ESG principles in agribusiness management technology

Ilvir Fazrakhmanov¹*, Yulia Khodkovskaya¹, and Albina Gaisina¹

¹Ufa State Petroleum Technological University, Department of Economics and Strategic Development, 1, Kosmonavtov str., Ufa, 450076, Russian Federation

Abstract. The article is devoted to the study of problems of management of agribusiness companies. The key factors in the functioning and development of agrarian-oriented regions and countries are analyzed, and the features of the implementation of ESG principles in agribusiness as a mandatory component of effective management technology are identified. The prospects for agribusiness in terms of the application of ESG principles are identified. A management model for sustainable development of agribusiness based on ESG principles is presented, and the conditions for its successful implementation in Russia are characterized.

1 Introduction

The problem of effective economic management has been the focus of scientific, methodological and applied research for many decades, since efficiency as an economic category is formed under the influence of many factors of the external and internal environment, expressing the profitability generated by many business processes occurring in the economy. A new impetus to solve this problem has emerged as a result of global transformations caused by a change in the technological structure of the world economy, structural and institutional transformations in all spheres of life, the introduction of circular production models, the emergence of new opportunities, resources, and ideas to meet the needs of society. However, along with the positive trends of digitalization, internationalization, and diversification, there is an increase in shock factors in the modern business environment, such as increased risks, including cyber risks, trade wars, sanctions pressure, environmental and man-made disasters, financial crises, etc.

Rapid changes are reflected in management concepts and paradigms: the liberal concept, which proclaimed “money at any cost,” was replaced by the concept of sustainable development, the key thesis of which is “the balance of interests of generations.” Therefore, in this study, attention is focused on developing approaches to solving the problem of sustainable development of agricultural regions of Russia, taking into account ESG principles for the formation of effective management technology in agribusiness.

* Corresponding author: ilvirus@inbox.ru
2 Materials and methods

The key methodological approach was system analysis in assessing stable, functioning and developing business processes in the agricultural regions of Russia. Theoretical and empirical research methods were used to analyze the factors of growth/decrease in the effectiveness of agribusiness management. Identification of problematic aspects of the management of agro-industrial companies that hinder the continuous development of the business environment was carried out using statistical methods.

Multifactorial stress testing of foreign business management models and management technologies was carried out in order to establish efficiency criteria that meet the modern needs of the state, the business environment and society as a whole. The study of the positive experience of targeted sustainable development of agrarian-oriented regions and countries, alternative agro-industrial practices and initiatives was carried out using materials from the countries of the European Union [1]. The analysis of the features of management paradigms and technologies in the modern business environment was based on the experience of rapidly developing economies of Southeast Asia and European countries [2-4], models of sustainable/unsustainable growth of agrarian-oriented regions and countries - using the example of Poland [5], Germany [6], Greece [7], Kazakhstan [8], etc.

A critical analysis of the problems of agribusiness development in the studies of foreign authors made it possible to establish: 1) sustainable development plays a special role in agriculture, since it is associated with food production, land cultivation, livestock breeding, and farming; 2) an intensive economy, including agribusiness, leads to an imbalance in nature; 3) environmental changes cause financial consequences in society; 4) taking into account the development of the business environment, traditional management technologies are modified, adapting to new conditions of economic activity.

The study of the problem was based on data from the World Bank, the United Nations (UN), statistical data on the Russian Federation (RF) and the Republic of Bashkortostan (RB), analytical reviews on the economy of Russia and foreign countries, etc.

3 Results

A study of the problems of functioning of agrarian-oriented regions and countries has made it possible to establish that achieving commercial success is inextricably linked with innovative transformation, the use of digital business technologies, tools for accelerated growth and sustainable development. In this aspect, the implementation of the stakeholder concept, which focuses on achieving economic and social efficiency of business, constructive interaction of all stakeholders, and creating a public good, is of particular importance. In addition, key stakeholder ideas resonate with the concept of “Industry 5.0” proclaimed by the UN [9], which outlined the priorities of a “human-oriented industry,” which includes the agricultural sector of the economy. The criteria for a “human-oriented industry” include the environmental, social and corporate responsibility of the business environment as mandatory components, which generally determines the content of the ESG principles of modern management technology.

The environmental responsibility of agribusiness as a research problem has been the focus of attention of scientists and practitioners for many decades: from entropic degradation to biophysical limitations, careful treatment of non-renewable resources [10], popularization of closed-cycle technologies, preservation of the ecosystem for future generations. The importance of taking into account the environmental component of ESG principles in the management technology of agribusiness is confirmed by the UN decision to include agriculture in the list of the dirtiest sectors of the economy, which is explained
by the active use of pesticides to increase productivity, the high content of nitrogen, phosphorus, and potassium emissions into the environment, and intensive exploitation land plots, imbalance in the ecosystem. According to experts, among Russian agrarian-oriented regions, a negative environmental footprint from the activities of agro-industrial companies is observed in the Belgorod region, Krasnoyarsk region, Orenburg and Moscow regions.

