

The Conflict and Coordination Between Data Sharing and Intellectual Property Protection in the Era of Big Data

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Abstract: Computer technology has constantly innovated since the computer first appeared in the last century. Cloud computing, the Internet, and other technologies are increasingly important in human life. Relying on the combination of computers and the Internet, the scale of data is increasing rapidly, the speed of data exchange is gradually accelerating, and the traditional information exchange mode is broken. The information exchange mode based on extensive data exchange has steadily become the mainstream, and the era of big data has come. Due to the changes brought about by new technologies, the original intellectual property law can no longer cope with new problems. How to solve the conflict between data exchange and intellectual property protection in the era of big data has become a vital issue. This paper focuses on the analysis of the connotation of data exchange in the age of big data, the conflict with intellectual property rights, and how to coordinate the contradiction between the two; it explains the conflict of property rights and personal rights brought about by extensive data exchange, and blends the scale, content, and technology of intellectual property rights in extensive data exchange. This paper aims to discuss the boundary of extensive data exchange and intellectual property protection, balance social interests, alleviate social contradictions, and provide feasible ideas for renewing intellectual property rights.

Keywords: big data, intellectual property, conflict, coordination

1. Introduction

Since the last century, new technologies such as cloud computing and the Internet have gradually stepped onto the stage of history. The combination of computers and the Internet has provided an opportunity to generate and efficiently exchange massive data, and the era of big data has also arrived [1]. Big data technology is a technology that excavates the information behind the data and utilizes its potential value through new storage and analysis technologies in the case of rapid growth of data scale. It has the characteristics of enormous quantity, complicated types, high mobility, and low-value density [2]. On this basis, the traditional way of data dissemination has been broken, and data sharing has become an essential way for the public to obtain data in the era of big data.

Data sharing is one of the sources of public access to data. It means that different subjects use different computers in different places to read other people's information and carry out various operations, calculations, and analyses. Because data sharing can maximize the use of data resources, reduce the cost of information collection, and maximize the benefits of data at the social level, data sharing has now been regarded as the basis of the information society.

However, the ‘sharing’ of data sharing represents a kind of social benefit, in other words, a variety of public welfare. While safeguarding the public interest through sharing, the dispute between data sharing and private interests has also become an essential contradiction in the era of big data. Data is more used in daily life as a non-exclusive public resource. Data can be copied in large quantities and used by many subjects at free or very low prices without causing great harm to the public interest or causing conflicts between these subjects, which is the reason for the non-exclusiveness of data. However, people can note that not all data are non-exclusive. When data involves a balance of interests, these data with particular values are usually privately owned and monopolized by these people. When data has a specific value because it contains a certain amount of intellectual input, these data become an intellectual property right [3]. The conflict and coordination between the protection of intellectual property rights as the representative of private ownership and the further sharing of data under the demand of public interests has become an urgent problem to be solved in the era of big data. This paper will start from this aspect to study the conflict and coordination of data sharing and intellectual property protection in the age of big data.

This paper will first explain the connotation and performance of data sharing in the era of big data and expose the potential risks of data sharing according to the actual situation. Secondly, this paper will focus on the conflict between data sharing and intellectual property protection and explain the core contradiction between the two and the many battles in reality through theoretical analysis. Finally, this article will explain the importance of coordinating data sharing and intellectual property protection and propose solutions for coordinating.

Through this research, people can provide a feasible solution for the practical application and coordination of data sharing and intellectual property protection. At the same time, this study can also improve the deficiencies in the current intellectual property protection system, further improve the legal system of intellectual property rights, balance social interests, and alleviate social contradictions through legal channels [4]; it can also provide a feasible idea for updating the intellectual property law in the future scientific and technological progress.

2. The Performance, Connotation, and Risk of Data Sharing under the Background of the Significant Data Era

With the continuous development of the information age, data exchanges between subjects, fields, and regions have gradually increased, and a large amount of spatial data has appeared on the network. In the face of various spatial data formats, network managers use a statutory spatial data exchange standard to enable different users to use other terminals and additional software to read and use data, which is data sharing.

In the context of the era of big data, massive, multi-perspective data sharing becomes possible. For the government, data from various fields provide an information basis for government decision-making and macro-control. The government can use these diversified data to coordinate the division of labor among different individuals in the same industry. It can also open channels between various initiatives to promote information cross-cutting and technology integration in other sectors. In addition, data sharing among governments also provides an information and trust basis for international cooperation among countries.

For the industry, data sharing has accelerated information exchange between sectors and broke the information barriers between upstream and downstream industries. In the past, low-speed and inefficient data transmission is likely to make the industry unable to detect the direction of social development, so the development of the industry needs to catch up to social needs. Nowadays, efficient data sharing enables the industry to predict the outcome of society through the analysis of big data to determine its development direction and make it more suitable for the needs of social development. At the same time, the information barriers between upstream and downstream industries no longer exist, and various industries can receive much information, which provides more

robust data support for upstream and downstream sectors to choose whether to cooperate and how to cooperate.

