Use of innovative potential and problems of innovative development at the enterprises of the oil and gas industry of Uzbekistan

Uso de potencial innovador y problemas de desarrollo innovador en las empresas de la industria de petróleo y gas de Uzbekistán

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ABSTRACT

In the article the innovative potential for the companies of oil and gas industry of Uzbekistan is considered in more detail. It also tells about innovative capital and innovative activity of «Uzbekneftegaz» JSC, about their advantages and disadvantages. The article describes in detail the existing programs of the companies providing for modernization, improvement of the technical level of production and the required provision for the production of competitive products oriented to export and substitution of imported products. Diagnostic analysis of the efficiency of formation and expenditure of innovative capital on the basis of analysis of statistical reporting data for 2016 and 2017 for all sub-companies of «Uzbekneftegaz» JSC is given. In order to increase the efficiency of the usage of innovative potential in the industry, it is proposed to develop appropriate stages using the model-scheme. The envisaged implementation measures for the necessary transition to modern forms and mechanisms of science financing and innovation activity support are described in more detail. Conclusions and problems of diagnostic analysis and proposal for improvement of innovation potential and innovative development at oil and gas companies of Uzbekistan are also given.

Keywords: gas industry, oil, strategic direction, alternative fuels, innovative potential

RESUMEN

En el artículo se considera con más detalle el potencial innovador para las empresas de la industria del petróleo y el gas de Uzbekistán. También habla sobre el capital innovador y la actividad innovadora de «Uzbekneftegaz» JSC, sobre sus ventajas y desventajas. El artículo describe en detalle los programas existentes de las empresas que prevén la modernización, la mejora del nivel técnico de producción y la provisión requerida para la producción de productos competitivos orientados a la exportación y sustitución de productos importados. Se proporciona un análisis de diagnóstico de la eficiencia de la formación y el gasto de capital innovador sobre la base del análisis de datos de informes estadísticos para 2016 y 2017 para todas las sub-empresas de «Uzbekneftegaz» JSC. Con el fin de aumentar la eficiencia del uso del potencial innovador en la industria, se propone desarrollar etapas apropiadas utilizando el esquema modelo. Las medidas de implementación previstas para la transición necesaria a formas modernas y mecanismos de financiación de la ciencia y apoyo a la actividad de innovación se describen con más detalle. También se presentan conclusiones y problemas de análisis de diagnóstico y propuestas para mejorar el potencial de innovación y el desarrollo innovador en las empresas de petróleo y gas de Uzbekistán.

Palabras clave: industria del gas, petróleo, dirección estratégica, combustibles alternativos, potencial innovador.

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Introduction

The period of development of market relations in the Republic of Uzbekistan posed a number of problems for enterprises, the main of which are the development of organizational and legal forms of management, the reform of the enterprise management system and the introduction of organizational models that best meet the goals of maximizing profit and multiplying capital, as well as solving social problems. New forms of integration of business entities and the formation of corporate structures made it possible to take a fresh look at the role of the financial and economic management mechanism and identify new priorities for its functioning. The effectiveness of the country's economy largely depends on the solutions to the problems of sustainable development of corporations that make up the organizational basis of economic life. It is no coincidence that the First President of our country I.A. Karimov in his report at a meeting of the Cabinet of Ministers on the results of the country's socio-economic development in 2014 and the most important priority areas of the economic program for 2015 noted: "A radical change in the principles and approaches in the corporate governance system, the introduction of modern international corporate management standards require serious attention production, foreign economic and investment processes ".

As recent studies show, the vast majority of investors consider the practice of company management bodies as a factor that is even more important than the financial performance of their activities.

In this regard, at present, the issue of improving domestic corporate governance systems in Uzbekistan, which determined the choice of the topic of dissertation research.

