

*Бапиева М.К.*

**ИЛИМИЙ ИШМЕРДИКТИН НАТЫЙЖАЛАРЫН  
КОММЕРЦИЯЛАШТЫРУУ**

*Бапиева М.К.*

**ҒЫЛЫМИ ҚЫЗМЕТ НӘТИЖЕЛЕРІН КОММЕРЦИЯЛАУ**

*Бапиева М.К.*

**КОММЕРЦИАЛИЗАЦИЯ РЕЗУЛЬТАТОВ НАУЧНОЙ  
ДЕЯТЕЛЬНОСТИ**

*М.К. Bapiyeva*

**COMMERCIALIZATION OF RESULTS OF SCIENTIFIC  
ACTIVITIES**

УДК: 338.242: 001.89

Мақалада ғылыми қызмет нәтижелерін коммерциялау процесі, коммерциялау процесіне қатысушылар зерттелген, «технологиялар трансферті» терминінің түсінігі, технологиялар трансфертінің негізгі бағыттары, ғылымның өндіріспен байланысы айтылған. Технологияларды коммерциялау инновациялық жобаның сұраныста болуы мен іс жүзінде жүзеге асырылуын қамтамасыз ететін ғылыми-инновациялық процесінің ең маңызды кезеңі болып табылады. Жаңашылдықты (технологиялар трансфертін) коммерциялау процесі жаңашылдықты нарыққа шығару, пайдалануға және қандай да бір мақсатқа жетуге арналған ақпаратты немесе бірдемені жасау туралы білімді жіберу процесінің құбылысы болып табылады. Басқа мемлекеттердің ғылыми-техникалық саясатының тәжірибесі мемлекеттік емес құрылымдардың тарабынан зерттемелерді өнеркәсіптік тұрғысынан игеруге кең ауқымды инвестициялар салуы құқықтың нормалар бәрінің жетілген жағдайда ғана мүмкін болмақ, оларға сәйкес қаржыландыруға қатысатын мемлекеттік емес құрылымдар ғылыми-техникалық қызметтің нәтижелеріне тең немесе айрықша құқыққа ие бола алады.

**Шеңуші сөздер:** ғылыми қызметі, коммерциялау, технологиялар трансферті, ғылыми-техникалық қызмет, ғылыми-техникалық саясат, нәтижелері, қызмет нарығы, зерттеме.

В статье исследованы процессы коммерциализации результатов научной деятельности, участники процесса коммерциализации, раскрыто понятие термина «трансферт технологий», основные направления трансферта технологий, связь науки с производством. Важнейшей стадией научно-инновационного процесса, обеспечивающей востребованность и практическую реализуемость инновационного проекта, является коммерциализация технологий. Процесс коммерциализации новшества (трансфера технологий) представляет собой процесс выведения новшества на рынок, передачи информации, предназначенной для использования и достижения какой-либо цели, или же знания о том, как сделать что-либо. Опыт научно-технической политики других государств свидетельствует, что широкомас-

штабные инвестиции со стороны негосударственных структур в промышленное освоение разработок возможны только при совершенной системе правовых норм, согласно которым негосударственные структуры, участвующие в финансировании могут получать равные, либо исключительные права на результаты научно-технической деятельности.

**Ключевые слова:** научная деятельность, коммерциализация, трансферт технологий, научно-техническая деятельность, научно-техническая политика, результаты, рынок услуг, разработка.

The article examines the processes of commercialization of the results of scientific activity, the participants in the process of commercialization, disclosed the concept of the term "technology transfer", the main directions of technology transfer, the relationship of science with production. The most important stage of the research and innovation process, ensuring the relevance and practical feasibility of an innovative project, is the commercialization of technologies. The process of commercializing innovation (technology transfer) is the process of bringing innovation to the market, transferring information intended to be used and achieving a goal, or knowing how to do something. The experience of the scientific and technical policy of other countries shows that large-scale investments by non-state structures in the industrial development of developments are possible only with a perfect system of legal norms, according to which non-state structures participating in financing can receive equal or exclusive rights to the results of scientific and technical activities.

