ECONOMIC ESSENCE OF INTELLECTUAL PROPERTY MANAGEMENT IN THE CONTEXT OF COMMERCIALISATION OF INNOVATIONS

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Abstract

This article is devoted to the study of the economic essence of intellectual property management in the context of commercialisation of innovations. The main attention is paid to the issues related to the protection and use of intellectual property, the concept of formation of the market of intellectual products and the economic interests of right holders.

Keywords: innovation, intellectual property, intellectual product, commercialisation, patent, intellectual property right.

Introduction

In today's economy, innovation plays a key role in stimulating growth and competitiveness of enterprises and countries. One of the important factors of successful commercialisation of innovations is the effective management of intellectual property. The economic essence of this management in the context of commercialisation of innovations is a subject of research interest and practical application.

The purpose of this paper is to examine the economic essence of intellectual property management in the context of innovation commercialisation. The main focus is on issues related to the protection and use of intellectual property, the concept of

formation of the market of intellectual products and the economic interests of right holders.

Main part

The concept of 'intellectual economy' expresses the importance of intellectual property as a basic and determining factor for the sustainable development of both tangible and intangible production and economic progress. In this context, intellectual property plays an important role in enhancing the national welfare of society.

It contributes to accelerated social development and the creation of new values in both the spiritual and material spheres.

According to the definition of the World Intellectual Property Organisation (WIPO), intellectual property (IP) is the creations of the human mind: inventions, literary and artistic works, designs, symbols, names and images used for commercial purposes [1]. Intellectual property is a common legal term that refers to the rights to intellectual products and results of intellectual activity. It covers various forms of man-made intellectual creations such as inventions, literary and artistic works, designs, musical compositions, software, brands and trademarks.

In turn, WIPO distinguishes such types of IP as patent, copyright, trademark, industrial design, geographical indications, trade secrets.

Intellectual property is recognised and protected by law to provide authors, inventors and creators of intellectual creations with economic benefit and control over the use and dissemination of their products.

Intellectual property is considered to promote progress in social and scientific and technological fields.

The emergence of the Scientific and Technological Revolution (STR) marked the transition from an industrial to an intellectual path of development. Information and knowledge become an important factor of economic development. The concept of the intellectual paradigm affects all spheres and branches of the industrial economy,

changing the nature, scale and dynamics of development. High-tech, computer and telecommunication technologies are formed within the new intellectual paradigm.

The world leaders in financing research and development of new technologies and technical means of their implementation are the USA - $709 billion. The world leaders in funding for research and development of new technologies and technical means of their implementation are the USA - $709 billion, China - $551 billion.

The world leaders in financing research and development of new technologies and technical means of their implementation are the USA - USD 709 billion, China - USD 551 billion, Japan - USD 172 billion, Germany - USD 129 billion. Japan - $172 billion, Germany - $129 billion, South Korea - $110 billion. Germany - USD 129 billion, South Korea - USD 110 billion [2]. US DOLLARS [2]. Israel (5.5%), South Korea (4.9%), China (3.8%), the USA (3.4%) and Sweden (3.3%) are the leaders in terms of the science intensity of GDP (the ratio of R&D funding to gross domestic product) in 2021 [3].

In order to maintain their positions in the global market, many countries increase expenditures on R&D and legal protection of intellectual property created. It is generally accepted that the minimum amount of expenditures on research and development should be 2.2-2.5% of GDP.

Intellectual property plays an important role in stimulating economic growth, which is achieved by increasing knowledge intensity, infrastructure for attracting investment in the R&D sector, and attracting foreign direct investment. In order to successfully introduce new technologies into business, it is necessary to protect them with patents, which provide a temporary monopoly and competitive advantage.

In the modern economy, the principle ‘intelligence generates innovation’ is also applicable to the commercialisation of innovations. It is impossible without intellectual activity of managers, marketers, intermediaries and other specialists providing information services.

