Study on the Two-way Mutual Promotion Model of Digital Economy Development and Intellectual Property Protection

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Abstract: China has good soil for the development of digital economy, but the development of digital economy cannot be escorted by intellectual property rights. At present, the development of digital economy is facing many challenges and risks, and the development of intellectual property protection in China is in a new transition period, however, there is still a lack of intellectual property protection in the digital economy. Based on the analysis of the development status of digital economy and intellectual property and the interrelationship between them, an operation model is built to promote the development of digital economy and intellectual property in both directions, with the government, enterprises, society and the public forming an "ecosystem" to participate in the operation of the model, and a guarantee mechanism is set up to ensure the sustainable development of the model.

Keywords: Digital Economy; Intellectual Property; Two-way Mutual Promotion.

1. Introduction

After the development of human society through agricultural economy and industrial economy, it is now moving towards a new era supported by digital technology, in which "data" becomes a key core resource to lead economic growth and drive social progress. Not only our country, but also countries around the world are moving towards a new stage of "digital economy". Nowadays, the digital economy plays a crucial role in the high-quality development of any country's economy, and for China, it is a new driving force to empower the real economy, a new indicator to evaluate international competitiveness, and a new aid to build a new development pattern, the importance of which cannot be overstated. The digital economy is a knowledge-based economy from many perspectives, which is destined to require continuous innovation and creation in the process of its development, and innovation and invention cannot be separated from intellectual property protection. The G20 Digital Economy Development and Cooperation Initiative clarifies the importance of "appropriate and effective intellectual property protection and enforcement for the development of the digital economy. Based on the actual situation of their respective development, this paper will analyze the intrinsic relationship between China's digital economy development and intellectual property protection, and build a two-way model of mutual promotion between digital economy development and intellectual property protection, so as to provide a safe, stable and fast "wind turbine" for China's economy. The project aims to build a two-way model of mutual promotion between the development of digital economy and intellectual property protection, so as to ensure a safe, stable and fast "wind turbine" for China's economy.

2. Current Status of Digital Economy Development and IP Protection

Internationally, there are different views on the structure of the new generation of digital economy. Internationally, there is a preference for comparing the digital economy as a whole to a hierarchical ring, with the internal core being the digital infrastructure, the middle layer and the outer ring containing digital platforms, digital industries, products and services respectively, which are progressive and interlocking, and together constitute the digital economy system. In contrast, China prefers to divide the digital economy into a series of parallel sectors, each focusing on core technology upgrading and product development, but also interoperable information and cooperation. From either perspective, it is agreed that digital technologies, digital industries, digital products and digital services as a whole together form the components of the digital economy. The creation of the digital economy has already had a profound impact on traditional production methods, production relations and even traditional economic society, and is driving a new round of globalization, becoming a catalyst for international communication and cooperation, and a power machine to boost global economic growth. The "Digital China Construction and Development Report (2020)" shows that the size of China's digital economy in 2020 reached 39.2 trillion yuan, an increase of 4.5% year-on-year. However, while it is booming, the shortcomings of the digital economy are also emerging. For example, the synergy of the technological development of China's digital economy is obviously lacking, with leadership in the field of mobile payment, but there is still a long way to go in the production of core components and software, and because the digital economy itself has the characteristics of rapidity and external economy, the resulting issues such as the protection of intellectual property rights in cross-border data flow Because of the digital economy itself is fast, external economy and other characteristics, the resulting issues, such as the protection of intellectual property rights in cross-border data flow, and other issues related to national sovereignty, has intensified the rule competition and interest game between large countries, and it is urgent to build a perfect regulatory system and good governance environment to guide the development of digital economy in the direction of
standardization.

From defining property rights for knowledge and defining the intellectual property protection system in 1979, to releasing the Outline of National Intellectual Property Strategy in 2008, to surpassing the United States in PCT patent applications in 2019, China's intellectual property system has only been developed for a few decades. The development of intellectual property in China as a whole can be summarized in three terms: "from nothing to something", "from something to something big" and "from big to strong". China has the unique advantage of large market capacity and sufficient development potential, which has attracted a number of domestic and foreign innovators with ideas, technologies and strengths to realize creativity and innovation here. We need to continue to explore a better framework for high-quality IP development to achieve the transition from "big to strong".

Although the contribution of the digital economy to the national economy has far exceeded that of many other industries in recent years, the lack of corresponding intellectual property rights in place in the context of the rapid growth of the digital economy has also adversely affected other industries in certain aspects. For example, in the film and television industry, digital media piracy has seriously undermined the rights and interests of genuine film and television rights, and in the United States, the annual loss to employment and the economy due to pirated movies exceeds ten billion dollars, so the protection of intellectual property rights within the digital economy is in urgent need of improvement.

