

METHODOLOGY FOR THE ASSESSMENT OF THE COMPETITIVENESS OF A MINING COMPANY

Gabriela Siderova

University of Mining and Geology "St. Ivan Rilski", 1700 Sofia, g_siderova@mail.bg

ABSTRACT. The issue of evaluating the competitiveness of mining enterprises and revealing the opportunities for how to increase it continues to be more and more relevant. This paper suggests the elements and stages of the developed methodology for determining the level and dynamics of the change of the competitiveness of the mining enterprises with specific indicators. Assessing the competitiveness of the mining enterprises helps to highlight the opportunities for its increase.

Key words: competition; competitiveness; mining industry

МЕТОДИКА ЗА ОЦЕНКА НА КОНКУРЕНТОСПОСОБНОСТТА НА МИННОДОБИВНАТА ФИРМА

Габриела Сидерова

Минно-геоложки университет "Св. Иван Рилски", 1700 София, g_siderova@mail.bg

РЕЗЮМЕ. Проблемът за оценяване на конкурентоспособността на миннодобивните предприятия и разкриването на възможностите за нейното повишаване продължава да е все по-актуален. В доклада се предлагат елементите и етапите на разработената методика за определяне на равнището и динамиката на изменение на конкурентоспособността на миннодобивните предприятия с конкретни индикатори. Оценката на конкурентоспособността на миннодобивните предприятия спомага да се открият потенциалните възможности за нейното повишаване.

Ключови думи: конкуренция; конкурентност; минна индустрия

Introduction

The proposed methodology for assessing the competitiveness of the mining company is based on the understanding that competitiveness is a complex and multi-dimensional category that can not be characterised by only one indicator or measured with a single indicator. Assessment should be done using a system of indicators that reflects the objectives, strategy, and specific features of the research object.

The methodology is a quantitative characterisation of the competitiveness of the mining company which includes the following components:

- ✓ Assessment of the company's external environment;
- ✓ Assessment of the current stage of competitiveness;
- ✓ Assessment of the potential for competitiveness of the mining company;
- ✓ Discovering and evaluating opportunities for promotion.

The methodology in the study considers the set of methods for its implementation in order to reveal the possibilities for increasing the competitiveness of the mining company.

Elements of the methodology

The level of competitiveness of the mining company shall be assessed by appropriate methods. At the same time, it

should be noted that the application of a set of methods is a difficult and responsible task, especially when it passes through several major stages, and which allow the final value of the evaluated parameter - the company's competitiveness. The elements of the methodology for assessing the competitiveness of the mining company are presented in Fig. 1.

The figure presents the logic underlying such a study in general. As can be seen from Fig. 1, the disclosure of the opportunities to increase competitiveness is a process that is not separated and which logically precedes the assessment of the competitiveness of the company and the disclosure of the competitive potential in the conditions in which it operates. Competitiveness assessment is a complex process that requires a clear and precise definition of the stages in which it will be carried out.

Steps of the methodology

The methodology for assessing the competitiveness of the mining company includes the following main stages (steps) that can be completed and specified in the process of their implementation according to the specifics of the business activity.

Figure 2 presents the sequence of the study stages and the logical relationships between them.

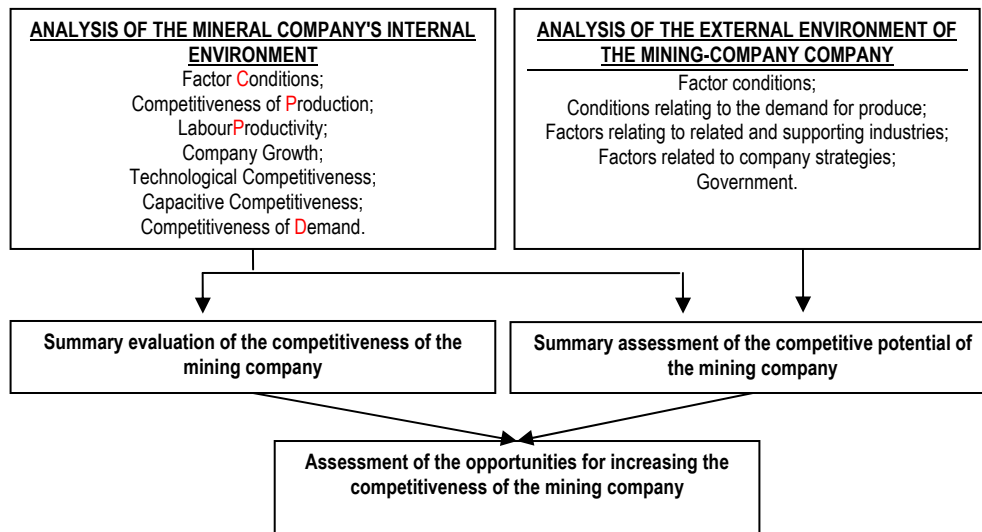


Fig. 1. Elements of the methodology for assessing the competitiveness of the mining company

