Comparative Study on Data Protection Between China, The United States and Europe

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Abstract. Digital economy has become an important part of modern economy. The protection of data rights can provide a good environment for the development of digital economy and stimulate the vitality of digital economy. This paper discusses the scope of data rights, the practice of China and the comparison with the United States and Europe by means of literature research and comparative research, and believes that the data rights as a new property right and promotes the protection of data rights in China.

Keywords: Data, legal protection of data rights.

1. The Question is Raised

With the increasing development of informatization and digitalization, data promotes the prosperity of the market. It is increasingly widely used in all aspects of social life. However, there are many problems in the protection and application of data, one of the important problems is the right of data: this has spawned a lot of infringement cases in order to compete for data resources. Often this kind of infringement cases will involve three types of subjects: network users, network operators, data practitioners. For example, in the process of data practitioner[1] competition, data theft may occur; some network operators in order to seize market resources, accurately put information, users will collect their information without their knowledge and consent, seriously threatening the data security of network users. However, such cases are often difficult to prove, high cost input, and unclear property ownership, often deterring the victims.[2] Therefore, in this era of information explosion, how to protect and regulate the right of data has become a very important issue, and it is also an important challenge for China's data governance.

This article will focus on the protection of data rights and the protection of data rights in China. Can the concept of data rights be defined; if possible, what position should this right be placed in and where should it belong? The practice of the United States and the European Union can provide some better reference for our problems, so as to facilitate China's better development and innovation in data rights.

2. Category Analysis of Data Rights

In China, scholars have different views on the ownership of data rights. This paper summarizes the following four controversial theories:

2.1. Intellectual Property Theory

According to the intellectual property theory, the data right is a kind of right with the intellectual property attribute. Different from the traditional intellectual property rights, the data rights belong to the intellectual property rights in the digital field, mainly for the rights in the generation, collection, processing and utilization of digital information. Data right includes the ownership of data, the use right of data, the data protection right and so on. The ownership of the data refers to the right that the actual owner of the data can exercise the ownership of its data, including the sale, transfer, authorization, etc. The right to use the data refers to the right that the data owner or other relevant personnel can have the right to use the data according to legal provisions and agreements. The right of data protection means that the data owner can, according to the law, require others to respect the

privacy right and trade secrets of his data, and take reasonable measures to protect the security of his data.

The proposal of data right is of great significance to the further development of intellectual property field. It highlights the importance of data in the digital age and calls for appropriate measures to protect the right to digitize information. At the same time, because of the extensive beneficiaries of data, the legal system and practice of data rights face certain challenges and difficulties. Innovation in law, technology and policy is needed to promote the development and protection of data rights.

2.2. Property Right Theory

"Property right theory" believes that data should be regarded as a property that can be owned and traded, and its power should be owned by the first producer of the data. That is, the ownership of the data shall belong to the individual or institution that originally created or collected it. In the view of the "real right theory", the attribution of data can be defined according to the "pioneering principle" or the "pooling principle". The pioneering principle means that the ownership of the data should belong to the individual or organization that first created or discovered the data. The principle of pooling means that the ownership of the data should belong to the individuals or institutions that collect and screen the data. It emphasizes the principles of data property rights and the distribution of power, but there are also some defects and disputes, such as how to establish the property rights of data and maintain the ownership of data, and may face more challenges and problems with the development of technology and the change of data use.

2.3. Personality Right Theory

In the ownership problem of data right, the main role of personality right is to protect the personal privacy right and the autonomy of personal information. The Civil Code divides the right of personality independently, and it can also be seen that the personality right is indispensable as a branch of the civil law system. Personal information[3] is recorded in the form of data on the network. The more information is collected, the more complete the presentation of personal personality is, and these data will become the key to personality rights. American scholars also put forward the concept of "digital personality": when the data is accumulated to a certain extent, it can constitute a digital personality similar to the real personality, and the data reflected in the transaction is the basic public image of the individual, which becomes the code name of the individual.[4]

2.4. The New Property Right Theory

"New property rights" refers to the ownership of the data rights under the digital age, according to this view, individuals should have all the rights of the data, including rights control, use and share data, but also means that the enterprise or government in the collection, storage, processing and use of personal data should be authorized.

