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BUILDING A SYSTEM OF INDICATORS FOR THE GEOLOGICAL AND ECONOMIC ASSESSMENT OF AN ENTERPRISE: AN INTERNATIONAL ASPECT

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Abstract. *The export-oriented economy of Kazakhstan is characterized by all the features of emerging markets. The article demonstrates that for mining enterprises in Kazakhstan, operating in international markets, compliance with ESG principles and non-financial reporting standards (GRI) is of particular relevance. The SWOT analysis developed by the authors for forecasting enterprise calculations allowed for substantiating the need to establish a balance between the internal and external environment of the enterprise in order to find alignment between the system of indicators and organizational development. Based on the conducted research, a system of indicators for geological and economic evaluation of an enterprise has been proposed, taking into account the strengthening of international positions.*

Key words: *Kazakhstan, ESG principles, SWOT analysis, geological-economic evaluation, mining enterprise.*

Introduction.

The largest mining enterprises in Kazakhstan prioritize the UN Sustainable Development Goal 8, implementing occupational health and safety management systems that meet the requirements of the international ISO 45001 standards [1,2]. Responsible steps aimed at reducing harmful emissions into the atmosphere are supported by 122 leading industrial enterprises, including 18 entities from the mining and metallurgical industries, construction, and chemical sectors. These organizations, categorized as the 50 largest polluters in Kazakhstan's economy, have signed memorandums focused on emission reduction.

However, various aspects of objective evaluation of enterprises in the context of expanding the presence of Kazakhstan's mining companies in international markets

remain insufficiently studied.

The purpose of this research is to develop an approach for constructing a system of indicators for the geological-economic evaluation of enterprises, taking into account sustainable development indicators, which implies achieving ESG (Environmental, Social, and Governance) principles, aligning with the international GRI (Global Reporting Initiative) standards, and the Kazakhstani KAZRC Code (Code of Standards for Public Reporting on Geological Exploration Results, Mineral Resources, and Mineral Reserves).

The methodology of the research is based on general laws of formalization, logic, comparative analysis, and comparison of publicly available statistical data on the national mining sector. The research methodology relies on a structured approach to reviewing literary sources on the designated topic. The SWOT analysis used in the article is based on World Bank data for the diagnostics of Kazakhstan's mining sector [3].

Results Obtained

The research has established that to accelerate the adaptation of Kazakhstan's mining enterprises to international standards, it is necessary to find a balance between the internal and external environment of the economic entities. This will enable the alignment of the system of indicators with their organizational development (Table 1).

All components of organizational development ultimately accelerate the enterprise's adaptation to ESG goals, GRI standards, and the KAZRC system [4-6].

To account for the indicators of the geological-economic evaluation of the enterprise, the authors propose two schemes that describe its interactions with the external environment: the object-functional and process-functional models.

The system of indicators for the geological-economic evaluation of the enterprise, in the context of expanding its international activities, should include several sections, each of which represents a set of interconnected aspects (see Table 2). The practical significance of this approach lies in the possibility of further automated algorithmic calculation of these indicators based on the initial geological-economic data of the given deposit.

Table 1. Implementation of Organizational Development Adaptation Contours to Achieve ESG Goals, Compliance with the GRI Standards and the KAZRC System

First Contour of External Adaptation	Second Contour of Internal Integration
1. Defines strategic vision in labor, capital, and goods markets	1. Operational adaptation along the trajectory of strategic capabilities development set by the international GRI standards, KAZRC system, and ESG goals.
2. Parallel formation of the external environment condition and organizational development level.	2. Involves the development of alternative organizational development options and their selection.
3. Adaptation tools - ESG goals, compliance with the international GRI standards and KAZRC system. The basis - forecast values of strategic vision, strategic ESG indicators, and KAZRC system compliance.	3. Ensures continuity between long-term, medium-term, and short-term organizational development in accordance with the international GRI standards, ESG goals, and KAZRC system.
Adapters for External Adaptation	**Adapters for Internal Integration**
1. Mission - public declaration of purpose in the values of counterparties in labor, capital, and goods markets, ensuring adaptation of strategic vision to the expectations of the external environment.	1. Structure - describes the specific system in terms of its construction, spatial-temporal arrangement of parts, and stable interconnections between elements.
2. Goals - specification of the mission in the temporal and organizational-management context.	2. Corporate culture ensures staff integration into the achievement of ESG goals, compliance with the international GRI standards, and the KAZRC system.
3. Strategy defines the means of achieving ESG goals. Formulated in temporal and organizational-management directions. Temporal direction (long, medium, operational strategies), organizational-management direction (enterprise strategies, business directions, structural units).	3. Management quality combines the set of properties and characteristics of the enterprise management system, ensured at different management levels and functional areas.

