



# On the Rights Protection of Enterprise Data Under the Background of Big Data

Zhenjian Chen<sup>(✉)</sup>

Guilin University of Electronic Technology, Guilin, China  
15705993663@163.com

**Abstract.** The endogenous business value of enterprise data is increasing in the background of big data. However, the current legal system of our country exists a path dilemma to corporate data protection, and the behavior of violating corporate data rights is difficult to be effectively restrained. Based on the theory of labor property and utilitarianism, it is reasonable and necessary to configure a new property right for enterprise data protection. However, the design of rights construction of enterprise data rights still needs to consider the data's native public attributes. The right protection of enterprise data aims to strengthen the control of enterprise data, promote data sharing, and break data barriers and data monopoly.

**Keywords:** enterprise data · New property rights · Protection path · Public interest

## 1 Introduction

“The 14th Five-Year Plan for the Development of Digital Economy” especially emphasizes that “data elements should be the core engine of digital economy” in the planning of digital construction.<sup>1</sup> In the context of the current era of big data, data has gradually developed into an important economic and strategic resource, and big data promotes the progress and development of the country and society. Therefore, the collection, processing, storage and utilization of complicated data has become an important promoter of the realization of business value of enterprises. However, the current situation of insufficient protection of enterprise data, unauthorized data climbing phenomenon is increasingly serious, the root of which lies in the absence of Chinese enterprise data protection legislation. The current legal system has not made appropriate legislative arrangements for data transaction and infringement, so that the judicial judges' thinking of hearing all kinds of data infringement disputes is confined to the current right system framework.

## 2 The Question Raised

From the perspective of legal system, civil law, intellectual property law, competition law, data security law, etc., all have provisions on enterprise data. Although in form, there are many department laws in our country to provide coordinated protection of

<sup>1</sup> The 14th Five-Year Plan for Digital Economy Development.

enterprise data, but in essence only a few provisions of the department laws can be really applied, among which the operational provisions are few, which leads to the failure to provide comprehensive specification and protection of enterprise data in practice. With the continuous development and change of new industries in digital economy, the value of enterprise data becomes more and more prominent. At the same time, in recent years, the academic discussion about the establishment of enterprise data rights is in full swing. However, when it comes to the establishment, positioning and protection of enterprise data rights, there are still many disputes and disagreements. Where is the legitimacy of the right protection of enterprise data property? How to position enterprise data right reasonably from civil law system, especially in property right system? And how to carry out the top-level design to truly achieve the comprehensive and effective protection of enterprise data property? The response to the above questions is an important proposition to be solved urgently in the field of enterprise data under the background of big data.

### **3 Analysis of the Dilemma of Enterprise Data Protection in the Era of Big Data**

#### **3.1 The Dilemma of the Protection of Compilation Works in Copyright Law**

In recent years, some people think that enterprise data should be protected as the object of copyright compilation works. If an enterprise is original in the selection and arrangement of content in the process of data collection and processing, it can enjoy the copyright of the data according to Article 15 of the Copyright Law.<sup>2</sup> Although this approach can protect the rights and interests of enterprise data theoretically, it is not applicable in practice. Its pain points are mainly manifested in the recognition of originality and the differentiation of protection value. On the one hand, originality is a necessary element of compilation. However, the formation of enterprise data is based on a large number of original data collection, in this process, the scope of enterprise creation is small and the degree of originality is low. As a result, it is difficult for the data collected and processed by enterprises to meet the requirements of the identification of compilation works. On the other hand, the rules of compilation works are designed to protect the creative labor of “compilation” and cannot protect the value of the data itself. In the enterprise data, the enterprise attaches importance to the various information carried by the data itself, and creates market value through the information. In view of this, the value of compilation works is not consistent with the value of enterprise data protection. It can be seen that using enterprise data as compilation works for copyright law protection does not match the system design of copyright law, and can not achieve effective protection of enterprise data.