3. Analysis of the Relationship between Digital Economy Development and Intellectual Property Protection

Many scholars hold different views on IP protection. Some scholars strongly support increased IP protection, arguing that it will facilitate the generation of new knowledge, that some developing countries could benefit from enhanced IP protection at the national and global levels, and that, in general, a uniform standard of IP protection has a positive effect on both technology market transactions and the transmission and diffusion of knowledge. Other scholars, while essentially favoring the development of IP protection, argue that a tendency toward the extremes of IP protection may discourage the natural flow of knowledge, inhibit the creation of useful new inventions, and ultimately lead to a lack of competition among industries. At the same time, the emergence of a "patent jungle" may lead to legal monopolies, which will increase the costs of IP regulation and protection, and when these costs are much greater than the investment costs of innovation, the incentive to innovate will undoubtedly be greatly reduced.

The accelerated pace of economic liberalization and globalization has also led some industry experts and scholars around the world to focus on the interplay between economic development and IP protection. By assessing the relative strength of IP regimes and economic variables, Richard Rapp and Richard Rozek found that the higher the level of IP protection, the better the state of economic growth, i.e., the level of IP protection is positively correlated with Juan Ginarte and Walter Park found a strong correlation between the relative strength of a country's IPR and its GDP. However, some scholars have also found that the relationship between IPR and economic growth sometimes shows a significant negative correlation, and the reason for this is related to the inhibitory relationship between IPR and resource allocation. As the strength of IPR protection increases, it will have a negative impact on the efficiency of national resource allocation in the opposite direction, inhibiting market competition, and economic growth will be hindered to a certain extent.

As human society moves towards the era of the rise of digital economy, intellectual property is a key component of the institutional infrastructure supporting the digital economy, so the digital economy is inevitably linked to intellectual property protection in many aspects, which is also a new challenge to the existing global intellectual property rules. China has always emphasized that "scientific and technological innovation is the strategic support for improving social productivity and comprehensive national power, and must be placed at the core of the overall national development", and therefore attaches great importance to the transformation of scientific and technological achievements and the development of intellectual property rights. Therefore, we attach great importance to the transformation of scientific and technological achievements, urge enterprises to optimize and operate their intellectual property strategies, and strongly advocate independent innovation. Second, the prevalence of intellectual property instrumentalism triggered by changes in international intricate trade forms. From the international perspective, some developed countries have exported their high standard of intellectual property protection requirements globally through the mode of "joining forces" and "breaking through", while some other countries have set up anti-globalization intellectual property barriers. "Protect" their core technologies.

The global manufacturing and industrial industries are slowly being rewritten by the digital economy, and the rules of competition in the global digital industry are gradually evolving towards the technical standards wrapped in intellectual property rights. On the basis of the positive correlation between IPR protection and economic development as researched by the previous authors, and by analyzing the reality of China's digital economy development and IPR protection, it can be extended that there may also be a positive correlation between the two, and a two-way effect can be formed, that is, a model framework can be constructed, and its operation can be explored by analyzing the positioning of the model and the roles and functions of the participants in the framework. By analyzing the positioning of the model and the roles and functions of the participants in the framework, we can explore its operation and better promote the synergy between the digital economy and intellectual property protection.

4. Framework Construction of Two-way Mutual Promotion Model

(1) Objective positioning

In view of the problems in the development of the digital economy and the development of intellectual property protection and the intrinsic correlation between the two, a two-way mutual promotion model is constructed with the aim of being able to simultaneously solve the problems in development and achieve stimulating the upward development of the digital economy and intellectual property. The aim is to solve the problems in the development of
digital economy and intellectual property protection and to stimulate the development of digital economy. We will concentrate our innovative power and collective wisdom through "raising problems", "discussing solutions", "formulating solutions" and "implementing solutions". Through a series of procedures of "raising problems", "discussing solutions", "formulating solutions", "implementing solutions" and "public cooperation and maintenance", we can find a way to promote "stronger" IPR protection with the development of digital economy and "better" IPR protection with the development of digital economy. "We will find a path that is feasible rather than avoiding an airy building, and that is recognized by the public rather than looked down upon.

