Management

Theory and Practice of ESG Transformation of Management Systems

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Abstract
The paper explores different approaches to defining the concepts of ESG (Environmental, Social, Governance) and sustainable development and substantiates the position that ESG transformation of management systems is the ideological embodiment of a comprehensive solution to economic, social, and environmental problems facing the state, business, and society. In this regard, it is advisable to view the seventeen UN sustainable development goals (SDGs) through the prism of a set of specific mechanisms to ensure that their achievement is based on ESG ideology. In essence, ESG ideology integrates the triunity of economic, environmental, and social principles inherent in all SDGs, and is a tool for verifying the feasibility of the specific mechanisms that are developed and implemented to achieve each of these goals. Applying an interdisciplinary approach, which is preferable for research of sustainable development issues and assessment of key factors for ESG transformation of management systems, the authors reveal manageable and unmanageable risks, define trends for skill development in managers capable of its implementation, and identify the nuances of achieving sustainable development goals through increased efficiency of interaction between government, business, and society. Specific examples demonstrate that while good practices of the influence of developed civil society institutions on SDG achievement exist, its role is still underestimated, which is a significant hindrance to the achievement of a balance between meeting the objectively existing needs of the population and ensuring no harm to future generations. Research results can be used by the professional community interested in promoting the ESG agenda and achieving sustainable development goals based on ESG transformation of public and corporate management systems.

Keywords: ESG risks, ESG transformation of management systems, ESG factors, sustainable development, sustainable development goals.
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Introduction

Over the past few decades, the concepts of sustainable development, corporate social responsibility (CSR), and the ideology of ESG (Environmental, Social, Governance) transformation have evolved from marginal theories to complex interdisciplinary scientific and methodological concepts recognized both by academic science and the business community. For the last half-century, countless studies on corporate social responsibility and sustainable development have been conducted all over the world, and hundreds of definitions for corporate sustainability, social responsibility, and sustainable development have been proposed.

Today, the need to develop new management models for different levels of economic systems within the paradigm of sustainable development, taking into account economic, social, and environmental trends, is reflected not only in scientific papers but also in the strategic documents of the United Nations, most states and corporations.

A significant body of research has been devoted to the problems of sustainable development and the application of ESG principles; however, no formalized and professionally recognized methodology to assess ESG factors has been developed so far. Specific indicators of sustainable development vary greatly depending on the research goals, objectives, and subject. In addition, users of information, including investors, managers, and other stakeholders, find it difficult to understand the often inconsistent data presented in ESG ratings and reports.

It is worth noting that the process of forming a unified methodology for the identification and assessment of ESG factors is still ongoing, not only in the Russian Federation but also globally. Its first stage was associated with the sustainable development indicators established by the UN Commission on Sustainable Development (CSD) and the Organization for Economic Cooperation and Development (OECD). At the next stage, the focus was shifted to the development of a methodology to assess ESG factors at the corporate level, including through dissemination of MSCI ESG indices and Global Reporting Initiative (GRI) brokers sector indicators. Currently, methodologies are being created to evaluate the ESG maturity of management systems at different levels, with regard to their size, geography, age, ownership structure, etc.

Since March 2021, the European Union's Sustainable Finance Disclosure Regulation (SFDR)[1] has been applying. Regulation requires financial institutions and advisors to disclose non-financial information in relation to environmental, social and governance factors (ESG).

[1] Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on Sustainability-Related Disclosures in the Financial Services Sector. (L 317/1, 9.12.2019, L 317/1). DOI:https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R2088&from=EN.

OECD analysts presented recommendations for governments on the development of regulation of the market of ESG-assessments[2]. This document provides guidance for policy makers and market participants seeking to strengthen ESG investing and finance a climate transition through the use of quality metrics, ratings, targets and frameworks. In particular, the recommendations indicate that the ESG assessment of companies, among other things, should determine the level of involvement of companies in achieving the goals of the Paris Agreement and the UN SDGs.

The purpose of this study is to identify the factors that are hindering effective ESG transformation of management systems, as well as barriers and constraints to the practical implementation of the concept of ESG transformation of management systems in the process of evolution of theories and methodologies of socially oriented management and the ESG transformation ideology, taking into account the emerging risks and challenges to sustainable development.

We believe that management systems are the key to successful ESG transformation, which is a necessary prerequisite for a comprehensive approach to addressing economic, social, and environmental issues facing the state, business, and civil society.

1. Evolution of Socially Oriented Management Theories and the ESG Transformation Ideology

The ideas of social responsibility and socially oriented management received wide public resonance after World War II. The term "corporate social responsibility" was first introduced in 1953 by Howard Rothmann Bowen in *Social Responsibilities of the Businessman*, which stipulated the obligations of business executives to follow the goals and values of society, respect its needs and produce social benefits along with economic ones [Bowen, 1953].

The concepts of social responsibility, socially oriented management, and sustainable development have taken different forms and have been described in different ways depending on the time, field of study, or context of the discussion. As Patrick Murphy noted in 1978 [Murphy, 1978], the concept of corporate social responsibility (CSR) went through four development stages.

1. The philanthropic era (prior to 1950).
2. The awareness era (1950s to 1960s).
3. The issue era (late 1960s to early 1970s).
4. The responsiveness era (1970s).

[2] Policy Guidance on Market Practices to Strengthen ESG Investing and Finance a Climate Transition. *OECD Business and Finance Policy Papers*. No 13. Paris, OECD Publishing, 2022. https://doi.org/10.1787/2c5b535c-en.

In the 1950s, along with the awareness of the need to comply with the principles of corporate social responsibility and the requirement for management decisions to be socially oriented, the scientific community embarked upon the development of general systems theory and systems analysis. In this vein, Kenneth Boulding [Boulding, 1956], a pioneer and advocate of general systems theory, views management systems as complex open systems, inextricably linked to the external environment.

As the concepts of socially oriented management and ESG evolved, different researchers emphasized different internal and external environmental factors, depending on their assessment of the degree of positive or negative impact of various factors on achieving sustainable development goals or certain aspects of ESG transformation.