#### **3.2 The Dilemma of Protection Under the Anti-unfair Competition Act**

##### **Trade Secret Protection Mode**

The trade secret protection mode exists in practice, which regards the enterprise data

---

<sup>2</sup> Article 15 of the Copyright Right Law of the People’s Republic of China (2020).

infringement as the trade secret infringement and cracks down on it in accordance with Article 9 of the Anti-Unfair Competition Law, so that the enterprise data can be protected. However, due to the existence of open data and semi-open data, some data does not have the “confidentiality” element in the constitution of trade secret, so that the trade secret clause is difficult to regulate many enterprise data ownership disputes. In addition, enterprise data not only covers internal operational data and anonymized user data, but also may cover undesensitized user data and data involving the public domain. It is feasible to protect internal running data and anonymous user data through trade secret mode. However, the undesensitized user data is difficult to be defined as a trade secret because it involves the user’s personal privacy and is easy to cause the conflict between privacy protection and commercial maintenance. However, data related to the public domain, such as data on urban health, environmental monitoring, transportation and other fields, cannot be identified as trade secrets and protected due to the elements of public interest. The mode of trade secret protection can be analyzed from multiple perspectives. First of all, the components of trade secrets include commercial value, secrecy and confidentiality. Some corporate data is not secret or confidential. The open enterprise data naturally does not have the confidentiality of trade secrets, and the semi-open data may not have the confidentiality due to the lack of security measures, so the enterprise data in these two situations does not meet the requirements of trade secrets. From this point of view, the scope of protection of trade secrets does not overlap with that of corporate data. Secondly, the protection path of trade secrets is easy to lead to data monopoly. Google used to monopolize large amounts of data with its Pagerank proprietary technology, and reaped huge monopoly profits.<sup>3</sup> Finally, the era of digital economy requires the full circulation and sharing of enterprise data, so as to maximize the endogenous value of data. However, the nature of the trade secret protection mode is likely to block and limit the exchange of data. Therefore, the trade secret protection path cannot effectively protect enterprise data under the background of data intellectualization.

### **General Clause Protection Model**

In addition to the trade secret protection path, the general provisions of Article 2 of the Anti-Unfair Competition Law are usually applied in practice to regulate the data crawling behavior between enterprises. Under the regulations of this article, one party’s use of the other party’s data should comply with business ethics, in line with the concept of voluntarism, fairness and good faith.<sup>4</sup> The protection path of general provisions, together with the protection path of trade secrets and “Internet funds”, constitute an important way to safeguard the interests of enterprise data under the competition law system.<sup>5</sup> In the case of “Weimeng v. Maimai”, the Maimai operator obtained the corresponding relationship of Weibo users through the “collaborative filtering algorithm”, which violated the “triple authorization principle”. It illegally grabs users’ personal information, constituting unfair competition; In the case of “Taobao v. Fairview”, Taobao held that Fairview obtained

---

<sup>3</sup> Brenda M. Simons & Ted Sichelman[M]. Data- Generating Patents, 111 NW. U. L. R. ev. 377(2016- 2017).

<sup>4</sup> Article 2 of the Anti-Unfair Competition Law of the People’s Republic of China (2019).

<sup>5</sup> Chen Bing, Xu Wen. Optimization of Judicial Application of General Provisions and Internet Specific Provisions of the Anti-Unfair Competition Law [J]. Tianjin Law,2019(3):36.

the original customer data of Taobao without authorization, so that the “Gu Gu Mutual Aid Platform” constituted a substantial substitute for the “business advice” product, and its behavior was suspected of “hitchhiking”. Taobao’s business interests have also been seriously damaged by its behavior. In the end, the court found Fairview’s actions to be unfair competition.