This theory, which is the view supported by this paper, holds that we should put the ownership of data as a property right. Data plays an extremely important role in today's society, because it is the core element of the information economy and the digital economy, and it is widely used in the fields such as business, science, medical treatment and social management. [5]In the "new property right theory", data has the attribute of new property and independent economic value, which is regarded as a kind of asset with equity. Therefore, it requires us to recognize the concept of real right generated by data. First, as an intangible asset, data is unique, unreplicable and easy to abuse. Therefore, the data ownership and control issues are the basis of the operation of the data application ecosystem and the business model, and must be protected in accordance with the law. At the same time, the legal protection of data ownership will also help to stimulate the internal motivation of data producers and users, and then promote the mining and value release of data value. Secondly, the data itself can be converted into money, and the producer of its data has the rights and interests to create and own the value of the data, which involves the issue of data property rights. Different from traditional physical assets, data can be quickly realized in the digital economy. Under the premise of relatively clear

property rights, its value can be quickly circulated and bring more obvious contribution to the social economy. Finally, the issue of ownership and control of data must be conducted under the legal and moral framework, and it cannot harm the interests of the collective or others in order to satisfy unilateral selfish interests. Data producers should comply with the law, ensure the authenticity, integrity and confidentiality of the data, and prevent improper use and other behaviors.[6] And these can also be seen as guidelines for the management of modern data production and application.

3. China's Practice and the Comparison between the United States and Europe

3.1. China’s Practice

China has issued a series of laws and regulations on data governance and data security, such as the Cyber Security Law of the People's Republic of China and the Personal Information Protection Law of the People's Republic of China. At the same time, state authorities have also stepped up their crackdown on illegal activities such as data breaches. In addition, China's digital economy has gradually entered a stage of high-quality development, and data governance has become an important development direction for enterprises and governments.[7]

Although some achievements have been made in the protection of data rights in China as described above, there are still some problems. Such as frequent personal information leakage incidents; difficult data sharing among different departments and enterprises; and the imperfect setting of citizen data attributes need to be further solved. In practice, the problem of data rights is not easy to solve. First, the problem we need to face is the protection of data privacy. In the era of big data, data leakage becomes a very thorny problem. Personal privacy data leakage will not only involve personal dignity and privacy rights, but also may lead to economic and social losses. Therefore, in the data processing and use, we need to establish a set of effective personal privacy protection mechanism. Second, there is also the problem of data sovereignty. Data sovereignty refers to the management and use right of the data by the country or organization to which the data belongs. With the development of globalization and digitization, data exchange and communication has become a trend. However, data sovereignty has become a worthy issue of concern, especially in international data cooperation and exchange. On this issue, we need to establish a global data rules and standards to constrain the behavior of countries and organizations. Finally, we are also faced with data ethics and ethical issues. The processing and use of data should comply with ethical and moral principles, and respect the interests of individuals and society, as well as cultural and moral concepts. This is also an essential part of data governance.

3.2. Comparison Study with The USA

In terms of legislation, both China and the United States have adopted a series of legislative measures to protect the right to personal data. In China, a number of legal documents, including the Personal Information Security Code, the Cyber Security Law, and the Personal Information Protection Law of the People's Republic of China, have clarified the definition, collection, use and protection of personal information. The introduction of these legal documents has enhanced people's awareness of personal information protection, and promoted the development of data protection work in China. In the United States, data protection involves a wider range of laws, and the legislative basis of data property rights is copyright law and patent law. According to copyright law, data is regarded as a work and can be protected by copyright law. Under patent law, data can also be regarded as an invention and can be applied for patent protection. In addition, the more important documents include the Privacy Law, the Infectious Disease Control Law, the Disclosure Law and other legal documents. These legal documents protect the various rights and freedoms of individuals, and through the supervision and implementation of the specific institutions, to ensure the effective implementation and reasonable implementation of the law.