The mechanisms of the market of intellectual products include the sale of licences, creation of alliances or other forms of partnership, venture deals, sale of intellectual property, creation of special business structures and their sale, franchising [4].

The most common way of commercialisation of intellectual property is licensing. Through the conclusion of a licence agreement, the owner of the intellectual property object has the opportunity to significantly increase its income.

The mechanism of copyright transfer includes:

- transfer of copyright under copyright contracts and by way of inheritance;

- transfer of copyright by inheritance by law or by will.

There are different methods of specification and protection of industrial property objects and copyright objects. This difference is manifested in the specific structures used in copyright certificates and patents.

The formation of intellectual property is influenced by the following factors:

- Scientific and technological progress: Advances in science and technology stimulate new ideas, inventions and creative works that can be protected as intellectual property.

- Economic benefits: Intellectual property protection allows holders to benefit economically from their innovations. Patents, copyrights and other forms of protection provide the legal basis for commercialisation and monetisation of intellectual outputs.

- Competition and the market: In a highly competitive and dynamic marketplace, intellectual property protection helps businesses and innovators secure a competitive advantage. It prevents the illegal use and copying of technologies, products or brands, which helps to preserve the uniqueness and value of intellectual assets.

- Investment and financing: Protected intellectual property is an attractive target for investors and financial institutions. It increases the likelihood of attracting financing for further development and commercialisation of innovations.

- Legislation and legal system: The existence of effective intellectual property laws and a well-developed legal system facilitate the formation and protection of intellectual assets. Clear rules and procedures for registering, protecting and enforcing property rights contribute to the development of intellectual property.

The main task is to select the results of fundamental and applied research and turn them into developments that are commercially attractive for investors [5].

Innovative orientation of scientific research is an integral factor of its success, because only through innovations it is possible to gain a competitive advantage in the market.

Intellectual property is an objective phenomenon, as it is the result of individual intellectual activity of a person. It has the property of rarity and inexhaustibility in the process of consumption, which contributed to the emergence of economic relations on its consumption and use. In this context, the rarity of the good acts as a criterion determining the right of intellectual property.

The concept of formation of the market of intellectual products is based on intellectual property rights. The market of intellectual products is created when the conditions of sale/purchase arise - the cost of buying a new intellectual product is lower than the cost of using the old one:

$$I_n < I_m, \quad (1)$$

where I_n – costs of a new intellectual product; I_m – costs of the old intellectual product.

The economic incentive to create an intellectual product is inequality:

$$P < MC, \quad (2)$$

where P – intellectual property value; MC – marginal cost of the intellectual product.

In this case, the marginal cost of an intellectual product is the incremental cost of producing an additional unit of the intellectual product:

$$MC = TC_i - TC_{(i-1)}, \quad (3)$$

where TC_i u $TC_{(i-1)}$ – total costs of the intellectual product at production volume i and (i-1).

The release of an additional unit of intellectual product is carried out under the condition of minimum costs. Otherwise, it makes no sense to produce additional units of intellectual product.

The reverse side of the marginal cost of the intellectual product is the marginal revenue, which is generated from the output of an additional unit of the intellectual product.

$$MR = TR_i - TR_{i-1}, \quad (4)$$

where MR – marginal revenue from the output of an additional unit of intellectual product; TR_i and TR_{i-1} – gross revenue of intellectual product at production volume i and (i-1).

The output of an intellectual product is realised as long as marginal cost is below marginal revenue or as long as an additional unit of the intellectual product generates revenue. Otherwise, the output of the intellectual product is unprofitable. The condition of optimality of intellectual product output is the expression:

$$MC = MR = P, \quad (5)$$

where P – price.

The difference between the price and the marginal cost of the intellectual product represents the cost to the intellectual property entity if its idea goes 'bankrupt'. Therefore, the subject of intellectual property relations should be able to recover this difference as well.

It can be argued that the intellectual product is located in the competitive and monopoly coordinates of the market:

$$S_c < I < S_m, \quad (6)$$

where S_c – competitive incentive; I – intellectual product; S_m – monopoly incentives.