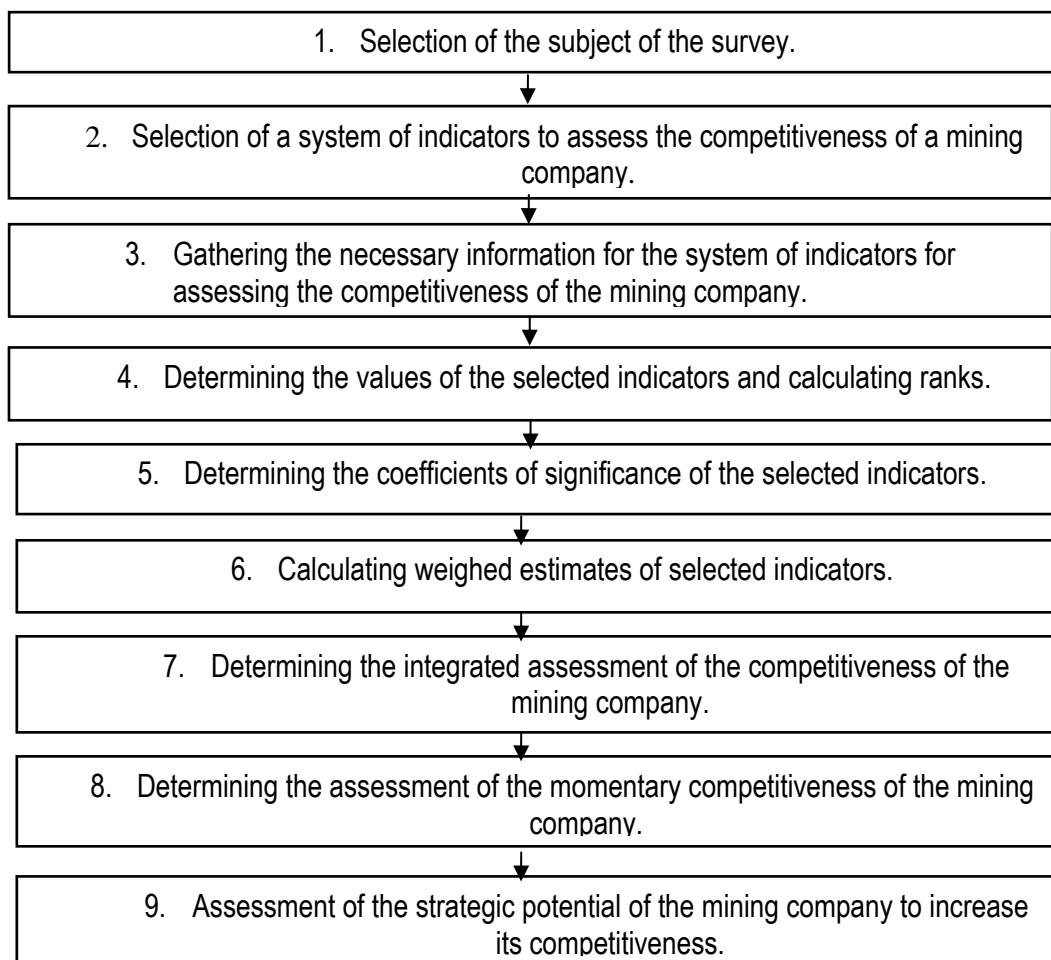


Fig. 2. Stages of exploration of the competitiveness of a mining company

Figure 2 shows the sequence of the stages of the study and the logical links between them. It shows not only the individual stages of exploration of the mining company's competitiveness but also emphasises the two main stages, namely: assessing the company's current competitiveness and assessing the competitive (strategic) potential of the company that precedes the discovery of opportunities. The

choice of these components is dictated by the need to find opportunities (reserves) that will lead to increased competitiveness. This choice is too complex. Each of the factors of the external and internal environment influences the activity of the company. Each of them can also be an opportunity, but the presented methodology is based on those that are most crucial to achieving sustainable competitiveness.

