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IDENTIFICATION OF THE CAUSES OF RISKS UNDER THE CONDITIONS OF INNOVATIVE DEVELOPMENT OF OIL AND GAS COMPANIES

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The market environment, in which oil and gas companies operate, is characterized by elements of uncertainty and is accompanied by risks of entrepreneurship and production. Insufficient attention to the issues of risk management in the conditions of innovative development of enterprises leads to an inadequate response of oil and gas companies on the risks and threats that arise in the current economic environment, and, as a consequence, the adoption of unjustified managerial decisions. All this contributes to the significant threats in the activity of enterprises, limited mobility and loss of potential opportunities.

The article defines the modern state oil and gas complex of Ukraine. The main problems of enterprises operating in this industry are considered. The causes of risks influencing the innovative activity of enterprises of oil and gas complex, the necessity of building an integrated risk management system are investigated.

Keywords: *oil and gas industry, risk, uncertainty, innovation, development, management, competitiveness, enterprise, innovative activity, integrated risk management system.*

Introduction. In the face of rapid changes in the external environment in which the Ukrainian oil and gas companies function, and their high sensitivity to continuous external changes in the economy of the state and the instability of their own positions, it is extremely important that the introduction of new technologies and innovations in management processes, as further delay threatens the system by isolation from economically developed countries due to the incompatibility of the economic field, the technological environment, product quality standards, to overcome which will be almost impossible. Since innovative activity is accompanied by a high degree of risk,

it is increasingly urgent question of constructing in oil and gas industry an integrated risk management system that focus on the strategic relationship of risks and opportunities in terms of innovative development of enterprises.

Analysis of recent researches and publications. Main directions of development of the oil and gas industry on the basis of innovation and problem of sustainable development in oil and gas complex of Ukraine was developed in the scientific works of such scientists as L. Babiak [7], O. Bovkun, Ya. Vytvytskyi, V. Haliuk [6], V. Heiets, B. Danylyshyn, M. Kovalko, O. Lapko, Yu. Lytiuha [4], M. Pashuta, V. Protsiuk [5], V. Saprykin, T. Serdiuk, V. Soliar, O. Chervinska [2], R. Sherstiuk, etc.

The theoretical, methodological and practical aspects of creating an integrated risk management system was studied in the works of K. Baldin, T. Barton, V. Vitlinskyi, K. Anthony, D. Kamyshev, V. Kravchenko, V. Lukianova, S. Nakonechnyi, A. Starostina, A. Shtefanych and other scientists.

Previously unsettled problem constituent. Despite these studies, a number of conceptual and methodological problems of risk management under the conditions of innovative development of oil and gas companies remain poorly understood. This hampers the development of practical recommendations for the adoption of effective management decisions.

Main purpose of the article. The aim of the study is to determine the present state of oil and gas companies, identifying the main causes of risks that affect the innovation activity of companies working in this sector and investigation of the characteristics of their management.

Results and discussions. For modern oil and gas industry of Ukraine as the leading sector of the domestic economy, limited own energy resources and dependence on external supply determines the economic destabilization of oil and gas complex and of the state in general. Therefore, the consideration of the question of management of innovative development of the oil and gas industry under the conditions of uncertainty and risk is impossible without the sort of individual characteristic features of the oil and gas enterprises as complex multi-level system of organization and diverse activities that is in a state of variability under the influence of external and internal factors.

A characteristic feature of the oil and gas complex of Ukraine is the lack of competition between companies in this industry. Almost all oil and gas production is controlled directly by the state on behalf of the NJSC "Naftogaz of Ukraine" and that is it engaged in the sale of petroleum products to consumers [1]. In the end, this is a positive aspect that the state occupies a strategic sector of the economy, which gives it the ability to fully control and regulate all the relations in this sphere, starting from the development of individual projects of new fields and conservation of old to the sale of products to end consumers. However, such control does not always facilitate

the development of these enterprises, because there is a certain limitation in decision making, in particular on the modernization, innovation, investment, etc.

Summing up the work of the oil and gas industry during the years of independence of Ukraine we can conclude, that it was:

- produced more than 430 billion cubic meters of gas, about 90 million tons of oil and gas condensate;
- drilled 4.3 million m of exploration wells and 5.4 million m production wells;
- built 8400 km of trunk pipelines;
- transported of 2.67 trillion cubic meters of natural gas and 1.2 billion tons of oil [1].

The main directions of innovative development of oil and gas companies should be the following: the use of modern technology and information, knowledge-intensive and energy-saving technologies. All of this should primarily reduce the cost of oil and gas by at least 20-30 % [2, p. 304].

That is why the state should provide financial support for fundamental research in the field of energy technologies that have great prospects in the future, but is often associated with a high degree of risk for individual companies.

Diversification of sources of gas supply should be a priority of government policy, because its own gas production provides only about 25% of the demand and the rest is imported from Russia and Turkmenistan. This situation creates a threat to the reliability of gas supply and energy security of the state [3, p. 149].

