

How Does Intellectual Property Protection Empower Technological Innovation in Enterprises

- Take China as an Example

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Abstract: With the advancement of technology, fields such as artificial skills, biotechnology, and renewable energy are undergoing rapid iterations. Correspondingly, converting these technologies into tangible assets underscores the critical role of intellectual property protection. This paper takes the current status of intellectual property protection laws in China as an example to analyze the potential benefits of an improved intellectual property protection system for innovative enterprises and the market economy and the limitations of the current Chinese intellectual property protection laws. Enhancing the intellectual property protection system can empower enterprises with creative logic by improving the market economy, shaping new modes of thinking, and refining mechanisms for benefit distribution. Simultaneously, in the face of limitations in intellectual property protection laws, improvements can be achieved by strengthening law enforcement, advancing judicial reform, refining system design, enhancing international cooperation, and raising legal awareness. This article aims to assist scholars and relevant practitioners in understanding the current status of China's intellectual property protection laws, thereby facilitating the development of innovative enterprises in China.

Keywords: technological innovation, enterprise management, market economy, law

1. Introduction

In today's era of turbulence and change, the relationship between intellectual property protection and technological innovation in enterprises has become widely debated and hotly discussed worldwide. Global society faces numerous significant challenges, including sustainable development, digital revolution, international environmental protection, etc. These issues impact national progress and trigger profound discussions and contemplations on a global scale. Simultaneously, with rapid technological advancement, developments in fields like artificial intelligence, biotechnology, renewable energy, and more spearhead new waves of innovation, offering boundless possibilities for societal growth.

Within the realm of research, alongside these pressing issues, intellectual property protection has garnered significant attention. While exploring the intricate interplay between intellectual property

protection and technological innovation in enterprises, scholars are increasingly focusing on how it empowers innovation and drives technological progress. However, despite substantial research, many corners of this field still need to be explored. Especially in countries like China, which recently embarked on intellectual property protection laws, establishing relevant legal frameworks often falls short of anticipated outcomes. “Patents in China instead could facilitate local illegal imitation because a patented or trademark-registered product appears profitable and thus gets targeted for fraud in an environment in which social recognition of IPR is weak (You and Katayama, 2005)” [1].

This study aims to delve deep into the issues encompassed by the title “How Does Intellectual Property Protection Empower Technological Innovation in Enterprises?”. It will approach the topic from various dimensions, analyzing the positive impact of intellectual property protection on technological innovation in enterprises and examining potential challenges and limitations. By delving into the development history and theoretical foundations of intellectual property protection laws in China and their influence on the market economy, thinking patterns, and competition mechanisms, this research will attempt to unveil the mechanisms and pathways through which intellectual property protection drives technological innovation. Through in-depth discussions on how intelligent property protection empowers technological innovation in diverse contexts, this research aspires to provide valuable insights and recommendations for policymakers, business decision-makers, and the academic community, further propelling the flourishing development of technological innovation on a global scale.

2. The Development Process and Legal Foundation of China’s Intellectual Property System

In ancient times, China’s assertion of intellectual property rights primarily manifested in protecting its technology. Artisans in specific industries would spontaneously form organizations or associations to ensure that the technologies they created or passed down would only be mastered by those they permitted. During the Ming and Qing dynasties, although there was no modern trademark law, some merchants and businesses began using specific symbols as symbols of their industries. They used these symbols for promotion and advertising, aiming to increase the visibility of their products and enhance their commercial reputation. Meanwhile, some local governments also began to manage trademarks to maintain market order.

