The Solution of Network Intellectual Property Infringement under the Background of Big Data

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Abstract. At present, big data applications have entered a new era. Compared with the network era, data storage and data transmission are the main content. The big data era is mainly based on data mining and data application. In the context of big data, intellectual property protection faces more severe challenges. To this end, this article proposes research on the solution of intellectual property rights infringement in the context of big data. This paper uses a combination of research methods such as literature sub-research and content analysis to conduct research. This paper finds that to resolve the infringement of online intellectual property rights in the context of big data, it is necessary to improve the system, strengthen network management, and form a social environment conducive to the operation of the intellectual property system. Support ideas, clarify measures, and strengthen law enforcement. In this era of online rampage, only by strengthening online supervision, establishing correct concepts, encouraging originality, and resisting piracy, can the origin of online intellectual property infringement be resolved.

Keywords: Big Data, Network Intellectual Property, Intellectual Property Protection, Solutions to Infringements

1. Introduction
As an integral part of today's world, big data has played a significant role in promoting the development of society. But the Internet is a double-edged sword, which has brought many problems to society. The rapid development of the Internet has resulted in more and more infringements under the network, and traditional copyright protection laws have been unable to meet the protection of today's copyright. Based on this situation, a series of policies and measures have been introduced at home and abroad, but However, the policy still has obvious lag, and it is still very difficult to solve the various types of network infringement problems that occur in reality.

Today, China's advanced Internet technology has benefited tens of millions of people. The Internet has become a world communication platform for information resource sharing. This
development is subtly changing the way people live and work, while providing great convenience and also because of the Internet. The openness and the circulation of information resources pose greater challenges to intellectual property rights. Therefore, how to protect online intellectual property rights in the context of big data is very important. The research ideas for research on the infringement of online intellectual property rights in the context of big data have very important.

This article first explains the concept and characteristics of intellectual property rights, summarizes the relationship between big data and network intellectual property rights, and uses a combination of literature research methods and content analysis methods to conduct research. The causes of online intellectual property behaviors are analyzed and solutions are proposed.

2. Proposed Method

2.1. Intellectual property

(1) The concept of intellectual property and its characteristics

The term intellectual property rights comes from the English "Intellectual property", also known as intangible property rights or spiritual property rights, usually refers to the monopoly rights enjoyed by intellectuals and business results of industry and commerce [1-2]. Intellectual property has the following characteristics:

1) Exclusivity

Intellectual property is the exclusive right granted by a country to the right holder for the intellectual results created by a particular invention. That is, intellectual property rights, as a monopoly right, can enjoy universality like real rights [3]. As long as the right holder obtains intellectual property rights in accordance with relevant laws and regulations, anyone has the obligation not to obstruct or interfere with the right holder's exercise of rights. Because of the exclusivity of intellectual property, intellectual property owners can ensure that intellectual property is protected by excluding others from exercising it.

2) Intangibility

Common law countries usually refer to intellectual property as "intangible quasi-movable property" or "quasi-property right in litigation". Although intellectual property has the property attribute of "property right", the intellectual achievement as the object of intellectual property is an intangible property. It is necessary to rely on the specific provisions of the law to determine the scope of its protection [4-5]. The intellectual property rights cannot claim the intellectual property rights enjoyed by simply possessing the subject matter, and they must strictly follow the relevant laws and regulations and follow the legal procedures to obtain the corresponding intellectual property rights.

3) Regional

The regional characteristics of the traditional intellectual property rights means that intellectual property rights can usually only have effect in the countries or regions that apply for protection according to law. Once the work is distributed to other countries and regions, the work is not necessarily protected by the intellectual property laws of other countries [6]. Intellectual property originally originated in feudal society and was a privilege granted by feudal kings or local administrators of feudal society through special orders. Because it is granted by a specific subject, the right is limited by the scope of the power of the specific
subject and can only be effective in the area covered by the power of the king in feudal territory.

