

ENSURING THE COMPETITIVENESS OF UKRAINE'S GAS TRANSIT SYSTEM IN THE CONTEXT OF INNOVATION AND INVESTMENT DEVELOPMENT

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Abstract. In the development of market economy and increasing of integration and globalization became necessary to find new methods, ways and areas of improvement of competitiveness of all businesses. Of particular note in this respect deserves Ukraine's gas transportation system that provides energy and economic security of the State as a whole. Since the pipeline network in Ukraine is one of the oldest and longest among European gas networks, so its innovation and investment development is a determining factor in shaping its competitiveness in the global market. The article reflects the influence model of innovation and investment potential on its competitiveness, and also the relationship between innovation and investment on the basis of what defines the main directions of innovative activities and investments. The study singled out two hierarchical levels of innovation and investment GTS. Result the research shows that the main direction of innovation, which should be used to enhance the competitiveness of the Ukrainian gas transportation system, is considering upgrading it saving measures.

Key words: gas transportations system, investment, innovation, energy costs

INTRODUCTION

Innovation and investment development of the company is the determining factor in shaping its competitiveness in terms of deepening of integration and globalization of the world economy. Transformation processes of market economy

requires revitalization of industrial enterprises through quality and efficient transformation of the production updating process what will be impossible without the proper investment [Sai 2006, Cass 2008]. This is the fundamental basis for competitiveness of domestic industry and guarantee the successful integration of our country in the European Community.

The aim of the article is a theoretical substantiation of areas increase the competitiveness of Ukraine's gas transportation system based on its innovation and investment development, the determinants of mutual influence on innovation and investment companies, the relationship between innovation and investment.

Agricultural sector in Poland as energy resources mostly use natural gas transported to Europe via Ukrainian gas transportation system (UGTS). Because of its technical condition, operational efficiency, competitiveness directly affect the activity of the whole economy, including agro-industries.

THE METHODOLOGICAL PART

Ukraine gas transit system (UGTS) – one of the largest and most powerful, but at the same time one of the oldest in Europe – its development began in 1924, if at the initial stage of its operation UGTS was the single monopoly supplier of Russian gas to Europe, with intensify the search for alternative schemes of natural gas to European markets, bypassing Ukraine and development of innovative processes in the economy of the national gas transportation system has a significant impact of the emergence of competitors (North and South streams). Another threat of loss of UGTS competitiveness was considerable moral and physical aging pipelines in recent years due to neglect of the rational and much needed funding for modernization of UGTS. Back sustainable competitive position requires significant annual performance of major repairs and reconstruction of pipelines. Operation of the numerous and diverse fleet of gas pumping units (GPU), including in some cases, low efficiency, different motor resource, significant moral and physical aging requires proper service and causes to solve problems of development and implementation of highly economical and more environmentally friendly gas compressor units.

Thus, Ukraine's gas transportation system at the present stage of operation requires the solution of important and urgent scientific and technical issues related to improving the reliability and efficiency of the linear compressor stations operation, residual life assessment of gas compressor units for the purpose of re-filling stations and the influence of the environment.



In a highly competitive enterprises should pay particular attention to innovation and investment development, especially those who are guarantors of national, economic and energy security as the Company's gas transportation network. Intellectual production process in developed countries threaten their ability to compete on the world stage for all businesses. It should be noted that the gas transportation system of Ukraine (UGTS) integrated into Polish, Slovak, Hungarian, Moldavian and Romanian pipeline system transporting natural gas from Russia, Belarus, and thus comes to the international level and become member of securing energy security of the European world. The relevance of competitiveness is an issue of international level. On the territory of Ukraine's GTS is formed from 11 gas transmission companies that are harmonically integrated in the system of natural gas pipelines. The main competitors of the national transmission system is the North and South streams. These pipelines are constructed to meet modern standards of scientific and technological development in compliance with the energy-saving technologies.