**Key words:** scientific activities, commercialization, technology transfert, scientific and technical activities, scientific and technical policy, results, services market, development.

The most important stage of the research and innovation process, ensuring the relevance and practical feasibility of an innovative project, is the commercialization of technologies. The process of commercializing innovation (technology transfer) is the process of bringing innovation to the market,

transferring information intended to be used and achieving a goal, or knowing how to do something.

The process of technology commercialization links three important factors of the economy, while ensuring a compromise between the interests of all participants:

- the scientific community - the main source of innovative ideas,
- the state - the creator of the legal levers and the main strategist, which forms the priority lines of state development and controls of the funding;
- entrepreneurs - potential investors with the skills to materialize ideas.

Entering the market of scientific and technical developments, the so-called “transfer”, is impossible without the participation of the production itself, since the term “technology transfer” implies the transfer of technology developed at a university or other research organization to the industry not free, but on conditions specified by the contract. The transfer of technologies to the market includes such factors as the company's strategy for modernizing existing and creating new industries, the form and channels of technology transfer, the stages of the process, the implementation tools, legal security and legal preferences of each of the participants and other.

In world practice, there are 5 main areas of technology transfer:

1. Reverse engineering
2. Pure technology
3. Introduction of complex technologies
4. Franchising (transfer or assignment of not a single license, but a whole package of intellectual property)
5. Foreign direct investment [1]

As practice has shown, the transition to a stable development of technology commercialization is impossible without the presence of an intermediate link, an institute for assessing and forecasting the consumer market and intermediary organizations that would facilitate the transfer of research and development results to industry. Innovation developers, researchers or inventors, as a rule, do not engage in marketing strategies to promote an idea or product to the market. In turn, industrialists are not ready to invest in additional research and product promotion, to calculate the risks of commercialization, because at the stage of the project

itself the quality of the competitiveness of the product being developed is poorly understood. Neither party keeps records of all possible risks that are present at each stage of technology transfer.

What is important is the qualitative connection between science and production, which tends to recover.

All participants in the process of commercialization of research and development work can be divided into two categories - innovation developers and their customers (investors) [2].

In world practice, for companies that do not have their own special services to promote research and development, a special role is played by the transfer and commercialization of innovation centers, consulting companies, innovation centers and business incubators that provide a variety of brokerage, consulting or legal services. Incorporating the protection and promotion of intellectual property to developers. These structures are not investors, but they provide significant assistance in objective assessment of projects by market standards, searching for investors and attracting financial resources.

Such intermediaries between the scientific field and production are the main participants in the process of commercialization of research and development work, since they not only prepare a full justification of the market conditions, the feasibility and payback of the project, but also provide qualified legal support when promoting developers to the market.

Thanks to the creation of an international web-network for the transfer of research and development, new opportunities have opened up to promote and intensify the process of establishing links between developers and production at the international level.

The experience of the scientific and technical policy of other countries shows that large-scale investments by non-state structures in the industrial development of developments are possible only with a perfect system of legal norms, according to which non-state structures participating in financing can receive equal or exclusive rights to the results of scientific and technical activities.

The market competition in the world is becoming ever tougher every day due to the emergence of more subtle, sophisticated methods and forms of competition. The main thing today for

many enterprises is the ability to give a consumer a product (service) of higher quality or possessing some new properties, but for the same price and at the same production costs. In ensuring the quality of products, the achievements of the company, its ability to master advanced technologies based on upgrading and upgrading technological equipment, ongoing research and development, patent research and patenting of industrial property objects play a dominant role. The presence of unique consumer properties of the product, due to the use of inventions in it, may be the basis for marketing it at a higher price than those of competitors that do not possess these properties.

