Conceptual approach to the development of accounting and information support for managing the sustainable development of economic entities in the agro-industrial complex based on the ESG strategy

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Abstract. Managing the sustainable development of economic entities of the agro-industrial complex on the basis of an ESG strategy, which provides for transparency in management, concern for the environment and people, necessitates the development of its accounting and information support, which is problematic due to the narrowness of the methodological, subject-object and instrumental basis of the traditional accounting system. The purpose and result of the study was the development of a new conceptual vision of a management accounting and information system, based on advanced management technologies, solving the problems of the content of ESG reporting and the quality of accounting and information support.

1 Introduction

Deep socio-economic transformations in our country are due to the transition to an information economy that fits into the global concept of sustainable development, the principles and approaches of which are reflected in the ESG strategy, focused on achieving the goals of environmental, social and governance aspects of the activities of economic entities [1-3].

The implementation of this strategy determines the need to improve management, the information support of which is directly dependent on accounting and information systems, characterized by a weak focus on information support for the implementation of the ESG concept and the impossibility of generating ESG reporting as a new generation of reporting, paving the way for our country to a new technological way [4-5].

The purpose of the study is to develop a new concept of a management accounting and information system, based on a significant expansion of its role, principles, methodological, subject, object and instrumental basis, allowing for the content of ESG reporting as the main source of information on the implementation of ESG strategy by economic entities of

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the agro-industrial complex and reduce information insufficiency when making decisions to ensure their sustainable development.

2 Materials and methods

The use of a systematic approach, general scientific research methods, the concept of sustainable development and the development of an ESG strategy made it possible to analyze a wide information base and scientific publications of authors related to solving the problems of orienting the theory, methodology and practice of accounting to the formation of ESG reporting based on the best world practice.

3 Results

The main problem identified when analyzing accounting practices in economic entities of the agro-industrial complex is that the substantive elements characterizing their sustainability, social and environmental responsibility (external environment, strategy, business processes, quality of management, etc.) are not included in the category of accounting objects and information about them is not generated [6-7].

Thus, the need has become acute for the formation of a new conceptual basis for a management accounting and information system that satisfies the modern information needs of managing the implementation of ESG - a strategy that has the necessary accounting tools (Figure 1).

![Diagram](image_url)

**Fig. 1.** The concept of a management accounting and information system focused on the information needs of managing the sustainable development of economic entities of the agro-industrial complex based on the ESG strategy.

The emerging management accounting and information system should be based on advanced accounting and management technologies of strategic, balanced and process approaches to accounting, developing the functionality of the accounting system to generate...
in a single information field information about fundamentally new accounting objects necessary for managing sustainable development and implementation of ESG strategies.

For these purposes, a strategic map for achieving the goals of the ESG strategy has been developed, the directions and prospects of which are new accounting objects (Figure 2). In the proposed strategic map scheme, ESG standards are implemented in business processes and the opportunity for an economic entity to implement its own sustainable development program [8-9].

![Fig. 2. Scheme of a strategic map for achieving the goals of an ESG strategy by an economic entity in the agro-industrial complex.](image)

To increase the potential of the management accounting and information system, from the point of view of ensuring the implementation of basic management functions and decision-making to achieve the goals of the ESG strategy, its elemental structure has been developed (Figure 3), the main one of which is the balanced scorecard system (BSS) of the main directions of sustainable development: 1) human, organizational and information capital; 2) internal business processes; 3) relationships with clients; 4) finance.

The conceptual content of the proposed accounting system is developed by a complex of financial and non-financial accounting indicators developed and integrated into the BSC, which includes indicators of economic, social and environmental impact (productivity, safety, wages, energy consumption, environmental projects, etc.), management and interaction indicators (education, experience and involvement of company management in managing sustainable development issues, formats of interaction with society, etc.), corresponding and subordinate to the applied tasks of information support for ESG strategy management and characterizing the dynamics of this process [10-11].
Elements of the accounting and information system of an economic entity in the agro-industrial complex implementing an ESG strategy within the framework of the concept of sustainable development

Balanced Scorecard (BSS) containing indicators for achieving the goals of the ESG strategy

ESG strategy budgeting system

Internal control carried out as part of the implementation of the ESG strategy

Cost accounting for the environmental and social value of a manufactured product

Accounting for environmental, social and management business processes, responsibility centers, types of activities

Sustainability reporting - ESG reporting

Management analysis of goals, objectives, activities, results of the ESG strategy

Key functions of sustainability management based on ESG principles

Fig. 3. Elemental structure of the management accounting and information system of an economic entity in the agro-industrial complex implementing an ESG strategy within the framework of the concept of sustainable development.

To improve the organizational and methodological support of the management accounting and information system, an algorithm for its organization has been developed, highlighting, formalizing and characterizing its main stages: 1) assessment of the external and internal institutional environment, incl. from the perspective of environmental, social and economic risks and threats; 2) development of a strategic plan for the sustainable development of an economic entity, based on ESG principles, in the context of environmental, social, economic and management initiatives and activities; 3) identification and gradation of business processes and organizational structures focused on performing functions for the implementation of environmental, social and economic plans to achieve the goals of the ESG strategy; 4) development of a financial structure, with the allocation of responsibility centers and the formation of budgets for financing activities to achieve the goals of the ESG strategy; 5) implementation of an accounting and information system (determination of internal accounting, financial and analytical structures responsible for accounting and setting up elements of the accounting system).

ESG reporting aggregates non-financial information on various topics: social; environmental; sustainable development; corporate social responsibility, etc. [10-11].
Its developed conceptual model, which characterizes the principles of formation, approximate composition and content, is presented in Figure 4.

<table>
<thead>
<tr>
<th>GOAL OF ESG REPORTING</th>
<th>accounting and information support for managing the implementation of the ESG strategy of economic entities of the agro-industrial complex</th>
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<tbody>
<tr>
<td>ESG REPORTING PRINCIPLES</td>
<td>simplicity and objectivity, completeness and sufficiency, strategic focus and future orientation, accessibility, consistency and comparability</td>
</tr>
<tr>
<td>SAMPLE STRUCTURE OF ESG REPORTING</td>
<td>overview of the operating environment (risks, opportunities), nature of the business model, goals, objectives and program for implementing the sustainable development strategy, decisions and activities within the framework of their achievement, description of corporate processes, management principles, remuneration procedure, non-financial indicators environmental, social and governance activities of an economic entity, other information related to ESG activities</td>
</tr>
</tbody>
</table>

Fig. 4. Conceptual model (purpose, principles, structure) of ESG reporting.

4 Discussion

The implementation of an ESG strategy is hampered by the inability of traditional accounting to generate the necessary information for the preparation of ESG reporting and, thus, by the low quality of accounting and information support for sustainable development management.

The study aims to develop a new conceptual approach to the management accounting and information system, based on a significant expansion of its role, principles, methodological, subject, object and instrumental framework, allowing for the generation of high-quality ESG reporting as a means of effectively managing the ESG strategy.

This research topic is of paramount importance and quite debatable.

5 Conclusion

Taking into account the new requirements for the nature and quality of accounting information and evolving ESG reporting for the purposes of managing the sustainable development of agricultural entities, the study presents the development of a new conceptual approach to the management accounting and information system (basic principles, subject area, object basis, covering various aspects activities), based on the provisions of strategic management of the sustainable development of economic entities based on the ESG strategy, the balanced scorecard and other advanced accounting and management technologies and a number of methodological recommendations on its elemental structure and organization. The presented developments significantly bring accounting science and practice closer to solving problems of information support for managing sustainable development based on ESG strategy in economic entities of the agro-industrial complex.
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