Decision. The implementation of this goal necessitated the solution to the following **tasks**:

- to study, summarize and systematize the views of leading domestic and foreign scientists on the problem of the content of the category "corporate governance";
- to clarify the concept of "potential of the corporate governance system", the set of its mechanisms, highlight the basic principles of corporate governance and determine its place in the enterprise management system;
- to highlight the general characteristics and characteristics of corporate governance models used in international and Uzbek practice;
- to establish the relationship between corporate governance and investment attractiveness, justify the need for a center for investor relations in the company;
- to formulate relatively objective criteria and build an integrated index for assessing the quality of corporate governance;
- to analyze corporate governance models used in the oil and gas industry and evaluate the quality of the management system;
- to develop program on improvement of the corporate governance system for a qualitative improvement in the functioning of enterprises on the basis of the deficiencies identified as a result of the analysis.

The methodological basis is that the proposed methodological developments and practical recommendations can be used as tools for improving corporate governance. The application of methodological recommendations developed by specific measures by the author to improve the corporate governance system for the oil and gas industry in order to increase the efficiency and sustainability of its activities will significantly increase corporate governance effectiveness.

The methods of research were fundamental and applied research in the field of corporate governance, of domestic and foreign scientists. The work uses general scientific methods of analysis and synthesis of information, theoretical generalization, comparative analysis, economic and statistical methods, as well as a systematic integrated approach.

Decision:

- determined and systematized methods for assessing the level of corporate governance, proposed from the position of legal support and based on the weighting of various indicators, as well as from the position of efficiency, based on the application of economic, mathematical-statistical, optimization and economic-mathematical types of analysis;
- established The influence of the ownership structure on the level of corporate governance, characterized by the degree of concentration of ownership
- developed methodological approaches to the formation of an effective corporate governance infrastructure based on the use of the corporate secretary presence model and observance of fiduciary duties by board members;

Implementation of the results. The scientific provisions of the dissertation research were discussed at conferences and scientific seminars.

Materials of the dissertation research can be used for the course "Corporate Governance", "Management", «Theory of Organization ", "Management Consulting".

Innovative potential is the accumulated level of knowledge in combination with material and organizational conditions that ensure the use of this knowledge for the purposes of scientific, technical and economic development of an enterprise. There are at least two components in this definition: resources and the result of their use. This directly leads to the following, continuously linked to the previous one category of "innovation capital", which represents a realizable innovation potential, ensuring profit or other innovative effect.

All scientific, technological, organizational, financial and commercial activities that actually lead to the implementation of innovations can be defined as innovative activities, including research, development and introduction of new products and processes, new methods of product sales, as well as changes in organizational practice and structure of the enterprise.

Innovative capital of enterprises included in the system of JSC Uzbekneftegaz is an innovative system of oil and gas industry of the country and it has the same advantages and disadvantages as the National Innovation System as a whole[1].

In this article we wish to concentrate on factors, stopping innovative activity of industry enterprises:

- its functioning is aimed at solving specific problems that are not subordinate to the general goal of innovation development;

- there is no single targeted innovation policy, drawn up in the form of a program document for medium and long term perspective. The existing programs of enterprises provide modernization, improvement of technical level of production and require the production of competitive products oriented for export and replacement of imported products. However, these programs do not include related measures to stimulate the development of local scientific potential, training and retraining of personnel, the creation of supportive structures and the introduction of innovations into production;

- lack of financial resources.

Diagnostics of the state and efficiency of the formation and use of innovative capital based on the analysis of statistical reporting data for 2016 and 2017 using the forms "1 - innovatsiya shakli" and "1-fan shakliga ilova" allow us to conclude that in almost all enterprises innovative activity is carried out not actively enough.

In 2016, innovative developments accounted for only 6.8% in the total volume of output, in implemented sales they reached 6.7%, and 17.5% of the total sales volume was sold outside the country. At the same time, more than 98% of innovative products were produced and sold by JV UZ-KOR GAS CHEMICAL LLC.

In 2017, the share of innovative developments increased slightly in the volume of output and compiled 10.4%, while in sales outside the country it reached 19.7%. In general, there was a 2-fold increase in innovative products and its volume amounted to 1949 billion soums. However, like in the previous year, almost 100% of innovative products were produced and sold by JV LLC UZ-KOR GAS CHEMICAL.

