

# **Study on the Relationship between Intellectual Property Rights Protection, R&D Investment and Firm Scientific and Technological Innovation Performance**

Dongjun Chen

Hong Kong Polytechnic University, Kowloon Hong Kong, 999077, China.

## **Abstract**

With the deepening of the reform and opening up process, strengthening intellectual property protection has been an important trend in the development of China's intellectual property legal system. At present, the development of emerging technologies, especially artificial intelligence, big data, Internet of Things, cloud computing and other fields, has brought new problems of intellectual property protection. Enterprises should do a good job in scientific and technological innovation and realize the transformation and application of scientific and technological innovation achievements, only relying on their own ability is not enough to complete, national laws and policies must provide corresponding support for the innovation and development of enterprises. At the macro level, internal and external resources should be integrated to reduce risks that enterprises may face in scientific and technological innovation, so that enterprises dare to make continuous scientific and technological innovation. At the micro level, scientific and technological innovation should be encouraged and encouraged to give full play to the initiative of enterprises as market subjects.

## **Keywords**

**Intellectual Property; Scientific and Technological Innovation; Transformation.**

## **1. Introduction**

Today, China's scientific and technological innovation and intellectual property protection ushered in a new round of development [1]. The fourth scientific and technological revolution is in full swing, and scientific and technological competition has gradually become the strategic highland of national competition. Against the new wave of scientific and technological revolution, scientific and technological innovation is a key underpinning of all countries' overall national strength and a strong guide for the transformation and progress of the mode of production and way of life [2]. At present, the development of emerging technologies, especially artificial intelligence, big data, Internet of Things, cloud computing and other fields, has brought new problems of intellectual property protection. On the premise of upholding the stability of China's intellectual property legislation, the judicial practice of intellectual property has begun to explore the new problems of intellectual property in new forms of business and new fields [3]. For example, in the copyright ownership dispute between Shenzhen Tencent Computer System Co., Ltd. and Shanghai Yingxun Technology Co., Ltd. Similarly, the development of the Internet has brought the emergence and rise of the live broadcasting industry. Taking a global view, a new international competition pattern with intellectual property competition as the core has basically taken shape. Developed countries such as Europe and the United States still master the key core technologies, and China's position in the world intellectual property competition system needs to be further improved [4]. At present, China's R&D investment in intellectual property, total number of patents, research papers, etc., are in the forefront of the world, but the investment income ratio is relatively low, intellectual property royalties even

become the third largest service trade deficit in China [5]. This is mainly due to the basic research is weak in our country, the government funds still prominent problems such as low proportion, the key technology in the field of independent innovation ability is not enough, to grasp the core intellectual property rights, in the chip of key industries such as intellectual property also need foreign authorization, the core technology of critical infrastructure products and services are heavily dependent on foreign countries.

## **2. Influencing factors of scientific and technological innovation of Chinese enterprises**

The external environment that affects the enterprise science and technology innovation includes the natural environment, the economic environment, the policy environment, the cultural environment and the management environment [6]. Economic environment and scientific and technological innovation are complementary to each other to some extent. A healthy and relaxed economic environment can provide enterprises with more space for scientific and technological innovation, which can be seen from China's economic development level since the reform and opening up [7]. At the same time, as the necessary competitiveness of contemporary enterprises and the symbol of national soft power, the improvement of the level of scientific and technological innovation can promote the further development of the economic environment and improve the international competitiveness [8]. The government plays a macro-control role in social and economic development, and can guide the overall direction of economic development. The implementation of benign policies, such as capital support, innovation incentive and technical assistance, can promote the development of technological innovation of enterprises to a large extent. The cultural environment will also be affected by universities and scientific and technological institutions to some extent, and the synergy between the two sides and enterprises will be exerted to create scientific and technological innovation products that meet the market demand. Management environment in the realization of enterprise technology innovation as well as the application of innovation, plays a very important role in enterprise's management level and market management level, to blend in other various aspects on the environmental factors is crucial, occupies the integration, coordination, overall economic markets need reasonable management mechanism to guide the operation, In order to make full use of the innovation resources of the enterprise and improve the innovation management level of the enterprise, an adaptive innovation mechanism should be set up inside the enterprise.

## **3. Necessity to promote legal protection of intellectual property rights**

Due to the continuous development and change of social economy, there are still some practical defects and other problems in intellectual property rights in China. The legal system of intellectual property is still in a stage of continuous development and improvement, but this does not affect the highly promoting role of legal protection of intellectual property in enterprise technological innovation at present. Only by intellectual property rights can the achievements produced by enterprises' scientific and technological innovation be effectively protected, otherwise, enterprises are likely to encounter infringement behaviors that damage the interests of enterprises, such as misappropriation, fraudulent use, and squatting. At the same time, if the scientific and technological innovation achievements are not effectively protected by law, the innovation cost invested by enterprises will not get the corresponding return, but also affect their own market position because of others' free use at will. Through legal protection of intellectual property rights, the ownership of enterprises' scientific and technological innovation achievements can be clearly defined, and then the promotion and application of enterprises can be protected, so as to fundamentally guarantee that enterprises

can monopolize the economic benefits brought by the scientific and technological innovation achievements. Science and technology innovation as an intangible asset, and also is the enterprise all part of the intellectual property rights, can be used to realise cash or mortgage creditor's rights, but it requires enterprises must explicitly with the intellectual property rights, only confirmed, legally protected by law, by the intellectual property rights brought about by the subsequent economic activity is legal and valid.

China's intellectual property rights protection funds and talent shortfalls need to be addressed. It should be recognized that intellectual property departments are not simply administrative institutions. When allocating funds, they should not provide funds according to the general administrative institutions, but should take into account all aspects of patent application, patent protection, patent enforcement and so on. For every level, especially the law enforcement level, to ensure that it has sufficient funding support. For the patent application and development and implementation of some major technologies, the government and relevant administrative institutions should provide additional funding and talent support to promote the birth of patents for innovative scientific and technological achievements, so that high-tech achievements can contribute to national development and social progress.

#### 4. Conclusion

Only by constantly improving the protection system of intellectual property rights, scientifically implementing the protection of intellectual property rights, and eliminating the existing problems in the protection of intellectual property rights, can China gain more initiative in the international exchanges and social development. A good legal protection system of intellectual property rights can fully mobilize the enthusiasm of enterprises to carry out scientific and technological innovation and ensure that enterprises can reap due benefits after a large amount of investment in innovation and research. China's intellectual property legal system is still in a stage of continuous development and improvement. Only by strengthening the scientific and systematic legal protection of intellectual property can it better meet the needs of enterprises' technological innovation under the development of market economy.

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