For individuals, data sharing provides people with more choices. In the era of big data, people's vision is not limited to their own lives. People can know the birth of new things and understand new areas and opportunities. In the old era, the information occlusion caused by distance has gone forever. With a large amount of information and data, people's lives and choices have become more and more accessible.

However, large-scale data sharing often leads to severe problems. Unregulated data sharing may harm users' interests; simultaneously, because the volume of data is too large, the wrong use and error analysis of data often cause irreparable losses.

Extensive data sharing may cause the leakage of personal privacy [5]. In cyberspace, there is no lack of personal information related to privacy. Usually, the government or some companies will collect personal information for the convenience of management, user portraits, and other purposes. This information is often stored through the network. In the era of big data, once this personal privacy information is leaked due to its excessive transmission speed, it will be difficult for network regulators to prevent the spread of this information, and it will be difficult to guarantee the legitimate rights and interests of the leaked; The misuse and analysis of big data will also lead to losses. In the era of big data, data sharing often makes a massive influx of data. This means that data selection, processing, and utilization are essential. The wrong use of big data is likely to bring adverse effects to data users and affect the correct decision-making of users.

3. The Conflict Between Extensive Data Sharing and Intellectual Property Rights

Since the birth of intellectual property rights, this special right has inevitably been considered private. Whether it is a personal copyright, a non-personal patent, or a trademark, property has always been an essential feature of intellectual property [6]. As a kind of original wisdom crystallization, intellectual property rights may not be able to create wealth for it in the current society, but there is no doubt that intellectual property rights, as a possible development direction, have some potential value [7]. This feature that can benefit individuals shows that intellectual property rights should fall in the field of private ownership.

However, in the context of the era of big data, this purely private rights protection has become tricky. Data is often the product of data processing by data processors. In other words, data itself results from creative intellectual labor and has specific intellectual property characteristics. However, in the era of big data, big data involves the legal exclusive rights and prior rights of big data rights holders and the public interest. The TRIPS agreement protects data through copyright, which says that 'data compilation or other data compilation, whether machine-readable or other forms, should be saved as intellectual creation as long as it constitutes intellectual creation through the selection and arrangement of its content. This positively recognizes that the processed data should be protected as an intellectual property issue.

However, in the wave of data sharing, the intellectual property protection of processed data will be affected more or less. As a public demand, data sharing aims to safeguard the public interest. In large-scale data sharing, data with property attributes will inevitably flow into the public domain through legal or illegal means and become increasingly severe with the further deepening of data sharing, which results in the infringement of private data that should be legally protected.

In the past, protecting intellectual property objects such as data was not laborious. In an era of low data transmission speed, when data that may infringe on the property rights of others flows out, the victim can protect his legitimate property rights by blocking the way of information transmission. However, when the speed of data dissemination is accelerated and the number of subjects who can read data increases, the original means of blocking has lost its meaning - it is almost impossible for victims to find out that their property data has been flowed out in the first time, and it is impossible

to cut off the transmission path before the large-scale dissemination of data; it can even be said that even if the disseminator is found, it is difficult for the victim to recover the loss - when the data becomes available to the public, the property of the data is no longer personal. This is a complex problem for data that must be kept secret. Unfortunately, most data with unique properties often have characteristics that must be kept confidential, such as new designs, invention patents, etc.

Compared with traditional information dissemination technology, data analysis in the era of big data is becoming more and more accurate. Data analysts can analyze massive data in real time, grasp the preferences of user groups in a specific period, and provide targeted services to particular users. Based on extensive data analysis, this kind of service no longer needs to provide a consistent service for a group with a specific preference or a certain level of consumption but to refine the group into individuals and provide a particular service for an individual [8]. Based on this service model, extensive data rights holders tend to obtain more economic benefits.

However, this service model that has gradually become the mainstream trend still has drawbacks. To accurately analyze specific users' preferences, carrying out more detailed user portraits is necessary, and collecting a large amount of user information is inevitable. This collection of user information may not be limited to a form that users voluntarily fill out. In more cases, the service provider will save the user's browsing trajectory on the network and then tag the user through the big data analysis device. In large Internet companies, this approach is not uncommon: people may search for an item on a browser software in the morning, and the company's shopping software will push people the product's discount information in the afternoon.

This service model is closer to the user's daily needs but also closer to the user's security and privacy. When data analysis can already provide the analyst with all the information of the analyzed person, people cannot expect to bind the rights holders of these big data through morality. In fact, since the era of big data, sensitive data has become more and more transparent. With the advancement of big data technology, analysts portrayal of data-providing groups is becoming more and more accurate, and the value density of this processed information is also increasing. Infringements involving personal privacy or national privacy will only become more frequent. When this information is leaked, it is increasingly difficult to remedy the breach. It can be seen that in the era of big data. However, people call for the openness and sharing of data; with the progress of data technology, the difficulty of data control is getting higher and higher, and the risk of people's privacy leakage and the damage caused by leakage is becoming more and more critical.