From the above cases, it can be seen that the general provisions of competition law, as an important rule to measure the legitimacy of commercial behavior, is an important criterion to judge the unfair competition behavior in the external form of enterprise data crawling. However, although this model can achieve a certain degree of case-by-case balance. However, because of the ambiguity of the standard of “business ethics”, judges have wide discretion in the process of hearing such cases. For the determination of unfair competition, the core is not the protection of data rights, but mainly the “unauthorized crawling behavior” as the main regulation object. In addition, it is not feasible to regulate enterprise data crawling behavior and protect enterprise data with vague “moral” clauses. The repeated application of the principle clause will cause the confusion of judicial standards and seriously affect the stability of law. In a word, in the context of the era of big data, the protection mode of general provisions is indeed difficult to provide comprehensive and stable legal protection for corporate data interests.

## 4 Demonstration of Enterprise Data Rights in the Era of Big Data

### 4.1 Legal Analysis of Enterprise Data Rights

#### **Conform to the Normative Intent of the System of Civil Law Addition**

In the collection, analysis and processing of disordered data, enterprises must not only pay operating costs, but also create value through labor, and then make data become a new type of property with economic value. In fact, enterprises invest a large amount of labor, knowledge, technology and other costs in data mining, processing and analysis, which is very similar to the processing behavior in the system of real right addendum, and can be regarded as the processing behavior of “data”. Moreover, such processing multiplies the market value of newly formed data sets. In the current data trading market, the existence of value-added data mode is more extensive than that of direct trading mode. The so-called value-added data mode is to integrate, analyze and process basic data resources according to the needs, and finally generate data products that match specific enterprise needs.<sup>6</sup> In terms of the ownership of processed goods, most countries stipulate that the processor can only acquire the ownership of processed goods if the processing behavior leads to a substantial increase in value. That is, by comparing the contribution of material owners and data processors to corporate data, the one who contributes the most can get the data rights. According to the provisions of the Civil Code, in the absence of agreement and legal conditions, the attribution judgment of the add-on income should protect the innocent party and realize the utility of the add-on to the maximum extent.<sup>7</sup>

<sup>6</sup> Tian Jietang, Liu Luyao. Transaction mode, right definition and data factor market Cultivation [J]. Reform, 2020(7):21.

<sup>7</sup> Article 322 of the Civil Code of the People’s Republic of China.

Therefore, to encourage the creation of economic value for the legislative purpose of the add-on system has become a consensus in the world. Often, enterprise data is generated by the joint efforts of both individuals and enterprises. Compared with individuals, enterprises in the processing of data to pay the cost and contribution to create far more than individuals. Therefore, the ownership of the data set processed, analyzed and mined by the enterprise is in line with the legislative content and value connotation of the ownership of property rights under the addendum system. At the same time, the “processing behavior” of data and the presentation of huge economic value of data are inseparable from the aggregation of big data, and the premise of large-scale data aggregation is to promote the circulation and utilization of data as much as possible. If the property rights of data belong to individuals, it will inevitably lead to the reduction of resource utilization efficiency and the increase of transaction costs. Therefore, the property right of data belongs to the enterprise, which is conducive to mining the value of data in a deeper level. To sum up, it is reasonable and reasonable to take the path of empowering and protecting enterprise data.

### **Have the Object Basis of Civil Rights**

The so-called right refers to the specific interests protected by law, according to the general theory of civil law to explain the nature of rights. The noumenon of this special interest is the object of rights. Therefore, the general characteristics of the object of civil rights are an important factor to measure whether rights can be established on the basis of enterprise data. The object to which civil rights and obligations are directed is the object of rights.<sup>8</sup> The object of civil rights can be divided into four categories, namely, object, act, intellectual achievement and personal interest. However, the law has no definite provisions on the characteristics of the object of civil rights, so there is a great dispute on whether data can be used as the object of civil rights. But by summarizing and analyzing the content of the four kinds of rights object in our country, it is certain that the character of the object of civil rights must contain the objectivity and the legal nature.

