

## THE MAIN ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE IMPLEMENTATION OIL COMPANY PROJECTS

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### **Abstract:**

In connection with a number of problems of the domestic economy, enterprises the goal is to increase productivity and reduce costs. The solution can be found through the use of information and communication technologies. Their application is most effective in capital-intensive industries characterized by high intensity of information flows. Information and communication technologies are useful a tool that allows you to organize information flows on the pre-investment stage of project implementation, which helps responsible persons to reach effective solutions that allow simultaneously to achieve the maximum total effect on a number of target parameters. Information and communication technologies are a useful tool that allows organizing information flows at the pre-investment stage of project implementation, which helps decision-makers reach effective solutions that allow simultaneously achieving the maximum total effect on a number of target parameters.

**Key words:** information and communication technology, knowledge economy, feasibility study, multicriteria utility, information flow

Over the past decades, oil has been the main source of energy for industry around the world and one of the most important drivers of the global economy. Despite the active attempts of scientists and developers to find and commercialize new renewable energy sources, the solution of this difficult task is hardly possible in the short and medium term due to a number of difficulties: projects, lower prices for traditional energy sources, a strong lobby of oil and gas companies.

In the coming decades, the world economy will continue to be extremely dependent on gas and oil. And although gas, being a more environmentally friendly and cheaper source of energy, will displace oil from the global structure of energy consumption [1], today the dependence on oil is so high that one cannot expect a decrease in interest in projects and technologies associated with its production.

Decreased energy prices, global warming, which is causing increasing concern, and the steady growth of the developing economies of Southeast Asia are forcing the owners of energy companies, a significant number of which are national, to find new solutions to global problems related to the quantitative and qualitative satisfaction of demand for energy resources.

One of the most efficient and socially responsible ways to get out of a situation that has not yet become a crisis, but is already causing concern - to apply information and communication technologies (ICT) that allow organizing optimal interaction between participants production, management and other processes at both upstream and downstream enterprises2 [2]

Information and communication technologies play a significant role in increasing productivity and cost reduction in various sectors of the economy. Due to the high volatility of oil prices and complexities associated with the organization of the production of shale deposits, the question is very relevant: is it possible to achieve a more efficient production and better distribution vital energy resources through the use of ICT?

This question has the greatest reason for developing and "transit" countries, which are either exporters of oil, or its low-budget importers. Exporters interested in increasing profits from sales hydrocarbons through the use modern, including information and communication technologies. importers, in turn, want to buy oil products at more attractive prices and more efficiently use them.

Leveling the risks of price volatility especially important for oil-importing developing countries, as they most difficult to deal with price shocks. Thus, defining the role of ICT in the oil sector is essential for a better assessment of the economic development prospects of developing countries in the coming decades.

Information and communication and modern oil and gas technologies, which increasingly include ICT, provide new opportunities to improve economic indicators at all stages of economic value creation.

For example, for the first category of operations information and communication and related technology creates opportunities for expansion explored oil reserves, increase its production from existing wells and ensure additional means to discover new wells.

Understanding the impact of ICT and related technologies for the period of use fields under development and search for new reserves will make future oil supplies more predictable, act as a stabilizing factor for investors when evaluating investment projects, and also allow reduce pressure on oil prices.

Using information of communication technologies in the oil industry, they see not only international oil companies(IOC) with the best practices as a driver of development application of the results of scientific and technical progress, but also the national oil companies(NOC) of developing countries [4].

Traveling from the 1970s up to the present day, they have become more mature, have been able to accumulate significant financial resources, armed know-how and now seek to compete with international oil companies in the use of ICT [5]. However, these countries still have to deal with such problems such as lack of qualified human resources [6] and the need improve your knowledge of advanced technologies and business processes.

Before moving on to improve your technological capabilities, national oil companies need to take care of providing the basic infrastructure and accumulating the necessary capital.

Capital intensity and low labor intensity of economic activities in the oil industry explain the company's high income per employee, which for industry beacons can be in the millions of US dollars [7].

Information revolution at the end of the 20th century increased the importance of such processes as automation, calculations, modeling and other analytical procedures, which indicates the need for the use of ICT in the oil industries.

Although all the largest IOCs and NOCs are vertically integrated [8] and set themselves the goal of optimizing the flow of resources and investments, linking operations, starting with the extraction of oil from the well and ending distribution of finished petroleum products, there is a lack of tools, enabling this goal to be achieved.

Information and Communication Technologies with modern software and their inherent ability to find the optimal solution for complex systems, characterized by many parameters and properties that can increase efficiency production in the oil industry [9]

In view of the high costs associated with the purchase and use of modern technologies, it is especially important to distinguish between the effect of using such primitive ICT tools today as virtual mail, the Internet, and more sophisticated ones, such as, for example, integrated data transmission networks and sensor devices for measuring drilling and oil recovery processes [10].

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