The most frequently cited external factors that influence the ESG maturity of management systems at different levels are business reputation, the influence of the institutional business environment, including regulatory risks as well as "new reality" risks associated with active politicization of economic processes, trade wars, and the impact of the pandemic [Mau, 2020], combined with the increasing impact of digitalization on the ESG agenda.

The sustainable development framework is used to assess the impact of business reputation [Singh, Misra, 2021] and managerial perception of social and environmental efforts of a company [George, Schillebeeckx, 2022; Vereshchagin, Shemyakina, 2021]. Considerable attention is given by Russian [Emelyanova, Vasilev, 2021] and foreign [Kundurpi et al., 2021] researchers to the institutional factors of the business environment and their influence on ESG transformation processes. Many papers assess the impact of local authorities and the business environment on the motivation of businesses to ensure ESG transformation and focus on the principles of sustainable development, which is especially relevant for small and medium-sized businesses [Escoto et al., 2022; Martins et al., 2022].

The issue of determining the limits of regulatory pressure to achieve sustainable development goals is raised both in Russian [Zenkina, 2021] and in international research papers [George, Schillebeeckx, 2022]. It is worth noting that many Russian authors note the growing influence of regulatory ESG risks on the investment decision making process, among them [Smirnov, 2020; Zenkina, 2021] and others.

Research related to the ESG agenda is often focused on the issues of using ESG reporting for information disclosure and increasing the ESG maturity of companies [George et al., 2021; Olanipekun et al., 2021]. As noted in [Chipurenko, Lisitskaya, 2021. P. 26], if Russia develops a set of internal standards for the presentation of ESG data in corporate reporting, investors in the financial market will be able to justify the

price of resources they provide, which will strongly motivate socially responsible behavior of company executives. [Emelyanova, Vasilev, 2021. P. 25] point out the urgent need for greater detailing of information disclosed by companies in order to improve the quality of analytics and ESG risk assessment of Russian companies at the regional level. The authors emphasize that ESG transformation is increasingly influenced by non-financial factors of the business environment such as investor protection, established norms of regulation of inter-agency conflicts [Wang et al., 2021], social preferences, and national culture [Labidi et al., 2021].

Current research examines the impact of geopolitics on ESG transformation processes. As noted by Christina Lubinski and R. Daniel Wadhwani [Lubinski, Wadhwani, 2020], the recent growth of economic nationalism can create political and economic opportunities, as well as threats to the ESG transformation of multinational companies. Andrew Delios, Gordon Perchtold, Alex Capri [Delios et al., 2021] believe that the COVID-19 pandemic, geopolitics, and sanctions have significantly impacted the nature and mechanisms of international competition, increasing the degree of regulation of economic processes.

The impact of the coronavirus pandemic on business attitudes toward social responsibility is evaluated in [Zattoni, Pugliese, 2021], its consequences for ESG ideology in [Delios, et al., 2021; George, Schillebeeckx, 2022], and the impact of digitalization on ESG transformation and business attitudes in the sustainability paradigm in [Barrero et al., 2021; George, Schillebeeckx, 2022; Schillebeeckx et al., 2022].

Internal factors affecting ESG maturity include business size, asset structure, industry, ownership, cost, financial status, financial results, and performance.

The ESG maturity of a company is analyzed from the perspective of small and medium businesses in [Escoto et al., 2022; Martins et al., 2022], as well as from the side of large businesses and multinational corporations in [George, Schillebeeckx, 2022; Sun et al., 2021]. [Schillebeeckx et al., 2022] considers asset structure, which in turn depends on the industry and area of activity, as the most important factor determining executives' attitude towards ESG transformation.

The relationship between corporate social responsibility and financial performance is explored in [Kamalirezaei et al., 2020, Ye et al., 2021]. According to [Fatemi et al., 2018; Wang et al., 2021], accounting for ESG factors along with traditional financial indicators to assess corporate efficiency may increase the value of the company. V. D. Smirnov [Smirnov, 2020] believes that the motivation of investors largely depends not only on the financial performance of the company but also on its efforts to meet the current development goals of the state and society as well as attitudes towards the environment. Chinese authors Meng Ye,

Hongdi Wang, Weisheng Lu [Ye et al., 2021] investigate mechanisms for developing robust strategies to transform CSR programs into financial and value effects at macro-, meso- and micro-levels.

In general, thousands of papers have recently been published on sustainability, ESG transformation, corporate social responsibility, and corporate sustainability. They investigate the sustainability and efficiency of management systems, mechanisms of transition to green economy, environmental, social, and cultural problems of ESG agenda, their impact on sustainable development policy, values, skills and capabilities required to ensure the sustainability of management systems at different levels.

It is worth mentioning that despite extensive research devoted to the topic of sustainable development, the body of knowledge and methodology related to the factors and mechanisms of ESG transformation of management systems is still in formation.

2. Development of a Methodology for the Analysis of ESG Transformation Factors

The study of corporate social responsibility, the substance of the concept of sustainable development, and the mechanisms of ESG transformation of management systems requires a comprehensive interdisciplinary approach to developing tools for integrated assessment of environmental, social, and managerial aspects of public administration and corporate structures. This approach can be considered a current trend in the development of the theory of management decisions performance evaluation.

One of the most common methods used to assess the effectiveness of ESG transformation of management systems is the use of indicators. An indicator is an observable value of any parameter of a process, object state, or environment used to measure changes in the phenomenon under investigation, characterizing it quantitatively or qualitatively.

The most common method for selecting target indicators is the so-called SMART technology (Specific; Measurable; Achievable; Realistic; Timed). However, its application has certain limitations, namely that long-term SMART planning is pointless in a rapidly changing situation, when the goals may become irrelevant before their target achievement date, and in the case when the important part is not so much a specific measurable result as progression in a certain direction.

Obviously, these limitations are very relevant in the current geopolitical reality. They do not nullify the logic of SMART technology per se, but do require increased attention in its application.

Most researchers, including [Antonova, Shumkov, 2022; Dragomir, 2018; Rahdari, Rostamy, 2015], consider indicators to be barometers of

social, economic and environmental conditions of economic systems, or useful tools to assess various aspects of their overall performance. In fact, there is no alternative to the use of indicators when it is either impossible or unfeasible to reduce the achieved outcomes to exclusively financial measures. This is the situation we inevitably face when solving the task of evaluating ESG transformation of management systems.