The components involved, arising from the factors and potential opportunities, should be presented in a system to reduce subjectivity in assessing and achieving greater clarity in highlighting opportunities to enhance competitiveness. Focus is on components that in theory and practice have proved to be important for achieving sustainable competitiveness. On this basis, a model is developed to reveal opportunities for increasing the competitiveness of the mining company.

Indicators for the assessment of the external environment of the mining company

The development and success of enterprises depends, to a large extent, on the environment in which they operate. The effectiveness of their activities is directly related to the knowledge of the external environment factors. They are essential and have a lasting and significant impact on the enterprise's lifecycle and competitiveness.

In the context of the external environment factors, an adaptation methodology was developed based on the classification by Michael Porter of the factors for international competitiveness (Porter, 1998). The determinants of the national advantage are presented in the following four main groups in the following order:

1. Factor conditions that are relevant to the assurance and type of production factors that include the following five groups of indicators:

- Human Resources:
 - ✓ the availability of the skilled workforce needed by the industry;
 - ✓ level of expenses for staff costs.
- Physical resources:
 - ✓ the presence in the country of the natural resources necessary for the sector;
 - ✓ proximity to foreign suppliers;
 - ✓ level of costs for material resources;
 - ✓ proximity to markets;
 - ✓ level of staff costs.
- Knowledge:
 - ✓ the availability of institutes that carry out research-relevant work;
 - ✓ collaborating with universities to carry out research and applied research;
 - ✓ availability of a base of applied research results;
 - ✓ access to information on developments in the industry and market trends;
 - ✓ availability of the necessary resources for accelerated innovation activity, incl. European funds;
 - ✓ access to reliable statistical information.
- Capital resources:
 - ✓ access to capital needed to finance the industry;
 - ✓ a well-developed stock exchange that facilitates the industry's access to capital;
 - ✓ presence of foreign investments;
 - ✓ opportunities for EU funding;
 - ✓ costs for the acquisition of capital.
- Infrastructure:
 - ✓ availability of the necessary quality, basic facilities - transport system, postal supplies, health care system,

housing, cultural institutions, etc.;

- ✓ availability of the necessary quality, modern infrastructure - communication system, logistic systems, payment and fund transfer system, e-commerce system etc.;
- ✓ Costs for the use of facilities.

2. Demand conditions that characterise the nature of the domestic demand for the product offered by the industry with the following indicators:

- ✓ demand of the domestic market;
- ✓ growth of the demand on the domestic market;
- ✓ quality of demand on the domestic market - the requirements of buyers and the extent to which their demands are in line with global requirements;
- ✓ demand of the foreign markets;
- ✓ growth on the demand;
- ✓ quality of demand - the requirements of buyers and the extent to which their demands are consistent with the global ones.

3. Factors related to supporting industries - Explore the presence or absence of industry-related suppliers and related industries that are competitive. The indicators for this determinant are three, with relevant indicators:

- Suppliers with indicators:
 - ✓ availability of indigenous suppliers for the development of the industry;
 - ✓ level of competitiveness of local suppliers.
- Sales agents and distribution quantified by means of:
 - ✓ the presence of specialised commercial intermediaries and distributors necessary for the development of the sector;
 - ✓ the level of competitiveness of specialised commercial intermediaries and distributors.
- Supporting industries with a quantification of:
 - ✓ the presence of indigenous enterprises needed by the assisting industries for the development of the sector;
 - ✓ level of competitiveness of local enterprises by the assisting industries.

4. Company strategy, structure, and rivalry which focuses on the way companies are created and managed, the company's internal organisation, and the peculiarities of rivalry within an industry are assessed through:

- ✓ the presence of high entrepreneurial activity;
- ✓ the easy access to a new business in the industry;
- ✓ the qualification of management personnel;
- ✓ the quality of company strategies;
- ✓ the availability of a common industry leadership and development strategy;
- ✓ the intensity of competition in the industry;
- ✓ the opportunity for new competitors.