Important role in the innovative activity of domestic oil and gas companies must also be played by its research works and development works, mainly focused on the exploration and development of oil and gas deposits; the creation of new technologies for production of high quality products; processing of oil and gas, petrochemical and chemical industries.

The degree of risk depends on the characteristics of the innovation process. A high level of risk can be celebrated by innovations of fundamentally new achievements of science and technology that radically alter the technical and technological basis of production and management. Less risk marked partial modernization of equipment and production technology [4]. The risk in the activities of oil and gas companies may be accompanied by losses, but it also presents opportunities. The essence of its success is that the enterprise should stimulate influence of positive risks on its activity, at the same time reducing the negative impact. The ultimate and most qualitative indicator of the proper use of risk is the increase in profitability and competitiveness of the enterprise.

The main causes of risks influencing the innovative activity of enterprises of oil and gas complex are analyzed by the authors. They include the following:

- political constraints and competition for current inventory. The greatest difficulties in managing risk in the energy sector associated with the role of the state in controlling the extraction of fossil fuels and their distribution [5, p. 128];

- small volumes of financing of innovative activity in the industry, mainly funding is provided by own funds of enterprises [6, p. 119]. So after a minor funding was sharply reduced exploration, drilling volumes decreased. For the extraction of a larger amount of gas and oil from the producing wells it is necessary to apply the latest and advanced technology with much greater financial cost and logistical resources than while using traditional development wells. To finance investments in innovative development of oil and gas complex of Ukraine, it is necessary to use widely foreign direct investments, funds of international financial organizations in addition to internal resources [7];

- aging of the technical potential of the industry, the reduction of preventive maintenance and major repair of wells, systems oil & gas gathering, pipelines and drilling equipment. In the development of the oil and gas industry, the acute issue arises poorly equipped with modern appliances and equipment, the existing technical means worn out, both physically and mentally, the wear rate is close to 60% [3], and imports cannot be carried out sufficiently due to the shortage of foreign exchange resources;

- unsatisfactory provision at the state level to stimulate innovation in the enterprises of oil and gas complex of Ukraine. The main task of the state in fostering innovation lies not only in creating an appropriate legislative framework, but in the execution and implementation of the legislated mechanisms [2, p. 304]. Therefore, it is necessary to undertake the following activities: to eliminate the contradictions that exist between the normative-legal acts; to consolidate the stimulation of innovation through the tax laws; to secure the protection of the rights and interests of subjects of innovative activity; to ensure the implementation of an effective tariff and price policy;

- inconsistency in the formation and implementation of state policy in the sphere of research and innovation activities in the oil and gas industry, the absence of a strategy for scientific, technological and innovative development and insufficient use of scientific potential of the oil and gas sector with a high level of fundamental research and proper training of specialists for work in the industry, which leads to risks in personnel management;

- current system of pricing and total amount of taxation in the oil and gas complex has led to the constant shortage of funds and, as a consequence, the trend of decline in oil and gas production. In addition, this system does not take into account the peculiarities of the oil and gas industry, which are characterized by a variety of geological conditions of oil and gas fields and different cost of their production. The same rules of taxation are applied to both profitable extraction of oil and raw

materials from remote and marginal wells. For the same price on the extracted oil and natural gas and the common system of taxation the amount of the payments can not be the same for all fields, so its role should be in regulating the functions of the state and to ensure the interest of the user of mineral resources in the development of deposits with favorable mining and geological conditions, and such fields, where geological conditions onerous for the cost-effective production of oil and natural gas;

- the emergence of environmental problems associated with oil and gas production, increases the risks of deterioration of the relationship of oil and gas enterprises with government, consumers, the local community [5, p. 129].

Of course, the innovative development of enterprises requires significant financial resources, time to search for investors and for the direct implementation of these innovations, retraining of workers and their adaptation to new conditions. Also the actual problem is in establishing state-level incentives for introduction of innovations in enterprises, elimination of contradictions between normative-legal acts, supportive and loyal tax legislation, ensuring the protection of rights and interests of subjects of innovative activity. The task of full carrying out the re-equipment of enterprises and reducing to a minimum the volatility of the economy in the shortest possible time is too complex and time consuming process, but it will allow to increase volumes of oil and gas production, to start the production of electricity from alternative sources, which will make the oil and gas industry practically independent from external sources of supply, will increase the overall innovation capacity and performance of oil and gas enterprises of Ukraine.

Conclusions and further researches directions. Thus, considering the strategic importance of the oil and gas industry for the economy of the state, we analyzed the causes of risks in terms of innovative development of oil and gas companies. The oil and gas sector development on the basis of innovation is a prerequisite for its effectiveness. The innovation process is always accompanied by a significant level of risk. But this should not stop oil and gas companies that want to be competitive. Under the conditions of uncertainty of the external environment, we offer to the oil and gas companies to carry out the transformation of governance structures that will allow users to effectively manage risk. Thus, there is a need to build integrated systems and reveal the latest methods for dynamic risk management to ensure the introduction of innovative activities at oil and gas enterprises of Ukraine.