The advantage of the indicator-based approach is the ability to integrate the non-financial aspects of activities in the decision-making process, to assess the quality of management and sustainability of the object of management in the long term. In addition, assessing ESG transformation of management systems using this approach allows us to analyze the risks and opportunities, which, in turn, helps justify management decisions using representative accounting methods. The assessment of ESG risks based on the indicator approach is made more complicated by the existence of certain aspects of activity that are difficult to measure with any (not only financial) quantitative indicators; therefore, expert evaluation is also required.

Various ranking models, regulatory documents and guidelines for sustainable development, corporate social responsibility and ESG factor evaluation were also used in this paper. In addition, it should be noted that previously conducted scientific research, monographs and articles devoted to the disclosure of the theory and methodology of sustainable development are valuable sources for the development of the approach proposed by the authors and were used to evaluate the key factors associated with ESG transformation of management systems.

Following the systems theory approach to risk factor assessment, we group them into external and internal depending on their origin.

The external business environment factors affecting the ESG maturity of management systems on various levels are typically separated into market-related factors (market concentration, market type, business reputation and market position), institutional factors (regulatory risks, the level of investor protection, established formal and informal norms of regulation of inter-agency conflicts), and social factors (mentality, social attitudes and national culture). Recently, new trends related to the geopolitical situation, environmental and pandemic crises, combined with the growing influence of digitalization, have had a strong influence on the ESG agenda.

Most researchers, while emphasizing the increasing role of ESG maturity in attracting investment, note the positive impact of businesses' efforts to maintain environmental and social sustainability on reputational capital and the overall performance of management systems at various levels. This logic holds for public administration as well. For example, environmental and social risks have a very significant impact on the investment attractiveness of regions. At the same time, institutional factors

of the business environment can have both positive and negative effects on the processes of ESG transformation of management systems.

It is worth noting that the task of identifying the degree of intervention by regulators and social control agents in business affairs and the boundaries of rule-making and corporate responsibility is becoming a fundamental scientific problem, defining the framework of social responsibility and additional obligations with regard to public welfare.

The process of developing uniform requirements for ESG information disclosure in reporting is currently underway. Public non-financial reporting in the field of environmental, social and corporate responsibility and sustainable development enables partners, investors, analysts, and other stakeholders to assess the company's key non-financial indicators and their level of transparency, and compare data presented in non-financial reports.

Most researchers agree that the disclosure of ESG data will act as motivation for executives to be socially responsible and achieve sustainable development goals. Nevertheless, Gerard George and his co-authors [George et al., 2021] raise the concern that while the recent trend towards stricter regulatory requirements for sustainability reporting by regulators may lead to an increasing number of companies complying with ESG requirements, current sustainability leaders may refuse to further expand the boundaries of their activities.

Undoubtedly, geopolitical factors and increasing institutional pluralism in the global business environment have a significant impact on ESG transformation processes.

In a complex global geopolitical environment increasingly characterized by nationalism, sanctions and trade restrictions, it can be difficult to implement measures to combat climate change that require a global partnership to achieve sustainable development goals. Despite the universally acknowledged urgency of the issue of combating climate change and the biodiversity crisis, factors such as political will, the capacity to change legislation, and the ability to impose appropriate legal rules and restrictions vary widely among countries.

In addition, shifts in the global world order have upset the balance between globalization and localization, leading to significant changes in the supply chains and sustainable development strategies of different countries. This environment creates contradictions related to the need for a standardized global approach to sustainability issues and the delegation of decision-making power to the national and local levels. Geopolitical tensions and sanctions are disrupting value chains, driving up costs and reducing profits. Many companies face the probability of bankruptcy that was estimated to be vanishingly small only a short time ago. Naturally, companies have begun to create alternative supply chains to reduce their dependence on politi-

cized decisions made in the countries where their partners are traditionally localized.

The COVID-19 pandemic and the unpredictable geopolitical changes have changed the nature of international competition and the degree of state involvement in the economy, leading to increased conflict and declining trust among politicians and states. Under these conditions, investments are redistributed between geographic regions, and the attitudes of businesses toward the ESG agenda are changing.

First, in the long-term aftermath of the pandemic, we will probably see a structural change in governance mechanisms and business attitudes toward corporate goals. During the pandemic, most governments developed a range of mechanisms to help businesses, using fiscal policy tools aimed at economic recovery and corporate survival. A wide range of direct subsidies and support measures changed incentive systems and control mechanisms, as well as the attitude of businesses toward government regulation.

Second, the pandemic has led to organizational challenges associated with most employees working remotely, making it difficult to coordinate their work. The idea of the workspace is gradually being reimagined; working from home has become standard practice for many employees and executives over the past two years [Barrero et al., 2021].

In [George, Schillebeeckx, 2022. P. 3] digitalization is seen as a tool to accelerate the transition to sustainable development. Digitalization has increased the transparency of information and corporate behavior, put forward new reporting requirements for companies, forcing the introduction of environmental monitoring and impact management systems, which increase the amount of information and digital industry for ESG reporting. For example, remote sensors and other special devices can not only monitor emissions in real time, but also record and collect information about them in distributed databases.

Digitalization is transforming approaches to the assessment of competitiveness and the impact of competitive mechanisms on business. Thus, the effect of scale is reduced, but at the same time, new competitive advantages arise, associated with network interaction and the ability to use artificial intelligence for remote coordination of activity, decision making, and goal achievement [George, Schillebeeckx, 2022. P. 6]. This means that large corporations that stick to analog practices and procedures are much less flexible than digital platforms and companies, smaller in size and with fewer internal resources, which gain a competitive advantage through open access. With the increasing volume and transparency of available information, the classical approach to sustainability in terms of reducing negative externalities (waste, pollution, injustice, etc.) is replaced by a concept that presents sustainability and ESG strategies as competitive advan-

tages that reduce costs and improve performance [Chelukhina, 2022; Schillebeeckx et al., 2022].