Based on the state of the external environment factors and their influence on the competitiveness of the company, conclusions can be drawn about the power of influence during the analysed period of each individual factor of the external environment. Those variables and determinants of the external environment that act favorably as well as those that hinder the rise of competitiveness are revealed. The simultaneous tracking of the competitiveness levels of the companies in the industry and the estimates of the levels of the external environment factors over a number of years allows the analysis to be

deepened. The results are the basis for choosing priorities in policy and strategy development.

Indicators for assessing the domestic factors of competitiveness of a mining company

Determining of the current competitiveness of the company is carried out through the indicators for: **competitiveness of production, labor productivity and growth of the company.**

- Competitiveness of output is determined by the following indicators:
 - ✓ a relatively perceived quality, by determining the impurities in each metal defined as a requirement on the London Metal Exchange;
 - ✓ product price defined as a comparison of the average price of the finished product (metal) over a given period with the average metal price of the London Metal Exchange for the same period.
- Labor productivity that characterises the efficiency of labor input and its ability to produce a certain volume of output per unit of time;
- Growth of the company by quantifying:
 - ✓ sales volume;
 - ✓ relative market shares;
 - ✓ the value of the long-term assets;
 - ✓ the number of employees.

The proposed indicators are adapted to assess the current competitiveness of the mining company. For the various periods of time, they have different levels of development in companies and their use must be complex. The level of internal factors determines the company's potential to take advantage of the external environment and to protect itself from potential threats. Therefore, these factors determine the level and the main parameters of competitiveness.

More indicators could be added to the system of the indicators associated with the current competitiveness of the mining company. However, this will lead to difficulties in their practical use to clarify the stage of the company's competitiveness because it will strengthen their interdependence, which will thus affect the accuracy of the obtained results.

Determining the company's potential for increasing competitiveness

The current competitiveness of the mining company is only the final result at a given moment. It is in combination with the set of external and internal factors. It is the result of the current situation and the impact of these factors.

In determining the potential of the mining company and to increase the competitiveness, three groups of factors are considered relating to the current condition, namely:

- 1) Stage of the environment in which the company is developing;
- 2) Level of development of the internal factors of competitiveness of the enterprise, namely: level of: technological competitiveness; capacity competitiveness; cost (price) competitiveness; competitiveness of demand;

3) The potential for knowledge diffusion - this reflects the extent to which the company could benefit from the knowledge (technical, technological, organizational, market, etc.) amassed in other countries.

Based on the indicator of the company's competitive potential, it is possible to analyse the impact of each individual factor so as to facilitate the company's management and the mining industry and to identify the priority impacts to achieve maximum competitiveness growth.

Assessment of the potential to increase the competitiveness of the mining company and determining the organisational priorities

Forming such priorities is essential for companies, given their limited resources and time.

The evaluation of the possibilities to increase the competitiveness of the mining company and the determining the organisational priorities is carried out in the following sequence:

- 1) Developing a list of opportunities to increase competitiveness based on the analysed results by the company competitiveness. In the list, the opportunities are divided into two main groups:
 - a) external – result of the favorable changes of the external environment for the company;
 - b) internal - related to the improvement of internal factors.
- 2) Determining the priority of the opportunities to improve the competitiveness of the mining company.

Conclusion

In economic literature, there are different methods that reveal the competitiveness of a company. This shows the absence of a uniform opinion regarding the assessment of the company's competitiveness and approaches to achieving it. An individual scientific approach is needed to assess the competitiveness of the particular mining company. Assessment should also be made using a system of indicators that reflects the objectives, strategy, and specific features of the researched object.

The proposed methodology makes it possible to quantify the competitiveness of each mining company by reflecting the specifics of the objective, the strategy, and by characterising the specifics of the activity.

References

1. Велев, Мл. Оценка и анализ на фирмената конкурентоспособност. С, „Софттейд“, 2004. (Velev, Ml. Otsenka i analiz na firmenata konkurentosposobnost. Sofia, Sofiatreid, 2004.)
2. Маринов, Г., Мл. Велев, О. Гераскова. Икономика и конкурентоспособност на предприемаческата дейност. С., „Информа интелект“, 2009. (Marinov, G., M. Velev, O. Geraskova. Ikonomika i konkurentosposobnost na predpriemacheskata deinost. Sofia, Informa intelekt, 2009.)
3. Porter, M. E. The Competitive Advantage of Nations. New York: Free Press, 1990. (Republished with a new introduction, 1998).