

The Justification of Data Property Rights

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Abstract: In today's era of digital economy, data plays a more and more important role in modern society. However, with the wide application of data, the problem of data right confirmation has gradually attracted people's attention. Data as the object of labor, according to Locke's labor property theory can provide a reasonable demonstration of the legitimacy of data property rights. At the same time, data can also be regarded as the object of individual will projection. Kant's will projection theory provides the legal basis for data property rights. In addition, Rawls' distributive justice theory can deeply explain and emphasize the legitimacy of data property rights. This paper emphasizes the legitimacy of data property rights, analyzes the main structure of data property rights, and demonstrates the object of data property rights, including the access and use rights of information, data derivatives and services and data. And expounds the right content of data property rights, including holding right, right of use, right of protection, right of compensation four powers.

Keywords: Data Right Confirmation; The Legitimacy of Data Property Rights; Right Structure Power; Data Value

1. Introduction

"If you do not pay, you are not a consumer, but a product to be sold." For the network platform in the network era, the collection, screening, analysis and application of consumers' consumption habits and various massive information, coupled with the unique algorithm of the platform, forms the so-called "big data" [1]. Digital technology and digital assets are generally regarded as high-value assets, and become an important, strategic resource for an enterprise or even a country. In April 2020, the Opinions on Building a More

Perfect System and Mechanism for Market-Based Allocation of Factors were released, and data was written into the central document for the first time as a new factor of production, making China the first country in the world to establish data as a factor of production at the national policy level. As far as the protection of data rights and interests is concerned, it is a comprehensive project and a common task of various legal departments, which needs the cooperation of public law and private law to complete [2].

In the data analysis industry, practitioners call data "the most valuable resource" [3]. Therefore, it is very important to clarify the ownership and ownership of data. Whether data should be empowered is a hot issue in the current legal circle.

There are two schools in the academic circle: "affirmative theory of data empowerment" and "negative theory of data empowerment". Data has the circulation, want to pass the physical sense of the barrier, the means is very limited, so only through the legal means to determine its ownership [4]. The "data empowerment negation" argues that giving property rights to data will enhance the exclusivity of data and hinder the use of data and the circulation between subjects. Some scholars believe that if data is empowered, the relevant large enterprise giants will strengthen their control over the enterprise and artificially create exclusive "economic fields", thus forming the monopoly of enterprise data. Whether it is for the development of individuals or enterprises [5], it will cause great obstacles to the corresponding free flow of data and block the operation of enterprises, which goes against the essence of modern digital economy. According to the "affirmative theory of data empowerment", data empowerment will not hinder the flow of data but promote the market circulation of data. However, scholars have different rights or interests on data. For example, Professor Shen Weixing believes that

data should adopt the dual structure of ownership plus usufructuaries. Under this right structure, the allocation of data property rights can be balanced according to the different contributions of the subject to the data itself. However, Professor Shan Xiaoguang believes that data should be empowered with the right of intellectual property right down. Wang Liming's view is that data should be protected in the form of "data rights".

For the basic issue of data empowerment, the author supports the "affirmative theory of data empowerment", but in terms of whether data should be rights or rights, or should be a kind of intellectual property rights, the author believes that the data property rights should empowered from the perspective of data property rights. The author tries to provide a legitimate explanation for the theoretical dilemma faced by the creation of data property rights based on the theories of Locke, Kant and Rawls and prove it [6].

2. The Legitimate Explanation of Data Property Rights

In order to give play to the role of data as a factor of production in production and market, promote the regulation of digital economy Therefore, labor can create the value of data or add value to data [7].

Accordingly, data as the object of labor should be empowered. Locke's theory of labor property can explain its legitimacy. The same data can be used as an object on which individuals project their will for the sake of autonomy and development, and Kant's theory can also provide an explanation for obtaining legitimate property rights in it; Rawls's distributive justice theory can also correct the balance between public and individual interests that may be caused by data property rights. The purpose of data property right confirmation is to further determine the ownership of data assets, so as to stimulate related production, and better play the role of data to promote the optimization of production factors.