Innovation and investment processes should be considered in combination. Enhancing innovation enterprises in a market economy is primarily linked with the search for the sources and forms of investment, which should ensure a balance between innovation expenditure and income [Adamanova 2006]. One of generalized quantitative evaluation criteria of innovation potential of the company is spending on research and development work and education. The current stage of the global economic system characterized by the growing role of innovation in a broad sense, not only as a competitive advantage [Ovcharenko 2007].

Most of the innovations are based on the development of innovative investment projects valued system parameters listed in Figure 1. To improve the efficiency of the company it is necessary to use all of its potential. Given that the potential in most scientific papers and in its etymological essence (translated from the Latin "Potentia" means "hidden features") is defined as the ability [Tugan-Baranovsky 1997], potential power source tools available resources, the system of material and labour factors system's ability to perform tasks [Maslak 2009], innovative capacity is the ability to generate new production system, rational ideas to improve production efficiency, while the investment potential of the enterprise – the ability to ensure that the manufacturing process necessary financial resources [Fedoseyeva 2007, Zaglumina 2011].



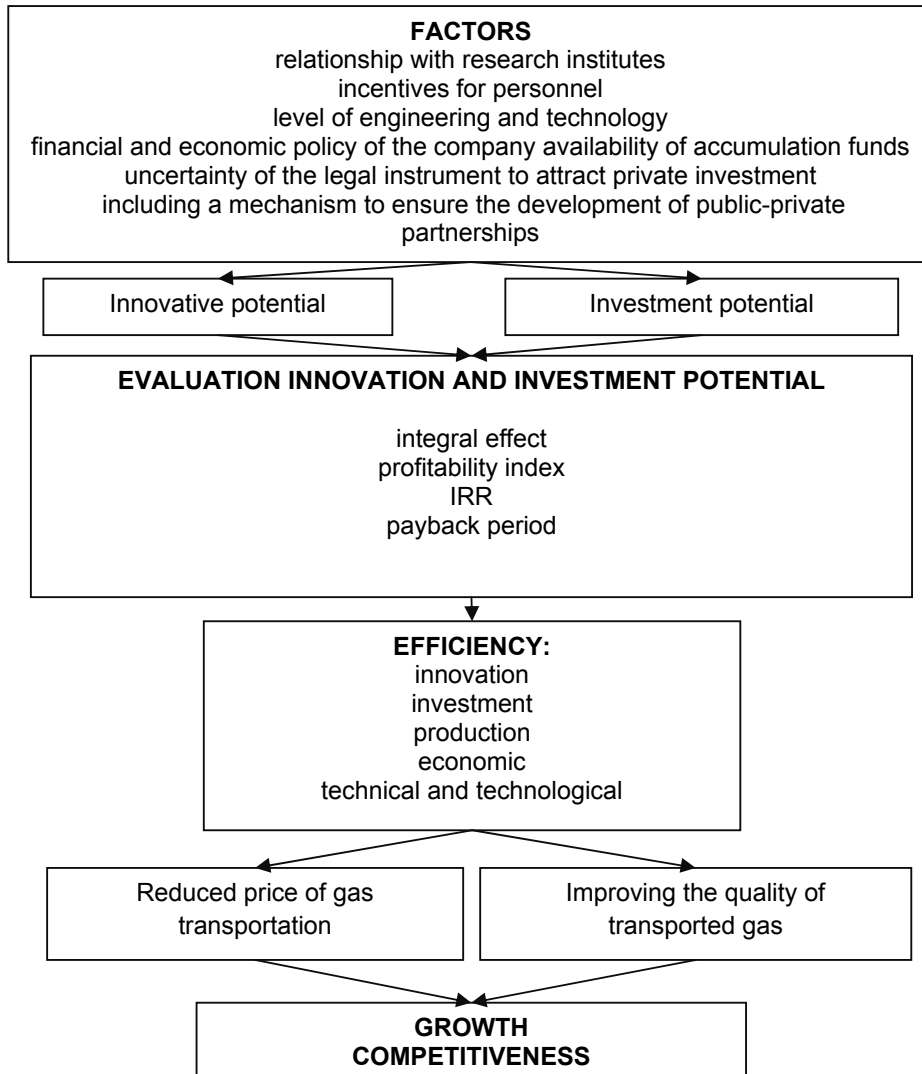


FIGURE 1. Effect of innovation and investment in the formation of competitive gas transportation company

Source: Constructed by authors.