The cost of all types of innovation activities amounted to 118.6 billion soums in 2016, including those carried out at their own expense - 26.5 billion soums. All costs were directed to technological innovations, of which 115.7 billion soums or almost 98% were process innovations. Machinery and equipment were mainly purchased at their own expense for the implementation of technological investments. New technologies were acquired by borrowed funds. Part of the costs from their own funds (only 2.6%) was directed to the research and development of new products, services, methods and processes[2].

In 2017, the costs of types of innovative activities decreased by 93.8 billion soums and were carried out only at the expense of own funds.

Compared to 2016 when 93.2% of own funds were used out of all costs to purchase machines for technological innovation for all types of innovative activity, in 2017 95.2% of own funds were allocated for these purposes.

In 2016, 86 innovations were introduced in general in oil and gas industry of which 70 were in-house and 18 were implemented with the participation of other organizations (SRI). In the reporting year, the Bukhara Mechanical Plant showed the greatest activity, which introduced 32 technological (product) innovations on its own, that is more than 36% of the total number of implemented measures, Urgenchtransgaz Subsidiary (7 events) and IGIRNIGM JSC (6 events).

In 2017, the number of implemented applications in comparison with the previous year decreased to 46, or by almost 50%. At the same time, in the reporting year, they did not report on the implemented activities of IGIRNIGM JSC, Karbonam LLC and Neftegazkhimmash JSC.

In 2016, enterprises of the industry created 12 and acquired 18 new technologies, and in 2017 only 7 technologies were acquired by them.

1 Resolution of the President of the Republic of Uzbekistan No. PP-4388 dated 9 July 2019 on "About measures for stable providing economy and the population with energy resources, financial improvement in enhancement of management system oil and gas industry"

2 Report on the research work of O'ZLITINEFTGAZ JSC "Analysis of reporting data on the statistical form" 1-innovasiya shakli "for enterprises of Uzbekne fegas JSC and preparation of analytical information with conclusions and suggestions for revitalizing the industry" Tashkent, 2019

A slightly different picture, while maintaining the general trends, is shown by the reporting data on research and engineering development.

In 2016, the enterprises of oil and gas industry of Uzbekistan made 2154.3 billion soums out of the total amount of work, using their own resources. In this number, research and development and development amounted to only 2.9% of which research and development - by 28.5 billion soums. The most significant contribution within this amount comes from IGIRNIGM JSC (69%) and UzLITIneftgaz JSC (15%).

Only IGIRNIGM JSC and NEFTGAZTADQIQOT JSC were engaged in fundamental research, which makes up only 8% of research and development volume. Design work for construction was performed only by UzLITIneftgaz JSC (86.8% of research and development volume).

In 2017, the share of research and development activities carried out at their own expense decreased to 1.5%, remaining by cost almost at the level of 2016. And this year the largest volume falls on IGIRNIGM JSC and UzLITIneftgaz JSC. Design work for construction was carried out only at UzLITIneftgaz JSC.

In 2016, research and development costs amounted to 75 soums per 1 sum of fulfilled research and development activities, and in 2017 this amount was 74 soums. At the same time, 89% of current expenditures were accounted for scientific and technical developments and 11% for applied research and fundamental developments were not carried out.

Mainly customer funds were sources of financing costs for research and development carried out in-house. In addition, own funds and foreign investments were attracted and in 2016 - funds from the Republican budget were used.

For the years analyzed, about 70% of the number of employees engaged in scientific research are specialists - researchers, and the rest are technicians, auxiliary and other personnel. Among research specialists, approximately 90% have a higher education. In 2017, there were 8 doctors of science, and 32 candidates of science among the researchers.