On the one hand, objectivity, which can be perceived by consciousness and governed by action, is independent of consciousness. In the era of big data, a large amount of data generated by human activities exists objectively, such as government data and enterprise data, which are not subject to human will. Moreover, in the context of the rapid development of digital economy, data, as the carrier of information, will be separated from information, and then become objectively independent objects of rights. On the other hand, the so-called legalization means that the object of civil legal relationship must be the legal object, which must be confirmed and protected by national legal norms. As far as data is concerned, Article 127 of the Civil Code stipulates it alongside the virtual property of the network.<sup>9</sup> Although this can not be directly interpreted as the legal recognition of the object status of property rights of data, it makes the data qualified to be recognized and protected by the civil legal system. In other words, the addendum

---

<sup>8</sup> Wang Liming. *General Provisions of Civil Law* [M]. Beijing: China Renmin University Press, 2017:85.

<sup>9</sup> Article 127 of the Civil Code of the People's Republic of China.

system and this article together indicate the direction for the institutional construction of data property.

To sum up, the economic value of data is becoming more and more prominent with the advent of the era of big data. Moreover, with the deepening of the digitization process, data has been independent from the subject and information, and is held and controlled by enterprises. In view of this, data, as the object of rights in fact, has become an unavoidable objective existence in civil legal activities.

## 4.2 The Legitimacy of Enterprise Data Rights

### Labor Property Theory

As the data which can generate important property value for enterprises, it needs some production cost. Enterprises organize and carry out professional data collection, analysis and processing to form enterprise database. As long as anything under the action of man out of its natural existence or current state, will be mixed with labor and become property.<sup>10</sup> Although enterprises cannot work through their own physical activities like natural persons, they can spend money, organize and hire other natural persons to carry out relevant labor involving data. The property of an enterprise is an important basis for its survival and responsibility. Therefore, the process of substantial input by enterprises is actually the process of “labor” by enterprises, and this special form of “labor” enables data to have economic value. However, if only this simple standard is adopted, although it is helpful to understand the data rights enjoyed by enterprises, it is not enough to give the establishment of enterprise data rights with proper legitimacy.

For the consideration of the requirement of legality, Locke pointed out that to give a specific subject the property right of a specific object must meet the real demand, pay labor and not infringe on the rights of others. Then use these three criteria to examine enterprise data: First, in the era of big data, mastering data means controlling the future. Many enterprises even take data as the basic elements of their production and operation. There is no doubt that enterprises have a real demand for data, even in the future will become more intense; Secondly, the enterprise will collect the original information about different subjects scattered in different places, and sort and process, resulting in the original personal information anonymized into desensitized data, and then through algorithms or special ways to analyze to form its own data products. The process of obtaining great economic value from scattered information and data is the process of putting the enterprise into labor. Finally, the standard of non-infringement of others' rights divides enterprise data into two types: those formed through legal means and those obtained illegally without permission.<sup>11</sup> For the former, the enterprise data generated without infringing others' legal rights can be endowed with property rights; However, the enterprise data created by obtaining original information through illegal means cannot be granted legal property rights. If data is distinguished by this standard, it can make up for the deficiency of the aforementioned legal argument of property rights of enterprise data and give legitimacy to some types of enterprise data. In addition, if a moderate

<sup>10</sup> Luo Ke. On Government (Part II) [M]. Beijing: The Commercial Press, 2009:18.

<sup>11</sup> Paul M. Schwartz, Property, Privacy, and Personal Data, 117 Harv. L. Rev. 2055 (2004).

view is adopted, it does not mean that the enterprise has no rights to claim the data with illegal attributes, but may obtain imperfect and low-ranking defective rights. Although this right cannot resist the claims of the data source, it still has the ability to resist the infringement of the later offenders who infringe the data.

### **Utilitarian Theory**

Law should be a norm, which is committed to maintaining social order and promoting the maximization of economic interests. According to Bentham, law must be consistent with “any action which approves or denounces, presupposes a tendency to promote or hinder happiness.” Bentham’s view is the “greatest happiness” theory of utilitarianism. As an important part of law, the determination of rights must be based on the premise of maximizing utility and benefit. Giving data property rights to enterprises is the best institutional design to maximize the benefits of data in the public society.