Internal factors that determine ESG maturity at the corporate level include business size, asset structure and industry ownership, form of ownership, financial condition, financial results and performance. Internal factors of ESG maturity of regions include financial system equilibrium, the availability of qualified personnel, the level of infrastructure development, and innovation potential.

The list of factors could be expanded, however, a methodological approach that would link environmental and climate risks to social and economic problems has not yet been created. In practice, programs to combat poverty, climate change and energy efficiency are rarely coordinated [Cornelis, 2020].

Our understanding is that isolated consideration of sustainable development goals or their grouping by environmental, social and economic (managerial) attributes represents a rejection of an integrated interdisciplinary approach in favor of considering the main elements of ESG without taking into account the real internal relationships between them. In particular, the achievement of the UN-approved SDG "Partnerships for the Goals" is often exclusively associated with management quality[3], although without simultaneously addressing social and environmental issues, such a partnership is essentially impossible. Fragmentation of ESG transformation factors is not fully justified and may even lead to the unfathomable situation where companies with poor SDG indicators may receive good ESG ratings[4].

Overall, any deviation from a comprehensive consideration of the mechanisms of SDG achievement, which requires a holistic approach to social, environmental, and economic factors, can have negative consequences. Therefore, the difference between the concepts of *ESG* and *sustainable development* lies primarily in the fact that ESG embodies the ideology of comprehensive solutions to economic, social, and environmental problems facing the state, business, and society, while the 17 UN SDGs should be regarded as a set of specific mechanisms that ensure these solutions on the basis of ESG ideology.

In essence, this means that the ESG ideology is based on the triunity of economic, environmental and social aspects inherent in all SDGs, and this common base can be used as a tool to evaluate the performance of specific mechanisms developed and applied to achieve the 17 SDGs. This logic is reflected in Table 1 and Figure 1, which reflect the

[3] Sætra H. A Framework for Evaluating and Disclosing the ESG Related Impacts of AI with the SDGs. *Sustainability*, 2021. https://www.researchgate.net/figure/SDG-through-the-lens-of-ESG-18_fig2_353555440.

[4] Rundell S. *The Transition From ESG to SDG. Sustainability in Practice.* https://www.top1000funds.com/2022/05/the-transition-from-esg-to-sdg/.

logic of ESG transformation of management systems in relation to external and internal environment factors.

Table 1

The Essence of ESG Transformation of Management Systems

Origin of the ESG abbreviation			ESG transformation of management systems	
Source		Essential meaning	Prerequisites	Expected outcomes
E	environmental	Environmental security	• Common values • Effective institutions	Strategic competitiveness of the object of ESG transformation of management systems
S	social	Social development		
G	governance	High-quality management		

Source: developed by the authors.

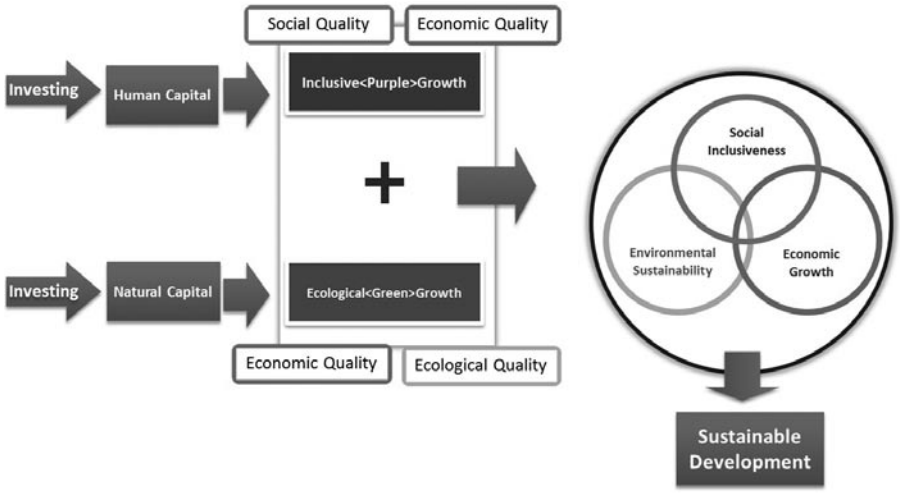

Fig. 1. **Model for Integration of Three ESG Dimensions of Sustainable Development (Raekwon Chung, 2022)**

Consideration of external and internal factors affecting the condition and development of an object of management is a common method of strategic planning, known as SWOT analysis. Let us apply this tool to identify the factors affecting the goal of conducting an effective ESG transformation of management systems (Table 2).

Of course, the SWOT analysis data presented in Table 2 are generalized, and can and will have specific characteristics in each particular case. For example, Moscow, which is the leader of the ESG rating of the subjects of the Russian Federation, has a higher public awareness of the essence of ESG, does not face the problem of poverty as acutely as other regions, etc. [5]

[5] According to the National Rating Agency. https://www.ra-national.ru/.

Table 2

SWOT Analysis: Factors of ESG Transformation of Management Systems

	Impact	
	Contributes to ESG transformation of management systems (+)	**Hinders ESG transformation of management systems (–)**
Internal	*Strengths (S)* • Availability of natural resources, which increases the sustainability of the economy compared to other countries • High level of digitalization, which accelerates implementation of strategically important decisions, including ESG transformation of management systems • Tendency to reduce administrative barriers for businesses • Accelerated formation of institutions to promote the ESG agenda	*Weaknesses (W)* • Low awareness of the population, business, and public administration about the essence of the ESG agenda • Accumulated burden of environmental problems (annual forest fires, landfills, reduction of biodiversity, etc.) • Low income of the population • Large number of urgent challenges that reduce financial opportunities for ESG investment
External	*Opportunities (O)* • Strategy aimed at acquiring technological sovereignty • Training and development of personnel, formation of competencies in the field of ESG transformation mechanisms of management systems • Implementation of a comprehensive program to improve environmental awareness of the population • Development of new mechanisms for ESG investment • Improving the culture of ESG reporting • Formation and promotion of a system of best regional and corporate practices for achieving sustainable development goals and implementation of corporate social responsibility principles	*Threats (T)* • A new geopolitical reality characterized by unprecedented pressure on the Russian economy through sanctions • Freezing of over $300 billion in Russian gold and foreign currency reserves by unfriendly countries • Low reliability and stability of supply chains • High risk of a global financial and economic crisis, which may reduce the relevance of ESG agenda promotion

Source: developed by the authors.