In the second half of the 19th century, as ancient China began to engage with Western societies, the influence of Western countries on the Chinese economy gradually deepened. Alongside this, infringement upon intellectual property rights also began to occur. Some Chinese merchants and businesses started to plagiarize foreign trademarks and names. The reasons behind this phenomenon were twofold. First, using foreign companies’ brands and names could reduce interference, constraints, extortion, and blackmail from local officials. Second, adopting foreign company names and trademarks could decrease or evade taxes imposed by the government, which were often directed solely at Chinese individuals. [2]. Subsequently, in the early 20th century, as international consensus on intellectual property protection began to emerge, Western countries’ business people started to desire equivalent protection for the trademarks they had registered in their own countries in China [3]. Disregarding the fact that China had not joined the agreements established among Western nations, these businessmen, even without a comprehensive understanding of the relevant agreements, pressured China to comply with the terms of the treaties [3].

In 1904, the Chinese government invited the Imperial Maritime Customs to participate in drafting a trademark law. With active involvement from the British Consulate and business people, the draft law closely resembles relevant British laws. It displayed a particular bias in favor of British interests. For instance, trademarks and names registered in the UK would still receive corresponding protection in China, even if they had yet to be reported in China. However, due to opposition from various forces,

primarily from the lack of consensus among Western countries, the draft law was ultimately not implemented.

China's first intellectual property protection law was promulgated by the Republic of China government in 1928. The primary motivation behind this law was to establish neglected internal legal frameworks due to the prolonged turmoil in China and to break free from the extraterritorial privileges claimed by various Western countries. After the founding of the People's Republic of China, intellectual property protection was not a significant consideration due to the implementation of a centrally planned economy. However, China still became a party to relevant treaties like the Berne Convention.

"By the late 1970s, the PRC had come to recognize that a policy of direct government control needed to be more consistent with attracting investment and technology inflows and that forming a formal system to protect IPRs was a prerequisite for further economic development" [4]. Therefore, the Chinese government has accelerated the construction of relevant laws to introduce foreign technology and investment [5]. Accordingly, after 1984, China successfully promulgated the Trademark, Patent, Copyright, and *Anti Unfair Competition Law*, establishing the basic legal framework for intellectual property protection.

China became a member of the World Trade Organization in 2001 and committed to strengthening intellectual property protection to align with international standards. Consequently, China made multiple amendments and improvements to laws such as the Trademark Law and Patent Law, enhancing the protection of intellectual property rights. The country also issued a series of policy documents and action plans to strengthen intellectual property protection further, promote innovation, and stimulate economic development.

As the fundamental law of China, the Constitution holds a crucial and significant position. The Amendment to the Constitution of the People's Republic of China (2004), Article 11, Paragraph 2 states: "The State protects the lawful rights and interests of the individual economy, private enterprises and other forms of non-public ownership of the economy. The State encourages, supports, and guides the development of the non-public sectors of the economy and exercises supervision and control over the non-public sectors of the economy by the law." [6]. This amendment explicitly protects individuals' lawful private property rights, including intellectual property rights. As a member of WIPO, China has signed various international intellectual property conventions such as the Paris Convention (trademarks), the Berne Convention (copyright), and the Patent Cooperation Treaty, which provide an international legal foundation for China's intellectual property laws. Domestically, the Chinese government has enacted several laws, including Trademark, Patent, Copyright, and Anti-Unfair Competition Laws. Additionally, China has formulated a series of national strategies and policies, such as the National Intellectual Property Strategy Outline and the Action Plan for Strengthening Intellectual Property Protection, emphasizing the enhancement of intellectual property protection and the increase in the costs of violations.

3. The Logic of Intellectual Property Empowering Technological Innovation in Enterprises

3.1. Strengthening the Market Economy

"The intellectual property regime is part of society's innovation system, and it intends to provide incentives to innovate by allowing innovators to restrict the use of the knowledge they produce by allowing the imposition of charges on the use of that knowledge, thereby obtaining a return on their investment" [7]. Enterprises driven by knowledge innovation can benefit from a comprehensive legal and regulatory framework, especially for small and medium-sized enterprises facing funding constraints. Improving the intellectual property system can enhance a company's financing capabilities and alleviate funding limitations for innovative enterprises, promoting technological

innovation. The granting of intellectual property rights can also be seen as implicit recognition of the creative activities of the entity. With the rise of related activities such as intellectual property pledge financing, entities that possess intellectual property rights can use these intangible assets for funding, helping to ease the financial pressures enterprises face.