Assuming that individuals are the subject of data property rights, an enterprise needs to obtain permission from the subject of data property rights every time it uses the data in commercial activities. Even if the mode of presumptive license is adopted here, the data transmission will still be more complicated. Because when the right holder informs the specific subject of its own data information, it can only be presumed that the specific subject is allowed to obtain the information, but it cannot be presumed that there is permission to reuse or transfer to others. It also means that every time a company wants to collect personal data, it needs to get its permission and pay a price. An enterprise is an organization set up for the purpose of profit. After the increase of operating cost, it will inevitably transfer this part of expenditure to the user side. Even if users make a small profit when they license their personal data to companies, it is still a drop in the bucket compared to the data products that the companies “labor” to create. This scheme will further lead to a lose-lose situation of user loss and reduced corporate earnings. From an economic point of view, compared with the licensing of user data, the form of granting enterprise data property rights should be the best in terms of overall social utility and social welfare.<sup>12</sup> Giving property rights to enterprise data can improve the motivation of enterprise to develop and utilize data, make full use of data, reduce enterprise data cost and reduce data flow links, and promote the optimal allocation of data resources. Corporate data legislation is a slow, reactive process, and data protection legislation in Australia dates back to the 1980s.<sup>13</sup> Although this process is slow, the future legislation should still guard against arrogance and impetuous, and adhere to the correct theoretical orientation under the premise of weighing the original intention of data property rights legislation.

---

<sup>12</sup> Robert Merges, *The Relationship Between Foundations and Principles in IP Law*, 49 *San Diego Law Review* 958(2012).

<sup>13</sup> Web and Philippa. A comparative analysis of data protection laws in Australia and Germany[J]. *The Journal of Information, Law and Technology*, 2003 (2): 9.

## 5 The Construction of Enterprise Data Rights in the Era of Big Data

The best way to solve the data protection dilemma is to explore new ways to protect property rights. By constructing new property rights on enterprise data, the protection of data interests of enterprise data owners can be solved. The construction design of enterprise data rights should aim at data set and define its native characteristics and operation logic.<sup>14</sup> In this way, it tries to give the data controller the right to control, use, profit and dispose of enterprise data within a certain range.

In addition, in the process of right construction, we should find out the positioning of enterprise data right under the property rights system, and form the basic structure conducive to the standardization and systematization of enterprise data right. However, based on the public property of enterprise data, it is also necessary to restrict the rights of enterprise data. Through licensing and use restrictions, the conflict between data protection and data flow can be effectively reduced, thus promoting the “coexistence” of fair value and efficiency value in the application process of enterprise data norms.

### 5.1 The Position of Enterprise Data Right in Rights System

Enterprise data is an important basic social resource in the era of digital economy. To recognize the property right of enterprise data in legal form and regard it as a new type of property right is the result of the organic combination of law and big data development. The positioning of enterprise data in property rights system is an unavoidable problem in the process of constructing enterprise data rights. From the perspective of civil law type, the modern property rights system is described structurally from three aspects: real right, creditor's right and intellectual property.<sup>15</sup> Corporate data is most similar to intellectual property than real and creditor rights. However, among the existing types of real right, creditor's rights and intellectual property rights, enterprise data property rights can not find a reasonable institutional positioning.

First of all, the basic theory of property right is difficult to fit with the characteristics of enterprise data. The idea of real right protection path is to define enterprise data right as real right, so as to design the construction of data right under the framework of real right. However, the particularity of enterprise data leads to its form and characteristics can not fit well with the object of property right. Real right requires “legal object of real right”, while data belongs to disembodied object from the form, whether it can be regarded as the object of real right is still a great dispute. Second, corporate data rights cannot be protected as claims. The object of creditor's rights is behavior, and data can only be the object of transaction, rather than behavior. Enterprise data can not be the object of creditor's right, so we can not define enterprise data right as creditor's right directly. Finally, the path to intellectual property protection is narrower. Intellectual property is mainly guided by intellectual achievements and regulated by the relationship of controlling and

<sup>14</sup> Long Weiqiu. On the property-oriented path of enterprise data protection [J]. *Oriental Law*,2018(03):54.