4) Term

The protection of rights provided by law is limited by term. Ownership, as a kind of real right, does not itself have a term of protection [7]. It depends on the existence of the subject matter of ownership. As long as the subject matter of ownership is not lost, ownership will always exist. Relative to the perpetuity of ownership, even if the subject matter of intellectual property is an intangible that will not be destroyed or lost, the law provides for the duration of the right. Intellectual property itself aims to encourage innovation, protect citizens' inventions and creations, and promote the continuous development of science and technology. Therefore, although the owners of intellectual property rights have the right to enjoy the freedom of monopoly use rights within the legal period, they still have the obligation to make the results of their inventions available to the public.

5) Policy

Intellectual property originated from the feudal period and is a special monopoly right granted by the domestic monarch. Its acquisition requires the permission of public authority. The domestic policies of different countries and the unequal level of technological and cultural development make the factors considered by the legislatures of each country in enacting laws to protect the intellectual achievements of their inventions and creations different, so the tendencies in legislation are also different. Although countries have agreed on basic principles in the field of intellectual property protection, such as determining the basic principles of the minimum protection of intellectual property rights and the independence of intellectual property protection among member states, countries have also noticed the importance of intellectual property protection in practice. In order to realize the unity of the substantive laws on the protection of intellectual property rights, countries began to sign a large number of international treaties. However, the intellectual property laws of various countries are still essentially legislative choices based on their national conditions and objective levels of scientific and technological development. The purpose of legislation is to protect rights and settle disputes. Countries based on the level of science and technology development and the objective laws of material economic development, formulate corresponding legislative protection measures and protection content, reflecting their national protection policies for scientific and technological inventions and achievements, as well as national intellectual property future development trends, have strong policies Tendency.

(2) Contents of intellectual property

The content of intellectual property, also known as the scope of intellectual property, has different understandings and legislative provisions in the international community.

1) Patent rights

Patent right, as a right protected by law, is an exclusive right granted by the law to the right holders for a certain period of time on the content of their inventions. Legislators grant patent rights to rights holders in exchange for the public release of their inventions, in order to stimulate people's enthusiasm for inventions. Invention refers to the creative activity by using the laws of nature, which is novel and original. The utility model refers to a design scheme for creatively designing the shape structure or appearance of an article. Appearance design is generally understood in various countries as the aesthetic design of the product's external
shape, pattern and color. The content of the patent right is the right enjoyed by the right holder according to law. Due to the uneven level of technological development in different countries, the provisions of the national law on the content of the patent right are different.

2) Trademark rights

Trademark rights, that is, the exclusive right to use a trademark, are the exclusive rights granted to the trademark owner by a country's trademark administration in accordance with the law to protect its registered trademark under the laws of that country. As a kind of intellectual property, trademark right is different from copyright and patent right. It is not created by the right holder to promote the development of science and technology. The trademark right is the right of a country's public power to protect the public interest, which is used to identify goods and services.

3) Copyright

Copyright, also known as copyright, includes copyright and personal property rights. As literary and artistic works are created by authors, authors enjoy the right to sign and protect the integrity of works in accordance with the law, as well as economic benefits brought by works.

2.2. Impact of big data on intellectual property

(1) Promotion of Big Data on Intellectual Property

The development and growth of the Internet has provided a brand new way for the dissemination of intellectual results, namely the network dissemination method [8-9]. The intangibility of intellectual property objects and the virtual nature of cyberspace have a natural fit. This natural fit has greatly promoted the development of intellectual property. In the era of big data, highly personalized information is one of the most obvious features. Information is tailored to the individual's requirements. Through the process of data collection, storage, transmission, and analysis, the personalized data information is specially distributed by the big data computing model [10-11].

(2) Conflicts between big data and intellectual property protection

The biggest possibility of conflict between big data and intellectual property rights lies in two aspects, one is data sharing, and the other is data monopoly. The basic premise of big data is still data, and data openness is the basis of data sharing. Therefore, only data openness can effectively integrate data, so that the value of data can be enhanced, and finally the effect of data value-added can be achieved [12-13]. In the era of big data, data sharing is an important prerequisite. Because of the demand for data sharing, the Internet has been created, and it is because the Internet has produced big data [14]. However, due to business or interest or other considerations, the data on the Internet is circled, so today's big data is occupied and controlled by various commercial organizations, becoming the resources, assets and core competitiveness of these organizations. The monopoly of big data runs counter to the nature of big data, and ultimately destroys the value of big data.