(2) Analysis of the framework body function

The government, enterprises, society and the public together constitute a two-way mutual promotion model of digital economy development and IPR protection, and a four-in-one operation model of "government-led, enterprise-led, social participation and public cooperation" is to be built. The participating subjects in the "ecosphere" are not only a "community" but also independent decision makers and interest holders, and there is a game of interests between them. By analyzing the behavior characteristics of the subjects and positioning their functions, we promote the virtuous cycle of the "ecosphere". The government increases the policy protection of intellectual property rights in the digital economy, and carries out a package of policy and system design for the introduction and allocation of talent, capital, technology and other factors, and guides multiple subjects to participate in the formation of a two-way mutual promotion model for sustainable development. While investing energy in the development of digital industry, enterprises continue to explore the problems in the development of digital economy, especially focusing on issues related to the protection of intellectual property rights, collect, analyze and solve problems in a timely manner, and actively negotiate with the government to improve methods and cooperate with policy implementation. On the one hand, the society will make the public understand more clearly what the digital economy is, what benefits the digital economy has to the national economic development, and what behaviors are not conducive to the development of IPR protection in the digital economy through various channels such as news media, online platforms, and offline publicity, and on the other hand, cultivate the awareness of the whole society to pay attention to IPR protection, and form a "protect data, protect technology, and refuse to pirate" IPR protection policy. On the other hand, we should cultivate the awareness of the whole society to pay attention to IPR protection, and form the awareness of IPR protection of "protecting data, protecting technology, and refusing piracy". On this basis, the public should start from themselves, such as watching movies and TV works through regular channels in their daily lives, and strengthening the protection of their own works, so as to be aware of "not to infringe" and "not to infringe", and "to infringe" when others infringe their intellectual property rights. In the face of the infringement of intellectual property rights by others, we should do "infringement must be investigated".

5. Mode of Operation

(1) The government rationalizes the allocation of factor resources and gives policy support

The government focuses on the supply elements of digital economy development, realizes the optimal allocation of "talent, capital, technology and innovation" elements, and tries to promote the development of digital economy and intellectual property protection through dual measures of policy protection and legal protection. First of all, talent element: pay close attention to "cultivating talent, attracting talent, managing talent and using talent", and the government and market play the role of "incubator" for talent. Talent nurturing: develop "talent training standard system" to cultivate digital industry talents and technical talents; talent attraction: implement "subsidy system" for digital technology talents and R&D talents; talent utilization: be market-oriented and encourage the free flow of talents across regions. Second, the "capital" element: to improve the accuracy of investment in the protection of intellectual property rights in the digital industry, to release the vitality of both supply and demand, to encourage market capital to enter the digital industry by formulating tax incentives and a subsidy system, and to set up "intellectual property subsidies" for digital enterprises. The government should develop a system of tax incentives and subsidies to encourage market capital to enter the digital industry and set up "intellectual property subsidies" for digital enterprises. Once again, the "technology" element: consolidate the technical foundation of "data protection", take the lead in reaching technical cooperation with developed countries, introduce advanced technologies, and at the same time guard the export of digital information. Finally, the "innovation" element: the government establishes a mechanism for cooperation among multiple intellectual property rights holders, and works with enterprises and intellectual property rights associations to improve the institutional framework for intellectual property rights protection in the digital economy, so as to provide reliable protection for the development of the digital economy from a legal perspective.

(2) Enterprises clarify the pain points and leakage points of IP protection in the development of digital economy

Enterprises are the closest to the digital economy, and they also bear the greatest risk of intellectual property infringement. They may be involved in disputes over infringement and infringement of design concepts, R&D technologies, new products, data and other objects at any time, and in the context of the digital economy, enterprises have become the party that best understands the pain points and leakage points of intellectual property in the digital industry. Therefore, it is an important responsibility of enterprises to play the role of "microscope", to go deep into the enterprise and the industry, to find out the problems that are invisible to people from the surface to the inside, and to analyze the root causes of the problems, for example, the protection of enterprise data has always been a difficult problem, and there is no definite conclusion in the current intellectual property protection system on how to define whether it is infringed. The reason is that in the information age, enterprise data is a new type of intellectual property, and few professionals have studied its protection methods, so commercial leaks are common, whether the injured party has received due compensation, and whether the party who stole the secrets has been punished with corresponding strength is not known in many cases. In the face of such situations, enterprises should promptly reflect to the government, industry and other relevant institutions, negotiate solutions, jointly discuss the protection model for new intellectual property rights, clearly define the objects to which protection points, design a
intellectual property protection from the bottom of their hearts, the importance of the development of digital economy and society will benefit from it, thus forming a "promotion and oppose infringement and pirated products, and the whole society will be to promote the development of the economy on the other, not only to be able to timely detect On consciously enhance their awareness of intellectual property protection on the one hand, and to cooperate fully with the implementation of relevant knowledge of digital economy and strengthening the awareness of intellectual property protection is an essential part of the two-way mutual promotion model. After fully understanding the digital economy and establishing a strong awareness of intellectual property protection, the direction of society will be to promote the development of the economy and oppose infringement and pirated products, and the whole society will benefit from it, thus forming a "promotion - benefit - promotion again" virtuous cycle.

