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METHODOLOGICAL PRINCIPLES OF ADAPTABILITY ASSESSMENT OF MINING ENTERPRISES

The main aspects of the adaptability assessment of mining enterprises are defined in the article. The peculiarities of the mining enterprises functioning in the Zhytomyr region are considered.

Keywords: mining industry; external environment; adaptation; adaptability; system of indicators.

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МЕТОДИЧНІ ЗАСАДИ ОЦІНЮВАННЯ СТАНУ АДАПТИВНОСТІ ПІДПРИЄМСТВ ДОБУВНОЇ ПРОМИСЛОВОСТІ

У статті визначено основні аспекти оцінювання стану адаптивності підприємств добувної промисловості. Досліджено особливості функціонування добувних підприємств Житомирської області.

Ключові слова: добувна промисловість, зовнішнє середовище, адаптація, адаптивність, система показників.

Форм. 2. Табл. 1. Рис. 1. Літ. 10.

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МЕТОДИЧЕСКИЕ ОСНОВЫ ОЦЕНКИ СОСТОЯНИЯ АДАПТИВНОСТИ ПРЕДПРИЯТИЙ ДОБЫВАЮЩЕЙ ПРОМЫШЛЕННОСТИ

В статье определены основные аспекты оценки состояния адаптивности предприятий добывающей промышленности. Исследованы особенности функционирования добывающих предприятий Житомирской области.

Ключевые слова: добывающая промышленность, внешняя среда, адаптация, адаптивность, система показателей.

Introduction. The current managing realities faced by domestic business entities are the problem of long-term sustainability and survival provision, as the acceleration of transformation and globalization processes, and therefore, increasing competition and uncertainty of functioning conditions significantly complicate the assigned tasks. Under such circumstances, special importance lies in the field of strategic interaction between organizations and the operating environment process, as the environment of business entity stands as the source of resources and markets, the root cause of fluctuations of different origin and strength. The adaptability condition assessment is the basis for strategic reactions development of an enterprise, as it reflects the degree of organization's readiness for changes.

The extractive industry traditionally occupies a significant place in the economy of Ukraine, and of the Zhytomyr region in particular. Under proper management

extractive industry is able to provide significant revenues to the budgets of different levels, impact positively the trade balance of the country. However, the presence of significant negative trends in the extractive industry functioning must be noted. According to the statistical data of 2011, about 61.3% of the extractive industry enterprises had financial losses (Central Statistical Office in Zhytomyr, 2012). We believe that one of the main reasons of this situation is insufficient attention of management to the problems, connected with the external environment.

Literature review. Key aspects in the sphere of adaptation and adaptability assessment of economic entities are reflected in the research works of such scientists as S.B. Alekseev (2007), R. Daft and P. Lane (2010), V.T. Denisov et al. (2007), O.M. Kolodina (2010), S.A. Kravchenko (2008), A.F. Kryukov et al. (2001), L.V. Sokolova et al. (2010).

Unsolved aspects of the problem. Despite significant scientific contributions in the field of enterprise adaptation to dynamic environmental conditions, the question of the system for adaptability evaluation for extractive enterprises remains insufficiently clarified, thus, requiring more attention.

The aim of the research is to determine the methodological principles of adaptability condition assessment of extractive industry enterprises in the terms of the system approach.

The main results of the research. Extractive industry is an integral part of the economic sector of the Zhytomyr region, as it not only provides a significant share of gross output (the share of extractive industry in the total sales of industrial products is 10.7%), but also creates jobs (about 14% of all industrial employees are involved in the extractive sector), has an export orientation (15% of the total exports of the region) and stands as a significant source of budget revenues (Central Statistical Office in Zhytomyr, 2012). However, we have noted that recently processes of extractive enterprises functioning and development suffered significant crisis trends that resulted in economic activity costs increase, lack of financial resources for expanded or even simple reproduction, reduction of the economic value of enterprises and labor potential.

We consider the express assessment of economic entities of the extractive industry should be done in order to specify the characteristics of the defined enterprises. Database is formed on regular information about the economic activity of 11 extractive industry enterprises, which represent about 10% of the subjects that performed the activity in a given area in 2011.

One of the main directions of the dynamics and compliance with the requirements of the sustainable development analysis is the research of the so-called "golden rule of economics of enterprise". The "golden rule" serves as the criterion of the enterprise effectiveness from the perspective of achieving main strategic objectives of organization under market economy conditions.