Since the intellectual property rights owned by innovative entities represent intangible assets of specific value, commercial banks, with enhanced asset assessment methods and risk control levels, have gradually increased their activities related to intellectual property pledge financing. This provides beneficial financial support to innovative enterprises, tiny and medium-sized ones. To a certain extent, intellectual property symbolizes a positive evaluation of the creative entity. Therefore, enhancing the intellectual property system and strengthening intellectual property protection signifies that the intellectual property held by a company has a substantial market value, which can attract funds, enhance financing capabilities, and further promote the company's technological innovation activities.

3.2. Shaping an Innovative Thinking Model

At the beginning of the 20th century, Joseph Schumpeter introduced the "Innovation Theory" in his work "The Theory of Economic Development." According to him, "innovation" involves introducing new combinations of production factors and conditions into the production system, encompassing new products, technologies, markets, raw material sources, and organizational structures [8]. Intellectual property rights catalyze infusing innovation-driven spirit within enterprises. Creating and protecting knowledge assets inherently require continuous exploration and a culture of progress. In response to this demand, China's legal framework has evolved to prioritize and drive this mindset shift. The 2019 "Trademark Law of the People's Republic of China" revision reflects this progress. It takes measures to curb malicious trademark registrations while encouraging genuine innovation. By placing creation at the core, this law constructs a model that enables companies' proactive investment in research and development (R&D), exploring new solutions and products to gain competitive advantages. This legal safeguard inspires more creativity in the operations of small and medium-sized innovative enterprises.

3.3. Establishing an Equitable Benefit Distribution Mechanism

Intellectual property rights are a form of private rights with public solid interest implications, which indicates the need to balance and coordinate individual interests, particularly those of intellectual property holders [9], and the overall societal interests within the framework of intellectual property law. The challenge lies in balancing rights holders' rights and the broader public interest, making it a core issue. The functions of the intellectual property system go beyond mere rights protection; they also encompass the reconciliation of goods and the resolution of conflicts. It requires precise coordination of the interests between rights holders and the entire social public to ensure the circulation and application of technology information and promote robust economic development and continuous technological progress. The fundamental goal of the intellectual property system is to address the conflicts arising from intellectual property, balance the interests of all parties involved, and optimize their status. This system protects the private interests of individual rights holders and upholds broader public interests.

In the context of driving technological innovation, the benefit-balancing mechanism of the intellectual property system effectively coordinates the interests of various parties involved in technological innovation activities, reduces conflicts, and resolves issues, ensuring the smooth progress of technological innovation activities. Moreover, since the intellectual property system essentially protects interest relationships, it establishes boundaries between innovation subjects and

outcomes, setting the stage for profit distribution in technological innovation activities based on ownership elements in creation. By adjusting interest relationships, the intellectual property system provides a basis for profit distribution in technological innovation activities. Therefore, the benefit coordination mechanism of the intellectual property system also serves as a mechanism for benefit distribution.

4. The Limitations of Intellectual Property Protection in China and Its Response Paths

China has made some progress in protecting intellectual property rights but still faces certain limitations. These limitations include inadequate system design, low judicial efficiency, and weak enforcement. However, China is also trying to take a series of approaches to enhance intellectual property protection.

Firstly, there are certain design flaws in China's intellectual property system. Some legal provisions regarding IPRs could be more specific, leading to different interpretations of the same articles and causing ambiguity in practical application. The Chinese government can accelerate the revision of relevant laws and regulations to make them more specific and conducive to practical application and understanding.