RESULTS

Innovation and investment development of enterprises transmission network is a set measures focused on improving efficiency through innovation based on effective, appropriate, high-quality funding. Any improvement of production and improve its effectiveness, and any increase in its efficiency determines the appearance reserves increase competitiveness through the use of competitive advantages. The main innovative activities in the gas transmission industry can be divided into four main groups: technical, technological, managerial and organizational, and the last two are the least capital-intensive. Implementation of these measures reduces costs, of course, as innovative measures in most cases developed in the form of investment projects, at an early stage to reduce costs offset the cost of innovation. The release of funds in the process of innovation is accumulated in a special investment fund, which is then used for innovation. Such a scheme of gas transportation industry enterprises innovative investment activity will provide their autonomy and independence from external funding sources, and thus protect the domestic economy from the loss of energy independence. While studying the impact of innovation on competitiveness introduces a new definition of innovation competitiveness, which is achieved through the development and production of new products and services. As for gas transmission industry, the competitive nature of innovation is going to consist in the improvement of existing production. Innovation and investment development of the production process are inextricably linked (Figure 2).

Innovative measures and effective funding ensure the optimal development of enterprise [Kryvoruchko 2009]. The successful operation of gas transmission companies and the strategic advantage in a competitive environment depends on the effectiveness of innovative development, which in turn can not be determined without investment security. In this industry, the competitiveness is one of the most required to solve, particularly since it is a factor in the competitiveness of energy, economic and national security issues in general. Innovative measures and effective funding ensure the optimal development of enterprise.

The successful operation of gas transmission companies and the strategic advantage in a competitive environment depends on the effectiveness of innovative development, which in turn can not be determined without investment security. In this industry, the competitiveness is one of the most required to solve, particularly since it is a factor in the competitiveness of energy, economic and national security issues in general.

The largest competitors in the national gas transportation system are newly built South and North flows, because they threaten the loss of 30% of the transported gas. Among their competitive advantages can be determined that these