1. Adoption of a special program for the development of competition in the innovation capital market; 2. Formation of the topics of current (priority) innovative developments; 3. Constant monitoring of goals implementation; 4. Systematic provision of balanced demand and proposals for innovative developments; 5. Formation of the list of required for the industry and secured by demand innovative developments; 6. Monitoring of timely development and introduction of innovative developments; 7. Regulatory support of the innovation system of Uzbekistan; 8. Adoption of legislation on the protection of intellectual property, the results of innovative developments from their use; 9. Improving personnel policy; 10. Transition from management of expenses to management of results from introduction of innovative developments; 11. The increase in the volume of financing of innovative developments; 12. Regulations for systematic certification of scientific and scientific-production personnel. 13. Intensify the process of rejuvenation of scientific personnel; 14. The introduction of standards for the evaluation of intellectual property and the results of the introduction of innovative developments; 15. Creating a system of equity financing of innovative activities; 16. Creating an organization for the protection of intellectual property, the results of innovative developments from their use; 17. Reducing the tax burden and legislative consolidation of tax benefits in the implementation of their own innovative developments; 18. Providing access to credit resources; 19. Export promotion; 20. The transition from cost management to management of results of innovation; 21. Increasing funding for innovative research; 22. The system of incentives for the creation and implementation of innovative developments.

For the development of measures to improve the efficiency of the use of innovative potential, one should use a model scheme for increasing the efficiency of its use in fuel and energy companies, including Uzbekistan's oil and gas industry (Fig. 1). At the same time, the main attention at the level of oil and gas industry, as can be seen from the above diagram, should be paid to:

- formation of the innovation capital market - the formation of a list of necessary for industry, demand-driven, innovative developments and monitoring of timely developments and the introduction of innovative developments;

- creation of regulatory framework - the development of regulations for systematic certification of scientific and research and production personnel, and on this basis, the revitalization of the process of rejuvenation of scientific personnel;

- stimulation of the introduction of innovative developments - the transition from cost management to managing the results of innovation, increasing funding for innovative research, improving the system of incentives for the creation and implementation of innovative developments.

Industrial innovative capital and innovative capital of enterprises in some cases remain unclaimed, mainly due to imperfect competition. Therefore, it is necessary to develop a special industrial strategic program to develop competition and create conditions for expanding the market capacity of industrial innovative capital. It should first of all cover the creation of the necessary regulatory framework for innovation, should include addressing topical issues of stimulating production in matters of commercialization and introduction of new equipment and technologies, production of modern high-tech competitive products, and export development[3].

3 Decree of the President of the Republic of Uzbekistan No UP-4947 dated 7 February 2017 on "Uzbekistan's Five-Area Development Strategy for 2017-2021"

Increasing the capacity of innovation capital market is of paramount importance in the process of forming a system of innovative cooperation between science and production. Moreover, it is associated with the optimal combination of investing into the development of new technologies for this production of other enterprises with investing capital in developing and implementing their own innovations. It is necessary to implement measures for the development of knowledge-intensive industries, modernization, technical and technological re-equipment of production. Scientific institutions, as shown by the results of annual fairs of innovative ideas, technologies and projects, have sufficient potential to offer modern innovative developments in various areas of engineering and technology.

In this regard, the transition to modern forms and mechanisms of financing science and supporting innovation, which should include the implementation of the following measures with a view to innovative development, is necessary.

Firstly, a gradual increase in the volume of budget financing of research expenditures and innovation support, taking into account the introduction of criteria for their effective use.

Secondly, the concentration of funds on the financing of particularly important basic and applied research carried out by research teams.

Thirdly, in the field of industrial higher education, it is necessary to provide a concentration of grant resources for the implementation of educational programs within the foreground areas of science, engineering and technology, necessary for the industry, to realize grant funding to individuals (researchers) in new important areas of science development, and registration of patents on the results of R & D.

Mechanisms of direct partnership with private capital should be included in the conditions of low innovative activity, along with instruments of indirect stimulation.

It is necessary to develop fiscal instruments that provide significant benefits in the implementation of R & D, financing the initial stages of innovative projects. An important step could be long-term financing on a returnable basis at a low interest rate, insurance of investment projects. Thus, the industry through the appropriate institution will share with the entrepreneur and private investor the risks inherent in innovative projects.

It is important to develop international cooperation in the use of strategy of "borrowing" innovative technologies through institutional strengthening, creating a joint venture.

And another very important aspect of ensuring the innovative development of enterprises in oil and gas industry is reducing the tax burden in order to create financial resources that ensure the creation and implementation of innovative developments. This is especially important for the extractive enterprises of the oil and gas industry of Uzbekistan.

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