Thus, intellectual property and scientific innovations are the basis for the competitiveness of not only products, but also the competitive advantages of the national economy as a whole.

The innovation cycle begins with the stage of creating scientific ideas and ends with a stage of their implementation in production; the life cycle of innovation is associated with the stage of its practical use: from the moment of introduction into production to cessation of use. In this case, the same scientific idea can contribute to several innovations in various sectors of the economy. Often, the innovation cycle associated with the life cycle of an idea may end at the R&D stage, while the life cycle of innovation for an organization may not begin with independent research, but with the acquisition of their results in the form of licenses, know-how, patents from other organizations. R&D in such cases act as the initial production cycle of a new product. The market plays an important role in the process of promoting scientific and technical products, as manufacturers are interested in improving product quality, reducing costs, expanding the range of manufactured products. End users of scientific and technical products significantly influence innovative potential, since their demand provides the financial basis for their implementation. At the same time, the main factor affecting the scale and speed of the spread of innovation is the need for them, expressed as effective demand.

Relations between key participants of the innovation process (research organizations and universities, interested organizations) to a significant extent determine the commercialization of research activities.

The success of the implementation of scientific and technical products depends on the scientific and technical potential, production and technical base, resources, investments, management system. The correct ratio and use of these factors can lead to a more effective implementation of the innovation strategy and the achievement of the planned results.

There are several ways to promote scientific and technical products to the market at various stages of its development:

- information marketing is used to familiarize users with the main features and possibilities of using scientific and technical products;
- applied marketing introduces consumers to a specific type of scientific and technical products;
- comparative marketing is aimed at familiarizing consumers with the possibilities of using scientific and technical products and choosing the one that best meets their needs.

When promoting scientific and technical products to foreign markets, it is necessary to position it correctly in its market segment. At the same time, the determination of the individual features of the promoted innovation and its differences from the existing analogues are of particular importance. In this regard, it is particularly important to have a detailed comparison of all the parameters of the proposed scientific and technical products with the parameters of the products already on the market.

When promoting scientific and technical products, the greatest effect is achieved with the combined use of various promotional tools.

Advertising is used to provide the consumer with information about the areas of application of scientific and technical products, various parameters, characteristics, stages of manufacture and implementation.

Sales promotion tools are used at various stages of the life cycle: when introducing innovations to the market or when an organization enters a new market; when you hold the position of the goods in the transition to the stage of maturity; with the "decline" of demand for goods to revive it.

At seminars, in publications in specialized publications, at meetings with consumers, it is advisable for public relations to provide information on scientific and technical products. It is advisable to

attract an expert who has complete and reliable information about the product and is trusted by consumers.

When promoting industrial goods and durable goods with a well-known enterprise-developer, personalized sales are recommended.

Effectively inform and with less cost to search for consumers provides the possibility of direct marketing in the form of catalogs, mailing lists, sales via the Internet.

Thus, the choice of means of information, the specificity of promotion of scientific and technical products depend on the particular scientific and technical products. Because a large number of results of scientific and technical activities are presented on the market of scientific and technical pro-

ducts and, therefore, a high level of competition is characteristic, it is advisable to use promotion tools in combination with the objective and capabilities of the enterprise developing scientific and technical products.

**References:**

1. M.Nauryzbaev, A.Mtirmanova, R.Zhaktayeva, V.Dzekunov. V.Mogilnyi. Transfert tehnologii, kak odin iz effektivnyh instrumentov povysheniya innovatsionnogo potentsiala predpriatii himicheskoi promyshlennosti // Promyshlennost Kazakhstana. - 2010. - №8. - P. 16-20.
2. Tihonov N.A. Effektivnost sposobov kommerzializatsii innovatsii//Finansovo-tahnologicheskaja academia. - Korolev. - 2011. - <http://uecs.ru/uecs40-402012/item/1271-2012-04-19-06-35-15>.

**Рецензент: д.э.н., профессор Кумсков Г.В.**