There are different variations of the "golden rule of economics of enterprise" formula" in modern economic theory, but most of them are identical in the part, according to which the best correlation is the following:

$$100\% < RA < RI < RP, \quad (1)$$

where RA , RI , RP represent the rates of growth of assets, income and profit in accordance (Nadtoka and Vinogradov, 2009: 81).

We believe that under the current economic conditions another element should be added to the correlation, such as the growth rate of equity. Thus, equation (1) will take the next form:

$$100\% < RA < RE < RI < RP, \quad (2)$$

where RE – the growth rate of enterprise equity.

The development trends of extractive enterprises – represented in Table 1.

Table 1. The development trends of the extractive enterprises

Enterprise	Average annual growth rate, 2009–2011, %				Compliance with the requirements
	RA	RE	RI	RP	
1. Affiliate "Irshansk Mining and Processing Plant JSC "Crimean Titan"	17,03	-4,71	15,81	-55,93	Not compliant
2. PJSC "Malyn Crushing Plant"	10,14	11,5	34,42	77,6	Compliant
3. PJSC "Ovruch Mining and Processing Plant "Kvarcyt"	-5,21	-21,1	25,61	3,56	Not compliant
4. JSC "Pynyazevytsky Quarry"	18,65	10,07	37,9	76,04	Partly compliant
5. PJSC "Ihnatpil'sky Quarry"	-6,59	-76,5	4,48	18,06	Partly compliant
6. PJSC "Ushytsky Construction Materials Plant"	-4,71	-2,78	32,64	-23,69	Not compliant
7. PJSC "Leznykivsky Quarry"	22,52	-48,1	25,11	-802,0	Not compliant
8. JSC "TNC "Granite"	4,87	-50,8	15,24	26,42	Partly compliant
9. PJSC "Korostyshev Granite Quarry"	-10,99	-22,1	26,55	-40,85	Not compliant
10. PJSC "Korostyshev Quarry"	1,22	-17,1	52,45	-151,19	Not compliant
11. LTD "Behivsky Granite Quarry"	0,6	7,31	22,14	30,02	Compliant

Source: Calculated by the author basing on the data by Stock Market Infrastructure Development Agency of Ukraine.

According to Table 1, we can notice that the activity of only 2 companies (JSC "Malyn Crushing Plant" and LTD "Behivsky Granite Quarry") fully comply with the "golden rule of economics of enterprise" and thus are characterized by balanced and harmonious development. 3 companies – JSC "Pynyazevytsky Quarry", PJSC "Ihnatpil'sky quarry" and JSC "TNC "Granite" – almost match the "rule" with only one correlation violated. Thus, we can conclude that the development vector of extractive enterprises is unbalanced and dangerous.

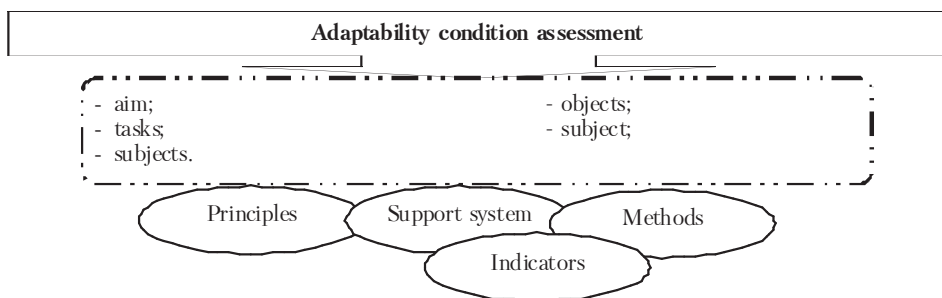
We believe that one of the major causes of the decline of extractive companies is the lack of an effective mechanism of strategic cooperation between economic entities and external environment. External environment is a source of fluctuations of different etymology, strength and influence, which define the conditions for enterprises' functioning. It is worth to note that a system study of external environment of extractive industry enterprises of the Zhytomyr region, which was based on the questionnaire of 50 economic entities (almost 40% of the total number of functioning enterprises of the industry), has established a high level of uncertainty of external environment.

In this terms the problems, related to the adaptation to the external environment come to the fore. Today there are quite a large number of approaches to determining the essence of adaptation. Thus, American professor R. Daft determines adaptation as a company's ability to interpret and translate signals from the environment into new behavior responses (Daft and Lane, 2010: 625). The definition is provided by Ukrainian scientist O.M. Kolodina: "Adaptation in the economy should be under-

stood as a set of targeted measures of one subject of economic relations concerning other subjects in the process of resources exchange with the aim of the implementation of the full cycle of adaptive processes that would ensure the fitness of life-supporting elements of the adaptation object during its operating and development" (Kolodina, 2010: 204). We believe adaptation is the process of enterprises adjustment to external conditions that includes a system of organizational, economic and social regulators and is intended to ensure the sustainability of organization in the long-term perspective. In our opinion, the development of adaptation strategies should be based on adequate assessment of characteristics and dynamics of the external environment and the internal potential of a company as well. The perspectives for development and survival potential are determined by organization's ability to change in accordance with the requirements of the external environment. The assessment of such ability is represented in adaptability characteristics.