<sup>15</sup> Zhao Xinchao. Positioning and Protection of enterprise data property rights [J]. *Guangdong Social Sciences*,2022(05):276.



utilizing them. However, the property of data is quite different from the characteristics of this intellectual achievement, so it is not suitable to include data into the object of intellectual property in the property law system. At the same time, under the current intellectual property theory and relevant legislation, the vast majority of data property can not be absorbed into the concept of intellectual property for protection.<sup>16</sup> Since the traditional framework system cannot meet the objective needs of enterprise data protection, it has become the due meaning of the development of data protection theories to reconstruct property rights, put enterprise data rights in addition to real rights and intellectual property rights, and treat them as a new kind of data rights. Therefore, a new right protection mode for enterprise data should be formed based on rights protection.

## 5.2 The Basic Structure of Enterprise Data Rights

### The Right Subject of Enterprise Data Rights

As the subject of Data rights, the enterprise can also be called the legal Data Controller. The “legal control” mentioned here should be recognized from two aspects: One is “legal”, that is, the acquisition, use and processing of the original information is legal. The second is “control”, where control is the actual control of data information. But data control is not equal to the actual possession of the data, because the data has the characteristics of exclusivity. The data controller receives the data information from the users owned by the enterprise through the network service agreement, and generates the right to use the data reasonably at the same time.<sup>17</sup> In this case, the data set formed after the massive data screening and processing by the enterprise algorithm becomes the data asset with certain commercial value. As a result, companies enjoy independent property rights to collect, store, process and use data as data controllers. In addition, according to the aforementioned theory of labor property rights, the controller of the firm who has paid the labor and thus obtained the data should be the beneficiary of the data. Identifying the enterprise as the actual controller of data as the subject of data property rights not only enables the enterprise to have basic legal rights protection for the data it controls, but also encourages the enterprise to continue to innovate and integrate big data development. From a macro point of view, it is of great benefit to the overall coordinated development of the digital market economy for enterprises to legally control data and enjoy the protection and treatment of the right subjects.

### The Right Object of Enterprise Data Right

The design and construction of legal rights should cover three elements: the subject of rights, the object of rights and the content of rights. Among these three elements, the determination of the object of the right directly determines the basic structure of the right framework.<sup>18</sup> The direct object of enterprise data rights is data products generated by data

<sup>16</sup> Zhu Yan-yan. Dilemma and Path Construction of enterprise data protection in the era of big data [J]. *Credit*, 20, 38(12): 36.

<sup>17</sup> Shi Dan. Legal Protection and System Construction of Enterprise Data Property Rights [J]. *Electronic Intellectual Property*, 2019(06): 62.

<sup>18</sup> Song Wei. The Dual Construction of the Object Theory of Rights from the Perspective of Civil Code [J]. *Journal of Northwest University of Political Science and Law*, 2022, 40(05): 167.

sets. Therefore, data products can be classified into open data products, semi-open data products and non-open data products according to the type of thinking. Among them, both open data and non-open data should meet the internal requirements of enterprise data, that is, the data has commercial value and the enterprise has substantial investment in it during data processing.

With the support of enterprises' big data mining and processing technology, massive data as the object of rights are gathered to generate data products with utilization value and economic value. Data products thus have value, tradability and independence. In the case of "Taobao v. Fairview", the judicial authorities adopted the concept of data products and applied it to the trial. As a new type of data property rights under the background of big data, data products carry a lot of information rich in commercial value, which can be used as the object of data property rights.<sup>19</sup>

### **The Core Content of Enterprise Data Rights**

The construction of the core content of enterprise data rights should focus on giving full play to the value of data use and promoting the full circulation of data. From the perspective of using value, data use value refers to the right subject has the right to sort, process and integrate data, so as to effectively play its due role in market activities. The exercise of data use also includes the right to copy data. "Copy" means a copy of a copy of a data product. In cases of violation of data rights, illegal copying of data is a common way to violate data. Under the fundamental rights concept, companies have the right to prevent and prevent unauthorized data copying by anyone.