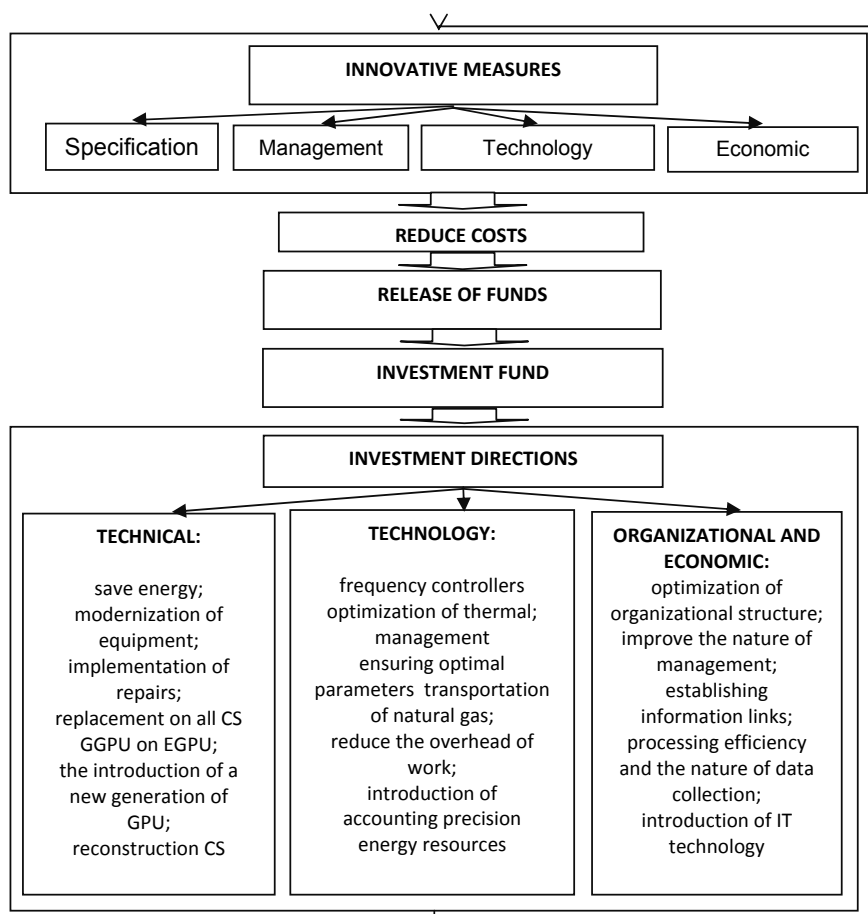
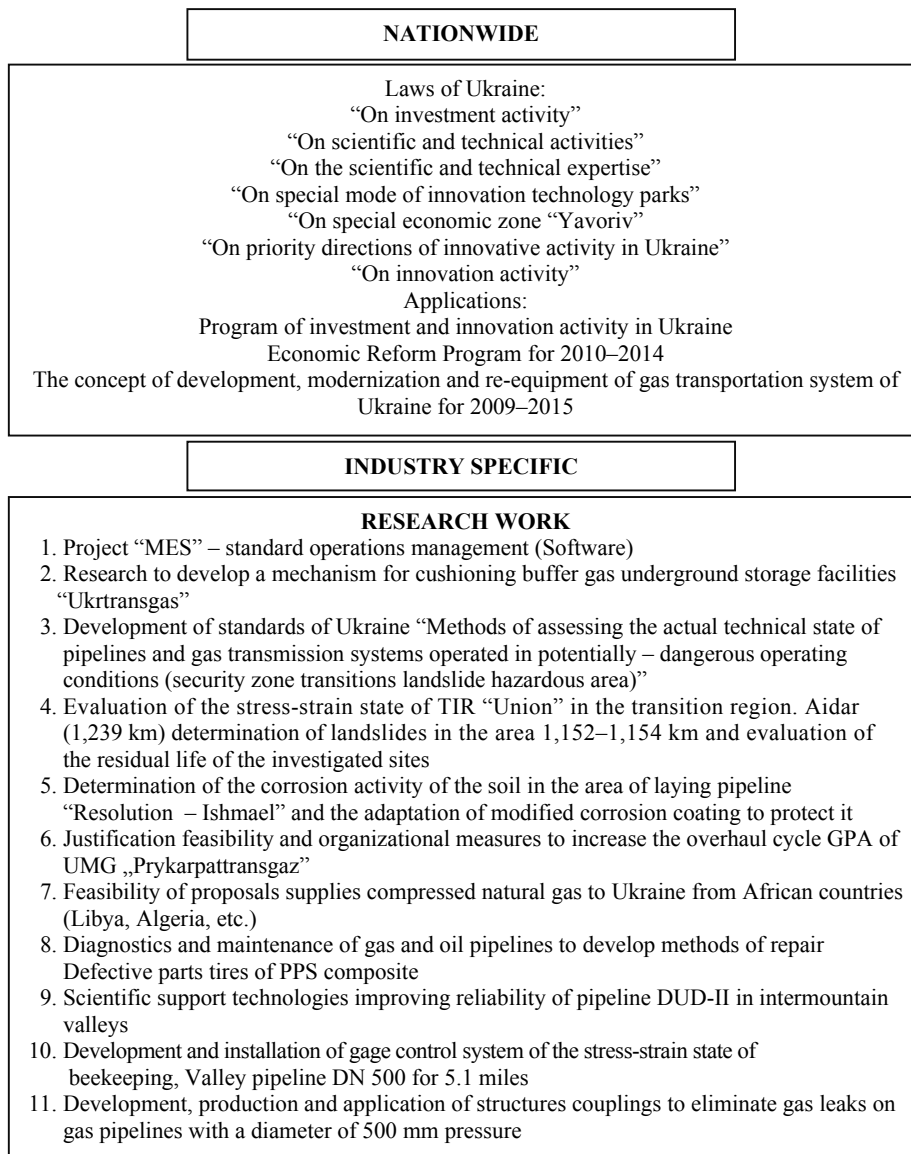


