirements and the actual capabilities of the SME sector. In this context, the developed guidelines may serve leaders not only as support in adapting to new regulations, but above all as a foundation for building modern, resilient organizations capable of transforming the challenges of sustainable development into tangible market success.

References

1. Barrow, C. (2009). *Zarządzanie finansami w małej firmie*. Gliwice: Helion.
2. Biermann, F., Kanie, N., Kim, R. (2017). Global governance by goal-setting: The novel approach of the UN Sustainable Development Goals. *Current Opinion in Environmental Sustainability*, *26-27*, pp. 26-31, doi:10.1016/j.cosust.2017.01.010
3. Brzózek, S. (2025). *Raport ESG: Niemiecka ustawa o należytej staranności w łańcuchu dostaw będzie oddziaływać także na polskie firmy*. Retrieved from: https://raportcsr.pl/slawomir-brzozek-niemiecka-ustawa-o-nalezytej-starannosci-w-lancuchu-dostaw-bedzie-oddzialywac-takze-na-polskie-firmy/, 18.05.2025.
4. Gadomska-Lila, K., Wasilewicz, J. (2016). Zrównoważony rozwój i społeczna odpowiedzialność z perspektywy biznesowej. *Studia i Prace WNEiZ US, 46*, pp. 299-310, doi:10.18276/sip.2016.46/1-23
5. Gangi, F., Daniele, L.M., Varrone, N. (2020). How do corporate environmental policy and corporate reputation affect risk-adjusted financial performance? *Business Strategy and the Environment*, *29(5),* pp. 1975-1991, doi: 10.1002/bse.2482
6. Instytut Przedsiębiorczości Społecznej (2025). *Podsumowanie raportu PARP o stanie sektora MŚP w Polsce w 2024.* Retrieved from: https://fips.pl/podsumowanie-raportu-parp-o-stanie-sektora-msp-w-polsce-w-2024, 18.05.2025.
7. Janicka, M., Sajnóg, A. (2022). Finanse zrównoważone w ujęciu globalnym. In: M. Janicka, T. Miziołek (eds.), *Finanse zrównoważone ESG - Przedsiębiorstwa - Sektor finansowy* (pp. 45-47). Warszawa: PWE.
8. Krajowa Izba Gospodarcza (2024). *ESRS nie tylko dla MŚP - retransmisja z webinaru*. YouTube. Retrieved from: https://www.youtube.com/watch?v=BfH8miztnSo&t=1200s, 11.09.2024.
9. Kryk, B. (2004). Ekorozwój jako przyjęta koncepcja rozwoju społeczno-ekonomicznego a inwestycje ekologiczne. In: D. Kopycińska (ed.), *Problemy mikroekonomii menedżerskiej* (pp. 5-16). Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego.
10. Mazur-Wierzbicka, E. (2007a). Wpływ zachowań proekologicznych na konkurencyjność przedsiębiorstw. In: T. Bernat (ed.), *Przedsiębiorstwo i państwo – wybrane problemy konkurencyjności* (pp. 30-37). Szczecin: Print Group Daniel Krzanowski.