Similar conclusions can be drawn based on the analysis of ESG ratings of corporate structures. For example, the leader of ESG ranking[6] by the RAEX analytics agency is Polymetal, a company engaged in the extraction of precious metals, which is ranked as follows: "E" - 1st place;

[6] It should be noted that the ranking under consideration is, in fact, a rating. The fundamental difference between the two concepts is as follows. *Ranking* is essentially a simple arrangement of objects of analysis in descending or ascending order in accordance with the value of a specific criterion based on available data. The distinctive feature of ratings is comparative assessment of objects of analysis, often with multiple criteria, carried out in accordance with the rules developed by the rating initiators. From this point of view, an ordered list of countries is a ranking, and a comparison of companies by ESG maturity is a rating (for more on this see: Margolin A.M., Spitsyna T.A. Country Ratings Today and Tomorrow. *State Service*, 2020, no. 4(126), pp. 42-55). Therefore, from this point on we only use the term "rating" in relation to ESG maturity assessment.

"S" - 3rd place; "G" - 22nd place. Obviously, in this case, company executives have a systemic understanding of environmental safety, while social challenges are not considered as significant for the company. However, the risk associated with the need to find new markets amid the introduction of bans on imports of gold from Russia by unfriendly countries, especially given the company's 22nd place in the "G" category, requires close attention.

Despite the need to adapt the generalized results of the SWOT analysis to each specific object under consideration, its general logic is quite applicable to the development of approaches to the assessment of ESG maturity factors, discussed below.

3. Risks and Challenges Hindering Effective ESG Transformation of Management Systems

Despite professional consensus around the need to promote the ESG agenda and the creation of business models for sustainable development, the approaches to developing a methodology to evaluate ESG maturity factors of management systems at different levels and a set of specific target indicators remain very varied and rather debatable.

As shown earlier, the methodology for assessing the ESG maturity factors of management systems is closely related to the formation of a ranking system. The number of rating agencies presenting sustainability ratings (or ESG ratings) is increasing both locally and internationally. Global ESG ratings are calculated by Sustainalytics, Investor's Business Daily, MSCI, Institutional Shareholder Services, S&P Global, and others. Sustainability ratings are also compiled by Russian rating agencies such as Expert RA, SGM, ACRA, National Rating Agency, RAEX, SGM, and others.

Almost all initiators of the creation of ratings have their own methodology and measure ESG factors using a set of indicators which, on the one hand, are in line with generally recognized determinants of sustainable development, but, on the other hand, drastically differ among agencies. With the growing number of such resources and the lack of convergence between them, assessments of ESG maturity factors of economic systems are diverse and inconsistent, which presents challenges to interpreting the results of various rating assessments among researchers, corporate executives, investors, and practitioners.

In 2022, building on existing OECD research on ESG ratings, and in particular on the 'E' environmental pillar, OECD analysts examined the reasons for differences in rating agencies' ESG ratings and identified key metrics developed by ESG rating providers[7]. As noted in the

[7] ESG Ratings and Climate Transition: An Assessment of the Alignment of E Pillar Scores and Metrics. *OECD Business and Finance Policy Papers*. Paris, OECD Publishing, 2022. https://doi.org/10.1787/2fa21143-en.

Table 3

Manageable and Unmanageable Risks to ESG Transformation of Management Systems

Factors (resources)	Public administration		Corporate management		Civil society	
	Risks		Risks		Risks	
	Manageable	Unmanageable	Manageable	Unmanageable	Manageable	Unmanageable
Human capital	Priority of short-term goals over long-term, strategic ones; Poverty and social inequality; Lack of necessary ESG competencies in managerial staff	The outflow of qualified personnel, including those with ESG competencies	Poor understanding of the importance of increasing the company's ESG maturity among top management and staff; Lack of focus on hiring personnel with modern ESG competencies	Insufficient efficiency in training personnel with modern ESG competencies	Lack of positive ESG culture in daily life	Lack of focus on the promotion of social values in the education system
Financial capital	Lack of resources to implement government programs to stimulate business and support the population	Sanctions pressure on the economy in the new geopolitical reality	Shifting financial resources to solve emerging problems to the detriment of comprehensive solutions to economic, social, and environmental challenges that companies are facing	The collapse of traditional markets under the sanctions pressure on the Russian economy, disruption of supply chains	–	Lack of incentives and support for the population to develop interest and skills to participate in solving social and environmental problems
Natural resources	Existence of acute environmental problems inside the country	The risk of adverse global climate change and man-made disasters	The negative environmental reputation of companies	Existence of acute environmental problems that cannot be solved by corporate management	Poor quality of environmentally conscious upbringing	Poor quality of environmental education

End of table 3

Factors (resources)	Public administration		Corporate management		Civil society	
	Risks		Risks		Risks	
	Manageable	Unmanageable	Manageable	Unmanageable	Manageable	Unmanageable
Information	Insufficient coverage of ESG-related issues in various media sources; Lack of modern digital competencies among civil servants	Information wars against Russia unleashed by unfriendly countries	Insufficient research of best corporate practices of ESG transformation of management systems; Lack of modern digital competencies among company personnel	Insufficient opportunities to obtain necessary information about ESG issues in various media	Lack of interest in comprehensive solutions to economic, social, and environmental problems facing the country and the region	Insufficient opportunities to obtain necessary information about ESG issues in various media
Entrepreneurial talent	Excessive administrative pressure on the entrepreneurial community	The departure of leading foreign companies that are advocates of the ESG agenda from the Russian market	Lack of entrepreneurial leaders in companies, who are capable of making unconventional decisions, involving ESG transformation of the management system in the face of crisis	Excessive administrative pressure on the entrepreneurial community	Insufficient public attention to the development and promotion of entrepreneurial initiative	Excessive administrative pressure on the entrepreneurial community
Institutions	Bad investment climate; Lack of formal and informal rules stimulating the promotion of the ESG agenda	Decline (freezing) of investment (and other) ratings of the country for political reasons	Corporate cultures that are unfriendly to ESG-related changes	Bad investment climate; Lack of formal and informal rules stimulating the promotion of the ESG agenda	Lack of initiative from civil society to participate in the formation of modern institutions	Insufficient involvement of the population (development of crowdsourcing platforms) in solving the problem of improving the quality of institutions, including ESG agenda promotion

Source: developed by the authors.

paper, challenges with investing in ESG include limited transparency and comparability of ESG methodologies and metrics.