Relations between subjects of creative activity are manifested in the economic aspect in a specific form. The peculiarity of ownership relations on intellectual product is their allocation in a separate category - a group of exclusive rights. The concept of the exclusive right to an intellectual product implies the right to use the object and to authorise or prohibit its use by other persons.

The economic interests of right holders, expressed in the desire to dominate the market and achieve maximum profit, have a monopolistic nature.

Intellectual property rights, on the one hand, contain a competitive incentive to creative activity, i.e. encourage creativity, to create an intellectual product, and on the other hand, provide the subject of intellectual property relations with market power.

There are several ways of limiting exclusive rights to intellectual property:

- Licensing: A copyright holder may grant a licence to others to use its intellectual property. Licensing may be limited by certain conditions, such as geographical area, duration or method of use.

- Fair-use (fair use): Some jurisdictions have statutory provisions that allow exclusive rights to be limited when materials are used for reasonable use, such as for purposes of criticism, commentary, teaching or research.

- Compulsory licences: In certain situations, a government may take action and grant a compulsory licence for the use of intellectual property. This may occur, for example, in cases of national security, public interest or where the right holder cannot provide reasonable terms and conditions for the use of its property.

- Use of exclusive rights in accordance with the law: A right holder may use its exclusive rights in accordance with the law to prevent unlawful use or infringement of its intellectual property.

It is important to note that the ways of limiting exclusive rights may vary depending on the jurisdiction and specific circumstances.

Breakthroughs in the latest directions of Scientific and technological progress (STP), discoveries and inventions, mastering of know-how, creation of new materials and engineering solutions - all this is concentrated in the state science and technology complex (S&TC) [6]. On the one hand, these are state science and technology centres, universities and high-level colleges, and on the other hand, specialised organisations such as associations, partnerships, cooperatives, mixed enterprises, etc., which have an important place in the public market. They have an important place in the public market for the implementation of the R&D programme and the creation of new technologies.

In developed countries, the dominant role is played by large corporations in terms of the volume of their investments in the main directions of STP, while small innovative businesses make a significant contribution to the creation of new technology. Coordinating external sources of knowledge and connecting them with internal efforts of industrial research and development performers are of great importance.

The organisation's innovative competitive advantages are hindered by the limited possibility of commercialisation of innovations.

In the legislation of developed countries, the rights to intellectual results created in a state organisation are distributed between the author, the organisation and the state as such in different ways. For example, in the USA and Japan some rights may be assigned to federal agencies or ministries. In the countries of continental Europe, the rights of the state are implemented only through the rights of state organisations [7].

The emergence of economic relations between the subjects of creative activity means the emergence of intellectual property, which is realised in economic activity by an intellectual product. Economic relations in creative activity arise at recognition and support of mental labour by society.

In order to increase the openness of intellectual property, it is necessary:

- to practice contract-based R&D by determining the share of research participants as a result of successful commercialisation, which would give an additional impetus to scientists, as transparent conditions for the distribution of research profits at the initial stage would allow R&D participants to clearly assess their potential in relation to decent remuneration for their work;

- to expand the boundaries of the intellectual property market for foreign scientists, to provide them with reliable legal protection of intellectual property, so that they can be sure that their intellectual contribution will not be illegally borrowed by someone else.

Conclusion

Intellectual property plays an important role in driving economic growth and competitiveness. The protection of intellectual property through patents, copyrights and other forms allows rights holders to benefit economically from their innovations, providing a temporary monopoly and competitive advantage.

However, in the context of commercialising innovations, the limitations of exclusive rights, such as licensing and the concept of fair-use, must also be considered. Balancing protection and access to intellectual property is an important aspect of intellectual property management.

Understanding the economics of intellectual property management is key to the successful commercialisation of innovations. It requires an interaction between research, legal aspects, business strategies and market conditions. The productive use of intellectual property helps to create incentives for innovation and contributes to the development of the economy, providing a competitive advantage and maximising the benefits to society.

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