11. Mazur-Wierzbicka, E. (2007b). Zarządzanie proekologiczne – ważny czynnik sukcesu rynkowego przedsiębiorstwa. In: D. Kopyciński (ed.), *Zachowania rynkowe w teorii i praktyce* (pp. 62-69). Szczecin: Wydawnictwo Uniwersytetu Szczecińskiego.
12. Michalski, D. (2022). *Finanse Zielonej Transformacji*. Warszawa: Difin.
13. Ministerstwo Ochrony Środowiska, Zasobów Naturalnych i Leśnictwa (1997). Piąty program działania Wspólnoty Europejskiej w dziedzinie ochrony środowiska. In: *Prawo ochrony środowiska Wspólnoty Europejskiej. Suplement I. Zagadnienia ogólne. Powietrze*. Warszawa: MOŚZNiL.
14. Ministerstwo Rozwoju i Technologii (2025). *Zrównoważony rozwój*. Retrieved from: https://www.gov.pl/web/rozwoj-technologia/zrownowazony-rozwoj, 18.05.2025.
15. Nowicki, M. (2007). Lokalne bieguny wzrostu. *Pomorski Przegląd Gospodarczy*, *4*.
16. Piontek, B. (2010). Współczesne uwarunkowania rozwoju społeczno-gospodarczego (ujęcie systematyczne). *Problemy Ekorozwoju*, *5(2)*, pp. 117-124.
17. Płachciak, A. (2011). Geneza idei rozwoju zrównoważonego. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu. Ekonomia*, *17(214)*, pp. 231- 248.
18. Polska Agencja Rozwoju Przedsiębiorczości (2024). *Raport o stanie sektora małych i średnich przedsiębiorstw w Polsce 2024*. Warszawa: PARP.
19. Poskrobko, B. (2009). *Zrównoważony rozwój gospodarki opartej na wiedzy*. Białystok: Wydawnictwo Wyższej Szkoły Ekonomicznej w Białymstoku.
20. Redqueen, S. (2023). *Wytyczne do raportowania ESG: Przewodnik dla spółek*. Retrieved from: https://www.gpw.pl/pub/GPW/ESG/Wytyczne_do_raportowania_ESG.pdf, 23.09.2023.
21. Rogowski, W., Lipski, M. (2022). Znaczenie informacji niefinansowej w świetle wymogów zrównoważonego rozwoju oraz turbulentnego otoczenia. *Kwartalnik Nauk o Przedsiębiorstwie*, *64(2)*, pp. 33-44, doi: 10.33119/KNoP.2022.64.2.3
22. Rutkowska-Podołowska, M., Pakulska, J. (2011). *Zrównoważony rozwój w gospodarce opartej na wiedzy*. Warszawa: Oficyna Wydawnicza SGH.
23. Siwiec, K. (2023). *Sprawozdawczość ESG*. Warszawa: C.H. Beck.
24. Ślażyńska-Kluczek, D., Brzezek, M. (2023). Czynniki ESG jako elementy zrównoważonego rozwoju wpływające na postrzeganie przedsiębiorstw przez konsumentów. *Kwartalnik Nauk o Przedsiębiorstwie*, *70(4)*, pp. 73-90, doi: 10.33119/KNoP.2023.70.4.5
25. UHY ECA Poland (2025). *ESG – raportowanie niefinansowe według nowych wytycznych UE.* YouTube. Retrieved from: https://www.youtube.com/watch?v=uJE8CmnV4-E&t=922s, 18.05.2025.
26. Ustawa z dnia 31 stycznia 1980 r. o ochronie i kształtowaniu środowiska (Dz.U. 1994, nr 49, poz. 196 z późn. zm.).
27. Witkowska, N. (2023). *Raport ESG krok po kroku*. Warszawa: Fundacja im. XBW Ignacego Krasickiego.

28. Wroniewska, A., Dudzik-Lewicka, I. (2024). *Małe przedsiębiorstwa wobec wyzwań zrównoważonego rozwoju w obszarze ESG na przykładzie województwa śląskiego* (niepublikowana praca). Bielsko-Biała: Uniwersytet Bielsko-Bialski, Wydział Zarządzania i Transportu.
29. Zegar, J.. (2003). *Kierowanie zrównoważonym rozwojem społeczno-gospodarczym (ekorozwojem).* Warszawa: Oficyna Wydawnicza SGH.
30. Zieliński, D. (2023). ESG a wyzwania dekarbonizacyjne przedsiębiorstw działających w Polsce. *Studia BAS, 74(2),* pp. 133-140, doi:10.31268/StudiaBAS.2023.15
31. Zuzek, D.K., Mickiewicz, B. (2014). Aktywność przedsiębiorstw w kontekście wdrażania zasad zrównoważonego rozwoju w województwie małopolskim. *Optimum. Studia Ekonomiczne*, *1(67)*, pp. 197-206, doi:10.15290/ose.2014.01.67.14