Secondly, the low judicial efficiency also hampers the progress of intellectual property protection. Compared to typical civil cases, the trial period for IPR cases is more extended, and the judicial procedures are more complex, resulting in significant time costs for rights holders to obtain adequate legal protection. To address this issue, the Chinese government can establish specialized circuit courts for IPR cases to expedite the trial process and improve judicial efficiency.

Lastly, weak enforcement is also a significant hindrance to intellectual property protection in China. Although relevant laws are relatively comprehensive, they must be fully implemented at the enforcement level. In some regions, law enforcement must be more lax, making it challenging to curb infringement. To address this, the Chinese government should strengthen supervision and control over enforcement agencies to ensure the effective implementation of intellectual property protection in practical application.

To address the limitations above, China can take the following approaches:

Firstly, enhance enforcement efforts and collaboration among different departments: China can establish more unified standards for intellectual property enforcement to ensure consistent standards are applied nationwide in the trial and execution cases involving intellectual property. This will strengthen collaboration between law enforcement departments at all levels, forming an integrated enforcement network for seamless intellectual property protection.

Secondly, promote judicial reform and specialized training. China can expedite judicial reform by establishing specialized intellectual property courts or trial teams to improve the efficiency and quality of intellectual property case trials. Additionally, enhancing training for practitioners such as judges and prosecutors in intellectual property will elevate their expertise.

Thirdly, continue refining the intellectual property protection system. By modifying pertinent statutes and regulations, elucidating the privileges and responsibilities of holders of intellectual property rights, and minimizing the uncertainty within legal clauses, China can contemplate enhancing the sanctions for breaches of intellectual property. This would elevate the expenses associated with violations and more effectively discourage such actions.

Lastly, it will strengthen international cooperation and raise awareness of intellectual property. China can collaborate with other countries to enhance international cooperation in intellectual property protection and collectively combat transnational intellectual property infringement. Simultaneously, increasing public and corporate awareness of intellectual property rights and safety will foster greater societal consensus on the importance of intellectual property protection.

In conclusion, although China faces limitations in intellectual property protection by strengthening enforcement, advancing judicial reform, refining system design, and enhancing international cooperation and awareness, China has the potential to elevate its level of intellectual property protection gradually, providing more robust support for technological innovation and economic development [10].

5. Conclusions

Compared to its development, China's awareness of knowledge protection is primarily influenced by Western societies. With the progress of civilization, China has developed a preliminary understanding of intellectual property rights but still needs systematic laws and regulations to protect them. With its modernization and convergence with Western societies, China's evolution has prompted the government to enact multiple laws to enhance the IPR protection system. This is driven by the aspiration of foreign entities to secure IPR protection within China, as well as China's imperative for foreign investment and the exchange of technological advancements. This has enabled China to align itself with the international community relatively quickly.

Improving China's IPR protection system reflects the government's recognition and endorsement of intellectual property, endowing it with value. This emerging model undoubtedly offers new perspectives to innovation-driven enterprises and tiny and medium-sized companies and, to some extent, promotes the development of a market economy. Simultaneously, it provides insight into the distribution of benefits arising from intellectual property rights. However, due to the inadequate design of IPR protection laws, low judicial efficiency, and ineffective enforcement, there are limitations to IPR protection in China. Yet, these limitations are manageable. The situation can be significantly improved by strengthening law enforcement, advancing judicial reform and professional training, refining relevant systems, and enhancing international cooperation and legal awareness.

China's efforts to promote IPR protection can significantly encourage the development of innovative enterprises but also expose certain deficiencies in the current stage. Through the analysis presented, this paper aims to provide valuable recommendations to foster the growth of innovative enterprises and a creative economy.

However, this paper mainly focuses on analyzing the limitations of intellectual property protection laws themselves, omitting potential harms arising from these limitations. The economic losses caused by infringements of intellectual property rights can range from \$14.2 billion to \$90.5 billion, and there may be additional unquantifiable potential losses. Discussions on these issues, solutions, and compensation methods can provide more comprehensive recommendations for relevant enterprises.

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