From the perspective of data circulation, the main ways of enterprise data exchange are trading, sharing and dissemination. First, data trading is a paid transfer of data rights. Through data transaction, the seller obtains the corresponding consideration and gains economic benefits. The buyer gains control of the data. Secondly, because data is non-exclusive and non-material, it can be "shared", that is, multiple subjects can use enterprise data at the same time and play data effects. Finally, data dissemination refers to the disclosure of data to the public by enterprises for the purpose of achieving public benefit or expanding influence. According to different enterprise data circulation modes, data property rights can be classified into transaction rights, sharing rights and communication rights, which are similar to copyright proprietary rights.

## **5.3 Necessary Limitations on Enterprise Data Rights**

### **Licensing Restriction**

In the construction of enterprise data property rights protection system, it is necessary to consider the concept of interest balance and public interest. The establishment of data property rights can reduce the cost of enterprises and promote the economic and social effects of economic incentives. However, it is necessary to formulate special property rights restriction rules for enterprise data to protect the public interest while protecting

---

<sup>19</sup> Ding X D. Legal Protection of enterprise data rights and interests -- Based on the analysis of the legal nature of data [J]. Legal Science (Journal of Northwest University of Political Science and Law),20,38(02):93.

the enterprise data. To promote privacy protection, data security and data sharing, and coordinate the interests of individuals, enterprises, countries and other parties. The legal rights of the original data collectors should be confirmed and endowed by the enterprise data rights system. However, this may also lead to problems such as limited data sharing and blocked data transmission. Therefore, relevant standards and rules should be set to forcibly allow or forbid enterprises to share or transfer data under certain circumstances, so as to protect public interests and avoid data monopoly caused by excessive protection of corporate interests. In addition, enterprises should be encouraged to share data openly, promote the development and utilization of data products, and enhance the transparency of data application fields. Under certain conditions, for the data products developed by enterprises, the government should be allowed to use the data without the permission of the right holder, or even directly monitor the data of enterprises, for the purpose of maintaining public interests and serving public management. In addition, in some special cases, enterprise data transfer may cause damage to users' interests or threaten national data sovereignty. In this case, data transfer should be partially limited or completely prohibited. The right licensing restriction of enterprise data property rights is an important embodiment of the principle of balance of interests.

### **Service Restrictions**

Rights are not to be exercised arbitrarily. The enterprise's exercise of data property rights shall be subject to necessary restrictions. On the one hand, in the process of data collection and processing, the original data subject shall not infringe on the user's personal privacy. When collecting data and information, the enterprise shall inform its users in advance and obtain authorization. When processing data, enterprises should desensitize user data based on privacy protection rules. On the other hand, enterprises should establish reasonable mechanisms to prevent third-party platforms from unauthorized use of data retained by users on their platforms, regardless of whether such data is defined within the scope of enterprise data. The actual exercise of any property right is subject to the rules of public interest and right exercise.<sup>20</sup> For example, an Internet company has intellectual property rights to its software products, but the sale of the software products needs to be approved by the administrative organ in advance. At the same time, the software products must not damage the public order and good customs, and must not infringe on the legitimate rights of others. Therefore, if an enterprise uses the data under its control according to its own business scope and profit purpose, it should be subject to the necessary public interest restrictions and carry out lawful analysis and utilization of the data without prejudice to other legal subjects. Enterprises, as data controllers, must maintain compliance and secure use of data. In addition, enterprises cannot simply collect and obtain user data and regard it as property rights, but should maintain the security of user data and assume social responsibilities. In addition, legislation can set a certain period of right protection and plan a certain interval in terms of time effect, so as to limit the exclusive effect of enterprise data right and promote data exchange and sharing. The exclusive effect of unlimited data rights is no doubt unfavorable to maximize the utility of data and hinders the digital market economy. For the setting of the time limit, the

---

<sup>20</sup> Guan Hongbo. Construction of Enterprise data Rights in the era of Big Data [J]. *Social Science Front*, 2019(12):214.