4. The Coordination of Considerable Data Disclosure and Intellectual Property Protection

In fact, due to the profit-driven nature of economic activities, if there is no specific intellectual property protection for extensive data sharing, the property rights enjoyed by big data rights holders for particular data will be violated; in addition, the personal data of the general public will also be broken due to its hidden value [9]. Therefore, a certain degree of intervention and protection for considerable data disclosure is necessary. At the same time, big data, as the object of intellectual property rights, can not only play an excellent protective effect through the legislative protection of intellectual property law but also respond to the legislative innovation brought about by the new scientific and technological changes in the future for the rapidly updated law of intellectual property law.

4.1. Limit the Size and Content of Data Sharing for Network Operators

Personal data has played an essential role in the development of the Internet [10]. It is precisely because of the multi-party uploaded data that constitutes today's vast and efficient data-sharing analysis system. In the era of big data, information, as a shared resource, means the possibility of obtaining wealth. Therefore, the haul, collection, and establishment of exclusive rights for big data

has become the competitive strategy of many Internet companies. However, even if strengthening the high-speed flow of data can bring certain benefits to the public, collective interests cannot be an excuse to deprive data subjects of their freedom. Suppose data sharing has become an obstacle for data subjects to defend their own data security and property security. In that case, this unconditional sharing is bound to affect future development, and data sharing has reason to be limited to a specific security range.

For ordinary data that is difficult to cause loss to the data subject, network service providers should use these data carefully and share data with third parties on the premise of notifying the data subject and obtaining the data subject's consent. For some data that may infringe the property rights or personal rights of the data subject, the network service provider should not intentionally obtain these data [11]. After receiving the data, the data subject should be notified in time to ensure that the data subject has sufficient right to know that it can be effectively exercised. At the same time, network service providers must resolutely refuse to use and retain these data to the minimum extent. Only when the data subject allows can these data be used for sharing. The benefits obtained by this data sharing should be negotiated with the data subject, and the income part should be allocated to the data subject. In addition, network operators should also strictly abide by personal credit, not through computer means or data analysis means to carry out user portraits for direct profit, and not induce users who do not have complete identification ability to fill in personal privacy information. Data sharing can be considered reasonable and beneficial to the development of the times only when network operators and data subjects reach complete agreement, all-around informed, and fair distribution of benefits on data issues.

4.2. Strengthen the Government's Administrative Guidance for Data Sharing

For protecting intellectual property rights, giving local governments specific power to regulate can play a positive role in protection. Due to the different levels of development and the strength of property rights awareness in other regions, the intensity of intellectual property protection is also different [12]. Administrative decentralization can give local governments more flexible legislative direction and security means, make the part choose more appropriate development measures according to its status, and play a detailed management effect in the overall layout.

In addition, while strengthening the guidance of local governments on intellectual property protection, it is also necessary to reach a certain unity with the central government to build a pattern of intellectual property protection from regional to overall so that a country can pool all its data wealth. At the same time, the international data-sharing system can also be promoted by governments to form a cross-country, available, and valuable human data wealth-sharing system.

4.3. Improve the Technical Protection of Data Sharing

The only system for protecting data intellectual property rights needs to be improved. In the era of big data, people have more understanding of their own data rights and interests, and their awareness of protection is relatively strong. However, a wide range of data leakage incidents occur occasionally; whether it is private enterprises or government departments, there have been different degrees of information leakage. The main reason for information leakage is the network attack on the information storage department for interest.

With the development of technology, the law often needs to be constantly revised through legislative means to achieve the effect of adapting to the times. Information thieves can be regarded as malicious third parties for illegal information theft. The network technology department can establish a new connection mechanism so that the transmission and sharing of information depend on the recognition of the information subject, which creates the problem of information supply in the system mentioned above.

5. Conclusion

In the era of big data, the exchange of information between different regions and subjects is accelerating, and the amount of data that can be interacted with in cyberspace is increasing. Relying on the continuous development of network technology, efficient information exchange is possible. However, the risk of data sharing in the era of big data must be addressed. There are too many channels for extensive data sharing, and the scope needs to be narrowed. It is not easy to achieve relief for the infringed rights holders. At the same time, massive data makes the use and analysis of data more complex, and the wrong use of data often leads to incalculable consequences.

In the era of big data, data often has specific characteristics of intellectual property objects. When the data is in the sharing platform, the data users and rights holders will inevitably produce conflicts based on intellectual property rights. Data sharing is easy to cause property damage to data rights holders. In addition, the privacy protection of rights holders is also at risk due to the data leakage caused by data sharing.

In this regard, people can coordinate data sharing by constructing and improving intellectual property laws. The content and scale of data network operators share can be limited; the government can give full play to its administrative power to control and guide the data-sharing market. The technical aspects of data sharing also need to be improved to prevent data leakage due to technical reasons or network attacks. In addition, due to the continuous development of data technology, legislative proposals for data sharing should remain dynamic. Combined with the development of technology, tightening or relaxing the control of laws, establishing new rules, or changing the old governance system, there is still considerable research space for the coordination of data sharing and intellectual property rights.

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