In our opinion, of crucial importance for ESG rating is the assessment of key risks that prevent ESG transformation of management systems. It is advisable to classify these risks into manageable and unmanageable (a similar classification was proposed in[8] as applied to investment risks). Essentially, the assessment of manageable risks is reduced to determining the costs required to reasonably minimize them, while unmanageable risks can only be assessed through expert analysis. Table 3 presents manageable and unmanageable risks within the framework of Jean-Baptiste Say's three factors of production theory ("capital, labor, land" or, in a more modern interpretation, "financial capital, human capital, natural resources"), meaningfully supplemented by taking into account such resources as information, entrepreneurial talent and institutions (which Nobel laureate Douglass North understands as a set of formal and informal rules and mechanisms to ensure their implementation). The implementation of the proposed approach to the assessment of ESG risks can serve as the basis for the development of business models to ensure long-term economic, social, and environmental sustainability, taking into account the interests of a wide range of stakeholders.

4. Prerequisites for ESG Transformation of Management Systems

At present, there is an ongoing process of development of normative and legal foundations and methodologies for the assessment of factors related to ESG transformation of management systems in the Russian Federation. Several resolutions and legislative acts have been adopted in the field of sustainable economic development, methodologies for evaluation of sustainable development project criteria, and development of non-public financial reporting; the Bank of Russia has developed practical guidelines for ESG accounting, and new standards have been put into effect[9].

Per the Concept for the development of public non-financial reporting[10], the design of an ESG factor assessment methodology is associated with the development and implementation of requirements for

[8] Margolin A. M., Margolina E. V., Spitsyna T. A. *Economic Evaluation of Investment Projects*. 2nd ed. Moscow, Ekonomika, 2018. https://elibrary.ru/uqvvds.

[9] **Decree of the Government of the Russian Federation of September 21, 2021 No. 1587 "On approval of the criteria for sustainable (including green) development projects in the Russian Federation and requirements for the verification system of sustainable (including green) development projects in the Russian Federation"**; Information Letter of the Bank of Russia of December 16, 2021 No. IN-06-28/96 "On Recommendations for the Board of Directors of a public joint stock company to consider ESG factors and sustainable development issues"; National Standard of the Russian Federation GOST R ISO 37101-2018 "Sustainable Development in Communities. Management System. General principles and requirements" (approved and put into effect by the Order of the Federal Agency for Technical Regulation and Metrology of 07.08.2018 No. 461-st).

[10] Government Order No. 876-r of May 5, 2017 "On the Concept for the Development of Public Non-Financial Reporting and the Action Plan for its Implementation".

public non-financial reporting parameters, including the categories of organizations involved, the amount of information provided, the list of basic indicators of sustainable development and additional criteria based on industry specifics. The Bank of Russia, as part of its discussion on non-financial reporting, proposed abandoning the term "non-financial reporting" in favor of "sustainability reporting", explaining that ESG factors reflected in the so-called non-financial reporting also affect a company's financial indicators. According to the regulator, the establishment of a single standard for the disclosure of ESG information in reporting will solve the key problem of ensuring the reliability, completeness, and comparability of disclosed data.

[Martins et al., 2022; Rahdari, Rostamy, 2015] propose a wider implementation of sustainable development standards into the practice of corporate governance as mechanisms for managing ESG risks. In their opinion, this will improve business efficiency and serve as evidence of the benefits of achieving sustainable development goals. The rapidly growing trend towards increased amounts of socially responsible investment also demonstrates the integration of the ESG agenda into the investment process and maximizes the long-term interests of investors.

The assistance that state authorities may provide for the transition to ESG at different levels of management consists in encouraging certain specific measures aimed at achieving sustainable development goals. Following the logic of this study, here is our recommended approach to ESG transformation of management systems, the framework of which is based on three key considerations:

A. *The need for ESG transformation of management systems generates the need for the formation of appropriate managerial competencies* (note that we quite deliberately put human capital in first place in Table 3). The proposed structure of such competencies and general trends of their development are presented in Table 4. Given the above, it becomes obvious that a necessary (but certainly not sufficient) condition for effective ESG transformation of management systems is the training of personnel deeply versed in these issues, involving the development and implementation of appropriate programs of higher and (primarily) additional professional education for public administration and business.

It should be noted that the groups of competencies in Table 4 are interpreted broadly. For example, "resource management" implies the need to conserve resources and increase the efficiency of the use of all types of resources listed earlier in Table 3. In this context, the focus is not only on financial or natural resources but also on information as a type of resource. Accordingly, the development of digital competencies, which is a prominent current trend, is seen as a prerequisite for the ESG transformation of management systems.

Table 4

Development of Managerial Competencies in the Context of ESG Transformation of Management Systems

Competencies	The logic of competency development in the context of ESG transformation of management systems
Values and ethics	From the cult of current consumption to achieving national security and sustainable development goals
Strategic thinking	From a short-term goal focus to long-term priorities & From Quantity to Quality of output,
Communication	From autocratic management to building effective management teams
Effective management skills	From excessive administration to building trust between the state, business, and civil society
Resource management	From wastefulness to resource conservation and efficiency

Source: developed by the authors.

B. ESG transformation of management systems has a decisive impact on the prospects of achieving SDGs. Moreover, it is based on two "triads of sustainable development": 1) effective interaction of the state, business, and civil society (Table 3); 2) mandatory consideration of each of the SDGs as a whole, taking into account economic, social and environmental factors, excluding the binding of any SDG only to "E", "S" or "G" (it was in this logic that the formation of managerial competencies was considered in Table 4 and expanded in Table 5 in relation to various SDGs).