From the case situation, there are many cases of data leakage and infringement of personal privacy in China and the United States, and the related problems need to be solved urgently. For example, in

2017, when the "Hangzhou bus lending case" appeared in China, the personal data was leaked and used for anonymous loans, which led to widespread social response. In the United States, Facebook has been exposed for its abuse of data, which has aroused high attention and discussion from the United States government and the public. The exposure and resolution of these cases also urge the Chinese and US governments to further strengthen the enactment and implementation of laws on data protection. And in the United States, the application of data property rights has been widely used. For example, Amazon's recommendation algorithm, Facebook's social data analysis, and Google's search algorithm all use large amounts of data and gain commercial benefits.

From the perspective of social response, both Chinese and American societies pay high attention to the protection of data rights, which has aroused certain resonance among the government, the public and enterprises. In China, the current popularity and development of the Internet has led to an endless stream of cyber crimes. This also brings more attention to the privacy of personal data and calls for strengthening the formulation and implementation of relevant laws. In the United States, more attention is paid to the combination of the right to know and free trade. For Facebook's behavior in the Facebook data leakage case is suspected of violating people's privacy, which is not only widely questioned, but also attracted attention to individual rights and freedoms. In addition, the protection degree of data property rights in the United States is relatively high, which contributes to the innovation and development of new business models, and on the other hand, it also causes some controversy. Some argue that data should be a public resource and should not be monopolized by individuals or businesses. In general, the protection of data rights is an important issue in both China and the United States. Its importance refers not only to people's personal interests and rights, but also related to social and economic stability and development.

3.3. Comparative Studies with The EU

Comparing the legislation, the EU implemented a new data protection regulation, the General Data Protection Regulation (GDPR), which stipulates that the personal data of European citizens must be strictly protected, and that the organizations and businesses that process the data are more strictly regulated. The European Union also has laws and regulations such as the Electronic Privacy Directive and the Data Protection Directive. In 2017, China promulgated the CyberSecurity Law of the People's Republic of China, which stipulates that network operators should abide by laws and regulations on the protection of personal information, and protect personal information from illegal acquisition, use, disclosure and damage.

In the case, the EU has imposed high fines for data breaches, with the most famous lesson that the European Commission fined up to 48 million euros for the personal data breach suffered by Facebook in 2018. In addition, the EU has imposed different fines on Google, Uber, Yahoo and other companies. China is relatively backward in the data protection level, and many enterprises are also not responsible enough for the protection of users' personal information. In recent years, fines for violations such as improper handling of data have also increased.

Compared with the social response of the two countries, in the EU, citizens 'rights to personal data protection are widely valued, and enterprises and organizations respect these rights and always pay attention to protect users' private information. The personal data leakage incident has caused a strong social response, and the media and the public are highly concerned about the network privacy protection and other issues. The social response in China is relatively weaker than that in the EU. Although with the increasing number of online privacy leakage incidents over the years, users have paid more and more attention to the protection of personal information. The call to strengthen the network privacy protection is also gradually increasing.

4. Conclusions and Outlook

This paper focuses on the analysis and comparison of data protection in China, the United States and Europe. Although the comparison and analysis of the ownership of data rights are conducted, the

research value in this aspect is of great significance and requires in-depth research and discussion on this aspect, which is also the goal direction of the next research.

The protection of data rights can prevent personal data from being abused and leaked, protect personal privacy and data security, and promote the healthy development of the Internet. In today's era, the digital economy has become an important part of the modern economy. The protection of data rights can provide a good environment for the development of the digital economy and stimulate the vitality of the digital economy. Accelerate data sharing and data flow. Data sharing and circulation is an important trend in the development of modern industry, and the protection of data rights can realize the security and efficiency of data sharing while protecting data privacy. Improve the digital literacy of the whole society. The protection of data rights can strengthen the awareness of the whole society on data security and privacy protection, and improve the awareness of digital literacy and information security. In short, the significance and value of studying the protection of data rights is not only limited to the protection of personal privacy, but also more related to the development of modern industry and the whole society.

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[1] Paragraph 1 and paragraph 2 of Item (3) of Article 2 of Data Article 20: " Establish a classification and classification of right confirmation and authorization system for public data, enterprise data and personal data. According to the characteristics of data sources and data generation, respectively define data production, circulation, use of the participants enjoy the legal rights, establish data resources holdings, data processing, data product management division of property rights operation mechanism, promote the non-public data marketization "common use, sharing benefits" the new mode, to activate the data elements value creation and value realization provide basic system guarantee."

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