(4) Public cooperation to ensure the operation of the model at the individual level

This requires the public to accept and recognize the importance of the development of digital economy and intellectual property protection from the bottom of their hearts, to cooperate fully with the implementation of relevant policies and respond positively to the national strategic goal of developing digital economy on the one hand, and to consciously enhance their awareness of intellectual property protection on the other, not only to be able to timely detect On the other hand, they should consciously enhance their awareness of intellectual property protection, not only to detect intellectual property infringement in their lives, but also to stop infringement through such means as the law, and to refrain from watching or buying pirated products and from plagiarizing or copying others' ideas. In the growing digital economy, data has become a resource coveted by some unscrupulous organizations and lawbreakers, so the public needs to be vigilant at all times in their work and life, sensitive to identifying bad motives, and avoiding the theft of data and information from their units and themselves. If each individual member of the public can do the above, the resistance to the operation of the whole two-way mutual promotion model will be greatly reduced, and the ultimate goal of the model will be closer and closer with the efforts at the individual level.

6. Safeguard Mechanism Research

(1) Improve supporting legal protection mechanism

The main point is to further the laws and regulations on intellectual property protection. The digital economy is a new thing that has been introduced recently, and the lack of explicit protection provisions for this new thing in the original protection system of intellectual property rights is itself a challenge to the existing intellectual property rights system. For the problems in the development of the digital economy, the existing intellectual property rights protection system is no longer able to provide protection in many aspects, for example, in terms of data protection, relying on patent applications is no longer enough to effectively protect For example, in terms of data protection, relying on patent applications is no longer sufficient to effectively protect data, and trade secrets are slightly more secure and effective than patents, but there are extremely high requirements for the quality and credibility of the parties involved in the secrets, and in the era of prevalent network platforms, there is a need to supplement and improve laws and regulations related to network security. The digital economy has accelerated the integration of the world economy, brought countries closer to each other, and enhanced the dialogue and communication between countries. Therefore, the legislation on intellectual property protection must also be in line with international standards and build an "intellectual property community of destiny" to establish uniform standard rules in cross-border data and technology import and export, so as to help enterprises to break through the international intellectual property barriers.

(2) Improve administrative efficiency

By streamlining the patent application process in three steps, namely simplifying the application procedures, shortening the application cycle and improving the examination efficiency, the time cost of patent application is greatly reduced, so that patent applicants can enjoy convenience, enhance their willingness to apply for patents and raise their awareness of intellectual property protection. In addition, data accessed and used by government departments involving national livelihood and economic information can be appropriately opened up by government departments for use by enterprises and individuals under the premise of fully guaranteeing national security, so that the data can fully release its value and create more valuable wealth for society. The government should also take the lead in solving the problem of compulsory data sharing. In view of the fact that some industries and companies use their right to access specific data and abuse their dominant position in the industry to restrict other enterprises' access to data inappropriate competition, which restricts innovation in the industry and will eventually directly cause the loss of consumer rights, the government should join the industry, the judiciary and other relevant bodies to intervene in such Therefore, the government should intervene with the industry, the judiciary, and other relevant bodies to set up competition policies to require open access to data, so that specific data can be shared among enterprises to achieve the purpose of adding value to data.

(3) Set incentives for reporting infringements

In order to avoid improper competition among enterprises and institutions, and to cover up infringement behaviors, the government and enterprises can set up a system similar to "reward for reporting infringement", and ensure that the system is effective and implemented. It is important to keep the private information of the whistleblowers confidential and to set up security policies when appropriate, so as to fully ensure the personal integrity of the whistleblowers, so that everyone who is informed can defend justice without any
worries, and thus serve as a warning to those who want to touch the red line of infringing intellectual property rights. Through positive incentives to clean up the competitive environment in the digital economy, mobilize the public's enthusiasm, form a good social culture of public prosecution, so that infringement "dare not happen, cannot happen, will not happen".

7. Conclusion

In the era of information explosion and rapid development of the digital economy, strengthening intellectual property protection is the way to achieve healthy development of the digital economy in China and thus promote high-quality development of China's economy. Under the framework of the two-way mutual promotion model of digital economy development and intellectual property protection, driving industry innovation and pulling economic growth with intellectual property protection is to provide inexhaustible power for the development of the digital economy, and in the process of exploring design protection, data protection, core technology protection and high-end product protection in the development of the digital economy, we are also adding bricks and mortar to the improvement of the intellectual property protection system.

References