Adaptability, according to S.B. Alekseev (2007: 32) and V.T. Denisov et al. (2007: 29), is an estimation of the ability to timely and adequately respond to changes in the external environment and is the result of adaptive development. We offer our understanding of the adaptability essence as a comprehensive indicator of the enterprise's ability to respond to fluctuations in environmental factors.

Thus, in our opinion the formation of a system for the evaluation process of enterprises' adaptability demands the development of a conceptual approach (Figure 1), which reveals the structural elements of the examined mechanism.



Source: Developed by the author'.

Figure 1. **Conceptual scheme of the adaptability conditions assessment process**

Company's adaptability is an extremely complex and multidimensional characteristics, and therefore can not be detected by calculating a small number of parameters.

We believe that the appropriate adaptability condition assessment should be done in such directions as the following:

1. External – describes the impact of external environment on the company. External component includes expertise of the environment condition and dynamics, examination of enterprise's competitiveness, rate of growth of economic value.

2. Marketing – reflects the company's ability to promote products. This component contains growth rates of sales, availability of distribution channels, the efficiency of marketing activities, and skill level of marketing personnel.

3. Resource – determines the efficiency of enterprise resources. Resource component includes the following indicators: fixed assets turnover, depreciation to fixed assets ratio, material costs turnover, labor productivity ratio, capacity utilization ratio, fields' productivity.

4. Financial – aims to characterize the financial condition of the enterprise. Contains 3 sub-systems of indicators: liquidity and financial leverage ratios (cash ratio, current ratio, debt ratio, debt-to-equity ratio), assets turnover ratios (asset turnover ratio, equity turnover ratio, current assets turnover ratio, receivables and payables turnover ratios); profitability ratios (return on assets, return on equity, return on sales, profit per economic activity costs ratio, profit per production costs ratio).

5. Organizational and managerial – provides an analysis of the organizational structure of the enterprise, its level of flexibility and responsiveness, the level of managers' skills.

Thus, the assessment system of extractive industry enterprises' adaptability occupies an important place in the process of adaptation of organizations to external environment conditions and serves as a prerequisite for management decisions development in a strategy-forming process.

Conclusion. Traditionally extractive industry plays an important role in the process of forming and functioning of economic potential of the country, but significant recent crisis tendencies of different origin stand in the way of sustainable development and sustainable operation of economic entities. In this term adaptation process becomes one of the key tools to overcome negative trends and to adjust enterprises to external environment conditions.

Adaptability is the ability of enterprise to respond to changes occurring in its external environment. System approach to the adaptability condition assessment of enterprise implies the following aspects: external, marketing, resource, financial, organizational and managerial.

Prospects for further research lie in the sphere of formation of an integrated approach to the assessment of adaptability with the reduction of partial indexes to one comprehensive indicator to enhance the representativeness and comparability of the assessment results and provide information and analytical basis for strategic decisions.

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КНИЖКОВИЙ СВІТ



СУЧАСНА ЕКОНОМІЧНА ТА ЮРИДИЧНА ОСВІТА
ПРЕСТИЖНИЙ ВИЩИЙ НАВЧАЛЬНИЙ ЗАКЛАД
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Має гриф підручника від МОН України.

У даному підручнику викладено матеріал, який дає системне уявлення щодо менеджменту. Комплекс представлених навчальних матеріалів стосується відносин управління на макро- та мікрорівні економічної системи, що дозволяє сформувати сутнісне бачення щодо менеджмент-взаємозв'язків різноманітних видів діяльності. У цілому викладений матеріал суттєво поширює теоретичні і методичні уявлення щодо менеджменту.

Підручник включає теоретичні засади менеджменту, історію його виникнення і розвитку, форми і методи документообороту при здійсненні управлінської діяльності, основи операційного менеджменту, розкриває нові тенденції у розвитку стратегічного менеджменту. Містить також менеджмент-практикум щодо основних засад управління.

Призначений для студентів вищих навчальних закладів, викладачів, аспірантів, а також всіх тих, хто цікавиться питаннями управління.