The social responsibility of agribusiness is manifested not only in following internal social standards that provide safe and decent working conditions for its personnel, but also means understanding the social significance of the benefits created. Considering that in recent years there has been rapid population growth (according to UN forecasts, by 2030 the population will be 8.5 billion people), solving the food problem and fighting hunger are on the agenda of international organizations. Accordingly, the role of agribusiness in meeting primary needs and providing clean products as a result of eco-farming and eco-livestock husbandry is increasing, which, undoubtedly, should be the focus of modern management technology.

Corporate responsibility of agribusiness is manifested in the management of the company, taking into account ethical values and norms of corporate culture, and the formation of public non-financial reporting. In accordance with the focus of agribusiness on long-term sustainable development, the disclosure of non-financial indicators of the effectiveness of corporate business processes becomes important. As an analysis of the activities of Russian agribusiness companies has shown, less than one percent of companies disclose elements of non-financial and management reporting that meet ESG principles. According to the National Register of Corporate Non-Financial Reports (as of September 29, 2023), such companies are the Miratorg Agro-Industrial Holding (Moscow), WIMM-BILL-DANN JSC (Moscow), Agroproduct LLC (Kaliningrad Region), Group Companies "Agro-Belogorye" (Belgorod region), LLC "Group of Companies "Rusagro" (Moscow).

Taking into account the industry specifics of the business, in the “Production of Food and Other Consumer Goods” group, only 14 domestic companies prepare transparent non-financial reporting, including reports on sustainable development and social reports. As statistics demonstrate, environmental reports are not published by Russian agro-industrial companies [11], although it is obvious that the use of ESG principles ensures not only environmental safety and reduction of climate risks for society, but also saves financial and time costs for the business community. Despite the voluntary nature of disclosure of non-financial reporting regarding the application of ESG principles by companies, we believe it is appropriate to present information on a number of important prospects for agribusiness in reporting (Figure 1).

![Fig. 1. Prospects for disclosing ESG principles in non-financial reporting of agribusiness companies.](image)
The importance of disclosing the above prospects in non-financial reporting of agribusiness is confirmed by:

- The ongoing Federal Scientific and Technical Program in the field of environmental development of the Russian Federation and climate change for 2021 - 2030.
- Regional experiment to achieve carbon neutrality - climate projects in the Sakhalin region, Kaliningrad region, Khabarovsk region, Irkutsk region, the Republic of Bashkortostan.
- Pilot project “Carbon polygons” - in the Tyumen region, Sverdlovsk region, Amal-Nenets Autonomous Okrug, Republic of Bashkortostan, etc.

The focus of the state environmental agenda is not only “the formation of an environmentally sustainable society” and the implementation of controlling measures, but also “the development of mechanisms for adaptation to climate change and its consequences,” which is of particular importance for agribusiness, since the key factors in reducing the efficiency of domestic agribusiness in 2023 are experts are called natural-climatic (rising temperatures, extreme weather conditions) for such regions of Russia as the Volgograd region, Lipetsk region, Oryol region, Kaluga region.

For sustainable development of domestic agribusiness, ESG principles should be included in the management model: (Figure 2).

![Fig. 2. Management model for sustainable development of agribusiness based on ESG principles.](image-url)

Successful implementation of a management model for sustainable development of domestic agribusiness based on ESG principles requires companies to take into account global trends in the agro-industrial market:

- Development of the green bond market. The emergence of new financial instruments – “green” bonds – as a source of generating financial resources has increased the investment interest of stakeholders in the implementation of ESG principles and the financing of climate projects. In addition, the introduction of environmental criteria into the practice of evaluating investment projects by the World Bank caused a transformation of the global securities market: many types of “green” bonds appeared, the development of the institution of state subsidizing of coupon payments on “green” bond loans.
Digitalization of services and platforms for agribusiness. Digitalization for the rapidly developing agricultural sector of the Russian economy opens up enormous opportunities for the use of modern technologies, ensuring effective coordination of all business processes, control and monitoring in real time, eliminating irreversible losses of resources, generating and using large amounts of operational management information. The platform’s digital services have significantly optimized agribusiness management: according to experts, it is digital technologies that make it possible to carefully use the natural environment, which meets ESG principles.

“Impact investments” (social bonds) as a source of financing for sustainable development of agribusiness. Despite the fact that “impact investing” is a new phenomenon in the business environment, it is becoming increasingly popular among investors. On the one hand, participation in socially significant projects has a positive effect on the image of investors, on the other hand, issuers of social bonds are financially stable and reliable issuers - guarantors of repayment of resources. Social bonds are placed abroad by major international institutions, for example. Institute of International Finance, World Bank. In Russia, the issuers of social bonds are the largest industry-forming companies, such as OJSC Russian Railways. PJSC Mobile TeleSystems, etc..