3. Research Method

(1) Literature research method: In order to have a sufficient theoretical basis for the final research results, it is necessary to understand and study the relevant literature. In the writing process, this article collects a large number of relevant legal regulations, works, journals and other documents related to legal liability for online intellectual property infringement, and
provides complete theoretical support for the solution of online intellectual property infringement in the context of big data through reading, analysis, induction, and summary.

(2) Content analysis method: on the basis of obtaining a large amount of literature, analyze their contents in detail, and classify their contents to a certain degree according to different standards, so as to grasp the essence of the literature more intuitively, for the future Laid a good foundation for comparative analysis.

(3) Comprehensive induction method: Based on content analysis and comparative analysis, a new perspective is used to examine and summarize the theory and protection system of network intellectual property related to the subject of this thesis, so that the reasoning and conclusion of the article can be established in a comprehensive manner. On an accurate basis.

4. Discussion

4.1. Reasons for the occurrence of online intellectual property infringement in the context of big data

There are many reasons for the occurrence of online intellectual property rights. The causes of online intellectual property rights are analyzed in the context of big data. The results are shown in Table 1.

**Table 1.** Analysis of the causes of Internet intellectual property infringement in the context of big data

| Institutional factors | Law enforcement factors | Consciousness factor and social environment factor |
|-----------------------|-------------------------|--------------------------------------------------|
| There are different opinions on the basic theoretical issues such as the principle of liability fixation of intellectual property infringement between the theoretical and practical circles. | The efficiency of law enforcement is not high. | The vagueness of the public's cognition of intellectual property rules is an important factor leading to mass infringement. |
| The responsibility of the right product seller needs to be further clarified. | Law lacks unity and cooperation mechanism. | The influence of unified culture and the lack of recognition of intellectual property rules. |
| It is necessary to legalize the identification and liability of tort. | Law lacks long-term effect. | The lack of effective measures for publicity and popularization and the encouragement of public participation in intellectual property protection. |

As can be seen from Table 1, in the context of big data, the causes of infringement of online intellectual property rights are diverse. Generally speaking, it can be divided into three aspects, namely institutional factors, law enforcement factors, consciousness factors and society. Environmental factors, in short, the reasons for the infringement of online intellectual property rights in the context of big data need to be overcome one by one.

4.2. Analysis on the solution of network intellectual property infringement in the big data background

Aiming at the characteristics of big data and the reasons for the occurrence of online intellectual property rights, analyze the solutions to the infringement of online intellectual property rights in the context of big data. The results are shown in Figure 1.
As can be seen from Figure 1, in order to solve the infringement of online intellectual property rights in the context of big data, it is necessary to improve the system, strengthen network management, form a social environment conducive to the operation of the intellectual property system, and strengthen the construction of intellectual property culture, establish concepts, and improve Support ideas, clarify measures, and strengthen law enforcement. Now is the era of big data. In the era of online rampage, the generation of network intellectual property infringement is really too easy, and its cost is very low, which makes infringement happen frequently. Therefore, we must strengthen online management systems and strengthen intellectual property rights. Cultural construction encourages originality and rejects piracy.

5. Conclusions

The advent of the Internet big data era has provided new opportunities and challenges for human life. Only by seizing the opportunities and facing difficulties can we promote social progress. The high-speed transmission and explosive growth of information means that people need to begin to value and think about the crisis facing the protection of intellectual property rights of databases. Nowadays, infringement of intellectual property rights occurs frequently in the era of big data, and people are gradually aware of the threats to their intellectual property rights and the importance of protection. To this end, this paper proposes a study on the solution of network intellectual property rights infringement in the context of big data, analyzes the causes of network intellectual property rights in the context of big data, and studies its solution.

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