FIGURE 2. Effect of innovation and investment in the formation of competitive gas transportation company

Source: Constructed by authors.

pipelines are built taking into account new technologies that significantly reduce the cost of transporting natural gas through the use of energy saving, considering that they do not need repairs. Among the competitive advantages of Ukraine's gas transit system can be called its reliability and stability (despite other statements) only so it is necessary to focus on quality competitiveness using innovation and investment development. It is impossible to implement innovations without quality investment.

There are two hierarchical levels of innovation and investment activities in the business sector nationwide gas transportation and industry, their composition and structure are shown in Figure 3.

**FIGURE 3.** Hierarchical levels of innovation and investment UGTS

Source: Constructed by authors.

As seen in Figure 3 for gas transmission enterprises conducted innovative measures, but significant improvement in the efficiency of production of gas transmission companies are not observed, due to the constant rise in fuel and energy resources, the use morally outdated and worn-out technical and technological facilities are increasing material costs including energy and maintenance costs of technical equipment.

A significant share of the cost of gas transmission companies take energy costs that are on average 50–55% and increases annually.

CONCLUSIONS

Thus, effective innovation in enterprises transmission network should be based on the following basic principles:

- it is necessary to find quality sources and funding mechanisms that allow businesses to remain independent transmission network from external funding sources;
- in developing and implementing innovative measures to give priority to those that are energy saving because as mentioned above, namely energy costs are the biggest and the corresponding reduction will improve the efficiency of the transmission network.

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KONKURENCYJNOŚĆ SYSTEMU PRZESYŁU GAZU NA UKRAINIE W KONTEKŚCIE INNOWACJI I ROZWOJU INWESTYCJI

Abstrakt. W procesie rozwoju gospodarki rynkowej i zwiększenia procesów integracyjnych oraz postępującej globalizacji występuje konieczność znalezienia nowych metod, sposobów i kierunków wzrostu konkurencyjności dla wszystkich przedsiębiorstw. Na szczególną uwagę w tym zakresie zasługuje system przesyłu gazu Ukrainy, który zapewnia energię i bezpieczeństwo ekonomiczne kraju w całości. Rurociągowy transport Ukrainy jest jednym z najstarszych i najdłuższych, a jego rozwój innowacyjno-inwestycyjny jest ważny w kształtowaniu jego konkurencyjności na rynku światowym. Artykuł prezentuje model wpływu innowacyjno-inwestycyjnego potencjału rurociągu na jego konkurencyjność oraz określa zależność między innowacjami i inwestycjami. Na podstawie przeprowadzonych badań zidentyfikowano kluczowe obszary działalności innowacyjnej i kierunki inwestowania. W przeprowadzonych badaniach zostały wyróżnione dwa poziomy hierarchiczne zapewniające kompleksowość inwestycyjno-innowacyjnej działalności systemu rurociągowego. Głównym, innowacyjnym kierunkiem jest modernizacja systemu rurociągowego według zasad oszczędzania energii.

Słowa kluczowe: rurociągowy transport gazu, inwestycje, innowacje, koszty energii