Unfair competition and protectionist policies. For sustainable growth and development of agribusiness, the implementation of management technology must take into account the impact of unscrupulous competitors mainly in regional markets offering agricultural products of low quality and quite often at dumping prices: in 2023, the market of European countries (France, Poland, Hungary, Slovakia, etc.) received grain from Ukraine, according to European Union experts, is “of low quality and at bargain prices.” Accordingly, protectionist measures are being tightened and tariff barriers are being introduced.

Threats of cyber risks. Of course, digitalization is a global trend in the agricultural market. A large number of various management decision support systems and digital platforms have significantly reduced the operational and management costs of agribusiness. Simultaneously with the effects of digitalization, the risks of the digital economy have increased significantly - cyber risks, the management of which is a difficult task for modern management; therefore, it requires mandatory consideration of this trend in modern management technology of agribusiness.

Thus, taking into account global trends in the agro-industrial market is certainly important for the successful implementation of the proposed management technology taking into account ESG principles, but one should also take into account a whole range of mechanisms that ensure the effective implementation of the model: “institutional-legal, market, production-technological, organizational and managerial” [12].

4 Discussion

It is advisable to use the established management model of sustainable development of domestic agribusiness based on ESG principles in practice, creating new forms of non-financial management reporting according to the identified prospects: “green” investments, energy efficiency of business processes, factors of sustainable growth and development, digital services and platforms, decarbonization policy. Characteristics and qualitative analysis of prospects are, of course, of priority importance for owners, investors, government authorities and society as a whole. However, as studies show, the proposed approaches to assessing ESG criteria require clarification, the formation of a system of multiplier indicators, which determine not only the retrospective state of the environmental, social and corporate characteristics of the business environment, but also include an
assessment of the development potential of agribusiness taking into account ESG principles.

In addition, a critical analysis of modern publications by scientists on the problems of sustainable growth in economic sectors has revealed the controversial nature of the need to achieve sustainable growth in agribusiness. Thus, a number of experts point to the importance of “degrowth in agri-food products”, describing various scenarios for degrowth in agribusiness [13], going beyond “accumulation, exploitation and growth” [14]. It should be noted that the authors are not of the opinion that the sustainability of agribusiness, first of all, means “resilience to possible crises and epidemics.”

Taking into account ESG principles in modern management technologies indicates the importance of materiality and quantitative disclosure of information about the environmental, social and corporate components of the company’s activities. At the same time, a number of scientists focus on the growth of the company’s market value, when the key indicators become capitalized value adjusted for risk. Thus, the contradictory nature of a number of studies is revealed: on the one hand, following ESG principles in the interests of the entire society, on the other, increasing the welfare of capital owners. It should be noted that in order to harmonize the interests of stakeholders, it is important to develop the institution of targeted guarantee support from the state for agribusiness.

An ambiguous approach is observed in studies devoted to innovative management technologies. Innovative management technologies in the modern business environment are assessed by experts: “as a resource and as a barrier to development.” Management technology “as a resource for the development” of a business and ecosystem testifies to the advantages of its use, the multiplier effects in the environmental, social, economic and corporate environment. Management technology “as a barrier to the development” of a business, ecosystem, characterizes the prevalence of the consumer approach by the business community to the resources used, without taking into account the interests of future generations. Thus, the problematic aspects described above require further research and in-depth analysis.

5 Conclusion

The research carried out in this work allowed us to formulate the following conclusions:

- ESG principles in agribusiness are a mandatory component of effective management technology, the objectives of which are not only to achieve target economic performance criteria, but also to implement a qualitatively new approach to the environmental, social and corporate components of companies.

- The study proposed “green” investments, energy efficiency of business processes, factors of sustainable growth and development, digital services and platforms, and debonization policies as prospects for disclosing ESG principles in non-financial reporting of agribusiness companies. Reflection of these perspectives in non-financial management reporting and openness of access to it for interested parties helps to strengthen the responsibility of the company's management to society for preserving the ecosystem.

- The proposed model of management technology focuses on the implementation of goals and objectives of sustainable development in the field of ESG into the general management system in order to ensure complex effects for both business and society as a whole.

- Taking into account ESG principles in management technology is important for overcoming the contradictions of stakeholders, since “openness and transparency of business” makes it possible to create conditions for harmonizing the interests of
business, the state, and society in order to achieve sustainable growth and economic development. [14].

- The successful implementation of agribusiness management technology in the field of ESG will provide great effects by developing multilingual content of the educational environment [15], ensuring not only the building of business communications, but also the formation of socially and environmentally responsible self-awareness among future businessmen and entrepreneurs.

References