Source: Developed by the authors

Table 2. Correspondence of Proposed Indicators for Enterprise Activity

Evaluation Area	Proposed Indicators
Evaluation of Sustainable Development Management	Qualitative evaluation of compliance with GRI standards. Characteristics of the business model, policies, and key aspects in sustainable development; evaluation of qualitative and quantitative goals in sustainable development.
Evaluation of Energy Efficiency	Consumption of electricity from renewable energy sources (RES), specific energy resource consumption involved directly in the production cycle of mining and beneficiation enterprises (electricity, industrial water, circulating water) per ton of production; savings in electricity and thermal energy.
Evaluation of Social Policy and Personnel Management	Qualitative parameters of personnel policy (prevention of discrimination, provision of equal opportunities to all employees); analysis of employed personnel (headcount, structure, turnover, share of temporary workers in total headcount, company spending on training, labor incentives and motivation, occupational health and safety, injury rates, number of accidents, occupational disease rate, lost days rate, absenteeism rate).
Evaluation of Environmental Policy	Qualitative and quantitative indicators of environmental protection, risks related to climate change, fines for environmental law violations, presence of certified environmental management systems. Greenhouse gas emissions in CO2 equivalents; emissions of pollutants into the atmosphere, waste generation volume excluding atmospheric emissions and water discharges; water intake volume and description of impact on biodiversity.
Evaluation of Corporate Governance Level	Information on management structure, number and share of independent directors in the board of directors, nature of interaction with stakeholders. Information on board members (competencies of each member, tenure in the board, remuneration received, anti-corruption policy).
Financial and Economic Sphere	Revenue, cost of goods sold, operating expenses, profit, sales expenses, production and sales volume of minerals.
Production Program	Ore extraction, production of copper in concentrate, production of cathode copper, production of gold in bars (including own and purchased); production of silver in bars.

Source: Developed by the authors

Table 3. Forecast SWOT Analysis for Mining Enterprises in Kazakhstan

Forecast	
strengths	weaknesses
diversification of capital; implementation of intellectual capital; use of production capacity reserves; territorial location (proximity to railways); awareness and recognition of local products and services; implementation of established relationships with consumers; establishment of cooperation with more economically advantageous suppliers; creation of a multimodal transport and logistics center, ensuring Kazakhstan's entry into the international transport corridor	increasing accounts payable; high moral and physical depreciation of fixed capital, contributing to the aggravation of technological problems; increasing losses; high prices for materials, energy and transport; shortage of qualified personnel.
opportunities	threats
establishing cooperation with investors; promoting public-private partnerships, creating conditions for attracting global brands and transnational corporations, in order to further promote national exports, maintaining a balance between accounts payable and accounts receivable; developing competitive products (services), developing intergovernmental cooperation with the participation and under the auspices of the Eurasian Economic Commission (lagging behind national interests through integration tools in the field of transport infrastructure)	deterioration of the geopolitical situation, destruction of cooperative ties; changes in the behavior of creditors; loss of established markets for the sale of products; lack of progress in lending for new investment projects; increasing competition from local and foreign producers; insufficient consumer demand; low payment discipline in the market.

Source: Developed by the authors based on [3,7]

Conclusion

The conducted research allows us to conclude that in order to achieve the set goals, it is necessary, firstly, to delimit the pre-formed parameters of interaction with the external environment, based on the mandatory nature of the implementation of specific target settings. Secondly, to designate the permissible range of change of these

parameters, showing the degree of independence of the enterprise in building relationships with the external environment.

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