References

1. Ofitsiyni sait NAK “Naftohaz Ukrainy” [The official site of the NJSC “Naftogaz of Ukraine”]. *www.naftogaz.com*. Retrieved from [http:// www.naftogaz.com /](http://www.naftogaz.com/) [in Ukrainian].
2. Chervinska O.S. & Hrytsyk A.Ya. Stan ta perspektyvy rozvytku pidpriemstv naftohazovoho kompleksu Ukrainy [State and prospects of development of oil and gas companies of Ukraine]. *Naukovyi visnyk NLTU Ukrainy – Scientific Bulletin of NLTU of Ukraine*, 24.6, 300-306 [in Ukrainian].

3. Enerhetychna stratehiia Ukrainy na period do 2030 roku [The energy strategy of Ukraine till 2030]. (2013, July 24). *Rozporiadzhennia Kabinetu Ministriv Ukrainy – The Order Of The Cabinet Of Ministers Of Ukraine*. Kyiv: Uriadovyi kurier [in Ukrainian].

4. Lytiuha Yu.V. (2013). Vidkryti innovatsii yak instrument ryzyk-menedzhmentu [Open innovation as an instrument of risk management]. *Efektivna ekonomika – Effective economy*, 5. Retrieved from <http://www.economy.nayka.com.ua/?op=1&z=2010> [in Ukrainian].

5. Protsiuk I.V. Chynnyky formuvannia kryzovoho potentsialu naftohazovykh pidpriemstv [Factors of formation of crisis potential of oil and gas enterprises]. *Stratehiia ekonomichnoho rozvytku Ukrainy – The strategy of economic development of Ukraine*, 32, 123-131 [in Ukrainian].

6. Haliuk I.B. Analiz innovatsiinoi skladovoi diialnosti naftohazovoho sektoru Ukrainy [The analysis of innovative activity of the oil and gas sector of Ukraine]. *Biznes Inform – Business Inform*, 11, 118-121 [in Ukrainian].

7. Babiak L.V. (2011). Innovatsiina stratehiia povedinky pidpriemstv naftohazovoho kompleksu [Innovative strategy for the conduct of oil and gas companies]. *Vydavnytstvo Lvivskoi politekhniki – Publishing house of Lviv Polytechnic*, 706. Retrieved from <http://vlp.com.ua/node/7537> [in Ukrainian].

**ІДЕНТИФІКАЦІЯ ПРИЧИН ВИНИКНЕННЯ РИЗИКІВ В УМОВАХ
ІННОВАЦІЙНОГО РОЗВИТКУ ПІДПРИЄМСТВ НАФТОГАЗОВОГО КОМПЛЕКСУ**
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Ринкове середовище, в якому функціонують нафтогазові підприємства, характеризується елементами невизначеності та супроводжується ризиками виробничо-комерційної діяльності. Недостатня увага до питань управління ризиками в умовах інноваційного розвитку підприємств призводить до неадекватної реакції нафтогазових підприємств на небезпеки та загрози, що виникають у сучасному економічному середовищі, і, як наслідок, прийняття необґрунтованих управлінських рішень. Все це сприяє виникненню значних загроз у діяльності підприємств, обмеженості їх мобільності і втраті потенціальних можливостей.

У статті визначено сучасний стан нафтогазового комплексу України. Розглянуто основні проблеми підприємств, що працюють у даній галузі. Досліджено причини виникнення ризиків, що впливають на інноваційну діяльність підприємств нафтогазового комплексу, обґрунтовано необхідність побудови інтегрованої системи управління ризиками.

Ключові слова: *нафтогазовий комплекс, ризик, невизначеність, інновації, розвиток, управління, конкурентоспроможність, підприємство, інноваційна діяльність, інтегрована система управління ризиками.*

**ИДЕНТИФИКАЦИЯ ПРИЧИН ВОЗНИКНОВЕНИЯ РИСКОВ В УСЛОВИЯХ
ИННОВАЦИОННОГО РАЗВИТИЯ ПРЕДПРИЯТИЙ НЕФТЕГАЗОВОГО
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Рыночная среда, в которой функционируют нефтегазовые предприятия, характеризуется элементами неопределенности и сопровождается рисками производственно-коммерческой деятельности. Недостаточное внимание к вопросам управления рисками в условиях инновационного развития предприятий приводит к неадекватной реакции нефтегазовых предприятий на опасности и угрозы, возникающие в современной экономической среде, и, как следствие, принятия необоснованных управленческих решений. Все это способствует возникновению значительных угроз в деятельности предприятий, ограниченности их мобильности и потере потенциальных возможностей.

В статье определено современное состояние нефтегазового комплекса Украины. Рассмотрены основные проблемы предприятий, работающих в данной отрасли. Исследованы причины возникновения рисков, влияющих на инновационную деятельность предприятий нефтегазового комплекса, обоснована необходимость построения интегрированной системы управления рисками.

Ключевые слова: *нефтегазовый комплекс, риск, неопределенность, инновации, развитие, управление, конкурентоспособность, предприятие, инновационная деятельность, интегрированная система управления рисками.*