C. The role of civil society in solving the problem under consideration is currently underestimated. One factor that is hardly ever taken into account is that some consumers are willing to pay a voluntary carbon tax, expecting that their example will contribute to an accelerated ESG transformation of state and corporate management systems. For example, according to opinion polls in South Korea, 48% of the working-age population currently support this idea, while 45% view it negatively. Nevertheless, society alone, no matter how conscientious, will not be able to solve the problem of achieving sustainable development goals. Government support is indispensable in terms of providing preferences to green agenda advocates and businesses that are willing to strengthen their brand through ESG transformation of corporate governance (Fig. 2).

In general, the recommendations given in this article, as well as further research aimed at developing mechanisms of ESG transformation of management systems, may contribute to overcoming the negative trends in global development (see Figure 3), which were quite poignantly described by English historian Arnold Joseph Toynbee: *If mankind does respond to the challenge of its present self-imposed ordeal by saving itself from self-inflicted genocide, this will have been the reward of a common effort to transcend all the traditional divisions and to live as one family for the first time since mankind made its first appearance on this planet.*

Table 5

Sustainable Development Goals in the Logic of ESG Transformation of Management Systems

Sustainable development goals	Key ESG element	Specifics of ESG transformation mechanisms for management systems
No Poverty	S	In developing mechanisms to support low-income populations, it is crucial to attract the necessary resources in ways that do not reduce the amount of funding for environmental programs
Zero Hunger	S	In the Russian Federation, this problem has largely been solved. However, when ensuring food security, it is necessary to consider the advisability of a complete ban on the use of GMOs in the food industry, a refusal to import genetically modified products, as well as the need to stimulate the production and export of environmentally friendly products
Good Health and Well-being	E and S equally	In addition to ensuring access to quality healthcare for the vast majority of the population, it must be taken into account that environmental pollution is increasingly causing the spread of disease
Quality Education	S	In addressing the problem of equal access to quality education, it is necessary to maintain a strong focus on lifelong environmental education
Gender Equality	S	The problem of gender equality in Russia is not as acute as it is in many countries. For example, according to the consulting company Deloitte*, the share of female CEOs in Russia is 4.5 times higher than the world average
Clean Water and Sanitation	E and S equally	According to available data, over 10 million people in Russia only have access to bad-quality water, and over 15 million people do not have a centralized hot water supply. Therefore, managerial mechanisms for achieving this SDG should be based on the ideas of forming natural ecosystems in the interests of human safety, prevention of negative social consequences of water use, and restoration of disturbed aquatic ecosystems to a level that guarantees a reasonable balance between socioeconomic development and environmental security
Affordable and Clean Energy	E and S equally	As demonstrated by the experience of different countries in 2022, excessive "obsession" with renewable energy sources can lead to negative social and environmental consequences. In this context, ESG transformation of management systems in the context of this SDG essentially means the development and implementation of a strategy for the balanced development of traditional and alternative energy
Decent Work and Economic Growth	E and S equally	Multiple examples show that economic growth "on paper", expressed as a percentage of GDP, may well, even if only for a short time, be accompanied by environmental degradation and an increase in social inequality. It is, therefore, necessary to focus on strategies that, along with economic growth as such, help to improve the quality of life and ensure environmental security. In fact, E and S act as constraints to the mechanisms employed by G
Industry, Innovation, and Infrastructure	E and S equally	The achievement of this SDG requires, above all, the development of high-quality economic mechanisms and managerial decisions. Nevertheless, it is impossible to develop those without taking into account the environmental and social consequences of their practical application

End of table 5

Sustainable development goals	Key ESG element	Specifics of ESG transformation mechanisms for management systems
Reduced Inequality	S	Reducing inequality is first and foremost a social problem. However, if there is a critical mass of poor people concerned primarily with survival, environmental problems will also inevitably escalate. Accordingly, a system of measures to combat inequality, combined with environmental education and environmental safety, will have the greatest effect in terms of achieving this SDG
Sustainable Cities and Communities	E and S equally	Current trends in the development of urban agglomerations, cities and towns are associated with the development of a system of measures to improve the quality of life of the population, increase its social protection, and improve the environmental situation. The implementation of a set of appropriate measures is possible if the long-term interests of the state, business, and civil society are coordinated and form the basis of ESG transformation of territorial management systems
Responsible Consumption and Production	E	The challenges of reducing the resource intensity of various industries, reducing waste production and its negative impact on human health and the environment, food losses, etc. are at the epicenter of sustainable consumption and production models. In this area, ESG transformation of management systems is primarily aimed at abandoning short-term profits that might generate significant damage in the future in favor of achieving sustainable development goals and considering long-term environmental and social consequences of decisions that are being made
Climate Action	E	The goal of carbon neutrality, which is the basis of a widely discussed system of measures to prevent negative climate change, should not be achieved at the expense of increasing social inequality and exacerbating various social problems, which are no less urgent than climate issues
Life Below Water	E	The two SDGs related to the conservation and sustainable use of ecosystems in the oceans, seas, and land are extremely relevant in terms of reducing the technogenic burden on the natural environment, counteracting the loss of ecological sustainability of territories, and the spontaneous destruction of natural ecosystems. But when developing mechanisms to achieve them, it is important not to lose sight of the need to promote equitable distribution of benefits from the use of various types of natural resources and thus ensure compliance of such mechanisms with ESG principles
Life on Land	E	
Peace, Justice and Strong Institutions	E and S equally	The solution to the problem of building peaceful communities and equal access to fair justice lies in the formation of effective institutions, i.e., the creation of appropriate formal and informal rules and mechanisms to ensure their implementation. The key developers of such mechanisms should have a high level of social and environmental responsibility, and the recruitment of people with relevant competencies should be the backbone of ESG transformation of management systems in relation to this SDG
Partnerships for the Goals	E and S equally	The new geopolitical reality makes it evident that global risks are increasing, while partnership between leading countries for peace is virtually nonexistent. Therefore, the achievement of this SDG within the ESG ideology is currently difficult. However, there are no alternatives

* https://www.rbc.ru/business/06/03/2020/5e611e539a79475f771b7e8f.