Patent Law can refer to the provisions on the time limit of invention patents and utility models, and distinguish between open data, semi-open data and non-open data. Set a shorter protection period for open data, and set a longer protection period for semi-open data and non-open data. The incentive theory should be followed to some extent in the setting of the period to make the protection period match the “contribution” of the data controller. Enterprise data attribute package implies the value of social public interest. The fundamental purpose of restricting enterprise data right as intangible property right is to realize the value balance of multiple subjects while maintaining enterprise interests. In order to realize this basic value, it is necessary to restrict the data rights of enterprises under special circumstances.

## 6 Peroration

Data, an emerging factor of production, is playing a fundamental role in the era of big data. Enterprise data has become a data product independent of personal information and should be included in the overall framework of property rights protection. However, the traditional property rights framework system has been unable to meet the growing demand for enterprise data, and neither copyright law nor competition law can provide effective protection for enterprise data. Therefore, it is necessary to treat enterprise data rights as a new type of property rights based on empowerment and protection and reconstruction of property rights system, and justify them by means of labor theory and utilitarianism. The construction of enterprise data right can start from the positioning of enterprise data in the right system, and define the subject, object, content and right restriction of data property right. In order to respond to enterprise data protection needs, promote data sharing and resource interaction.

### Fund Assistance

2023 Innovation Project of Guangxi Graduate Education “Procedure construction of automated administration under the background of digital reform”.

## References

1. Brenda M. Simons & Ted Sichelman[M]. Data- Generating Patents, 111 NW. U. L. R. ev. 377(2016- 2017).
2. Chen Bing, Xu Wen. Optimization of Judicial Application of General Provisions and Internet Specific Provisions of the Anti-Unfair Competition Law [J]. Tianjin Law,2019(3):36.
3. Tian Jietang, Liu Luyao. Transaction mode, right definition and data factor market Cultivation [J]. Reform,2020(7):21.
4. Wang Liming. General Provisions of Civil Law [M]. Beijing: China Renmin University Press,2017:85.
5. Luo Ke. On Government (Part II) [M]. Beijing: The Commercial Press, 2009:18.
6. Paul M. Schwartz, Property, Privacy, and Personal Data, 117 Harv. L. Rev. 2055(2004) .
7. Robert Merges, The Relationship Between Foundations and Principles in IP Law,49 San Diego Law Review 958(2012).
8. Web and Philippa. A comparative analysis of data protection laws in Australia and Germany[J].The Journal of Information, Law and Technology, 2003(2) : 9.

9. Long Weiqiu. On the property-oriented path of enterprise data protection [J]. *Oriental Law*,2018(03):54.
10. Zhao Xinchao. Positioning and Protection of enterprise data property rights [J]. *Guangdong Social Sciences*,2022(05):276.
11. Zhu Yan-yan. Dilemma and Path Construction of enterprise data protection in the era of big data [J]. *Credit*,20,38(12):36.
12. Shi Dan. Legal Protection and System Construction of Enterprise Data Property Rights [J]. *Electronic Intellectual Property*,2019(06):62.
13. Song Wei. The Dual Construction of the Object Theory of Rights from the Perspective of Civil Code [J]. *Journal of Northwest University of Political Science and Law*,2022,40(05):167.
14. Ding X D. Legal Protection of enterprise data rights and interests -- Based on the analysis of the legal nature of data [J]. *Legal Science (Journal of Northwest University of Political Science and Law)*,20,38(02):93.
15. Guan Hongbo. Construction of Enterprise data Rights in the era of Big Data [J]. *Social Science Front*,2019(12):214.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