Source: developed by the authors.

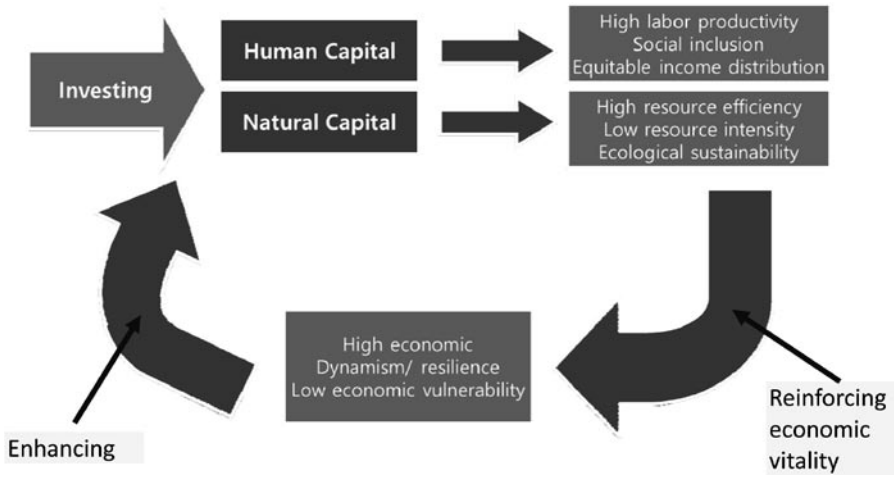

Fig. 2. **Virtuous Cycle/Pursuing Long Term Quality of Growth (Raekwon Chung, 2022)**

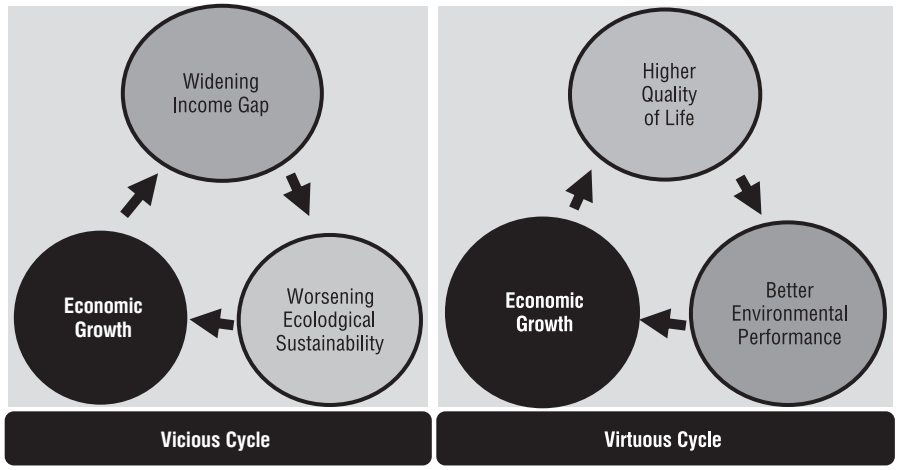

Fig. 3. **Transforming the Vicious Cycle of Development into a Virtuous Cycle (Raekwon Chung, 2022)**

Conclusions

1. Research on the methodology of ESG transformation of management systems, mechanisms for achieving sustainable development goals and practical implementation of corporate social responsibility principles requires a holistic interdisciplinary approach that allows to develop tools for a comprehensive assessment of environmental, social, and managerial aspects of public administration and corporate structures. This approach can be considered a current trend in the development of the theory of management decision performance evaluation. The widespread practice of isolated consideration of sustainable development goals or their grouping by environmental, social and economic

(managerial) attributes represents a rejection of the interdisciplinary system approach in favor of the study of the main elements of ESG without taking into account the internal relationships between them.

2. The paper substantiates the position that ESG transformation of management systems embodies the ideology of comprehensive solutions to economic, social, and environmental problems facing the state, business, and society. In this regard, it is advisable to view the seventeen UN goals of sustainable development (SDGs) through the prism of a set of specific mechanisms to ensure their achievement based on ESG ideology. In essence, ESG ideology integrates the triunity of economic, environmental, and social principles inherent in all SDGs, and is a tool for verifying the feasibility of the specific mechanisms that are developed and implemented to achieve each of these goals.

3. Currently, various methods of creating ESG ratings are becoming increasingly popular, the diversity and inconsistency of which cause certain difficulties in interpreting the results of various rating assessments among researchers, corporate executives, investors, and practitioners. The authors show that the assessment of key manageable and unmanageable risks that prevent ESG transformation of management systems is of fundamental importance for the quality of ESG ratings. In this case, the assessment of manageable risks is reduced to determining the costs required for their reasonable minimization, while the evaluation of unmanageable risks can be carried out exclusively by expert practitioners.

Manageable and unmanageable risks are studied within the framework of Jean-Baptiste Say's three factors of production (capital, labor, land or, in a modern interpretation, financial capital, human capital, and natural resources), supplemented by such factors as information, entrepreneurial talent (leadership) and institutions (as understood by Nobel laureate Douglass North, as a set of formal and informal rules and mechanisms that ensure their implementation). The proposed approach to the assessment of ESG risks can serve as the foundation for the development of business models to ensure long-term economic, social, and environmental sustainability, taking into account the harmonization of the interests of a wide range of stakeholders.

4. Successful ESG transformation of management systems has a decisive impact on the prospects of SDG achievement. It is based on:

A) the two "sustainable development triads", consisting of effective interaction between the state, business, and civil society, and the mandatory consideration of each of the SDGs in an integrated manner, taking into account economic, social and environmental factors, while avoiding the possible association of any sustainable development goal exclusively to E, S or G;

B) identification of current trends in the development of managerial competencies, development and implementation of programs of higher

and (primarily) additional professional education for government and business personnel with profound knowledge on the topic ESG transformation of management systems; and

C) overcoming the underestimation of the role of civil society in addressing this challenge, which, as shown by international experience, can become both the customer and the driving force in promoting the ESG agenda.

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