2.1 The Justification of Data Property Rights based on Locke's Theory of Labor Property

Locke, a British scholar, believed that all things originated from God, and no one could primitive exclude the private ownership of the

rest of mankind. Therefore, for the development of human beings themselves, they must be separated from the original common property in some way, just like the data at this time, its complex characteristics make it difficult to determine that it is the exclusive of a single individual, and it is difficult for human beings to determine its ownership by consensus, but for the realization of personal development to obtain the control of resources without the consent of anyone else. In terms of positive elements, Locke argues that the peculiarity of human "labor" supports the exploitation of human domination from the common good. From the negative point of view, the three additional conditions of "sufficiency", "anti-waste" and "benevolence" provide a legitimate explanation for the exclusion of others from the possession of the common goods [8]. The positive condition aims to justify the property right of data through the linear logic of "Locke's public sphere -- the centrality of labor --disengagement from the public sphere". According to Locke, the "public sphere" is a treasure owned by no one, and what is in the public sphere does not belong to any one person unless someone is exerting labor on it and claiming rights over it. For data property rights, the public domain corresponds to the state of nature described in Locke's theory of property. The public domain consists of the majority of intellectual products, such as inventions, literary creations, and mechanical manufacturing. In the context of application to data, we can treat raw, unprocessed data as natural resources, belonging to a kind of common domain, because the data has not yet been assigned a concrete economic value through individual labor [9].

The "public domain" composed of the huge amount of data generated by the network platforms used by individuals in the era of digital economy includes the user data generated by individuals in browsing web pages, blogs, apps and network platforms. There are two types of user data: One is the passive data generated unconsciously by users when using digital services, such as browsing records, consumption records, etc.; The other is the active data that users consciously and actively create, such as Posting, commenting, browsing, etc. It also includes various forms of data generated at the stage of platform

construction at the front end, comprehensive collection at the beginning end, anonymized desensitization and sample screening at the middle end, and in-depth mining and analysis by the algorithm model at the end of the platform [10]. These data forms should be included in the "public domain" of the data before determining its ownership, and do not belong to anyone. What these intellectual products have in common with data is that they can be used by multiple people at the same time, they are "non-competitive".

Some people argue that since data can be owned by multiple people at the same time, there is no need to determine ownership. There are also those who argue that ownership should be established, using data to empower and exclude others from using it to reduce competition. Some would argue that the public sphere Locke refers to should consist of physical objects. But in the case of creative output as well as disembodied data, Locke's ideas also make perfect sense. The relationship between labor, the appropriation of property, and human growth and prosperity is central to Locke [11]. His theory of property is not a theory of non-interference with physical objects that exert labor. It is a theory of why the allocation of these things to individuals helps the human race to survive and thrive. If individuals use something created by others to the detriment of others, then they should be punished. Whether the creation is physical or not is beside the point. The "public domain" should therefore include disembodied objects such as data.

Locke's theory of the "centrality of labor" holds that individuals invest their labor in unoccupied resources, making them their property. This labor transforms resources in nature and gives individuals ownership of those resources. For Locke, labor is the key. Locke's basic idea is that individual labor can include activities such as collecting, clearing land, and cultivation, as long as it brings resources into close contact with individual labor and creates new value, it can be a basis for property for the realization of personal development to obtain the control of resources without the consent of anyone else. In terms of positive elements, Locke argues that the peculiarity of human "labor" supports the exploitation of human domination from the common good. From the negative point of

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property rights through labor. When Labour is incorporated or joined, it usually means that the resulting union has distinct and natural limits, either in scope or degree.

So when we bring Locke's theory of Labour property into the justification of property rights in data. Firms or individuals incorporate property "labor" into the "public sphere" of data, thus defining the "privatizable" object of property. Some people believe that the property value of personal data mainly comes from the labor input of the data processor, which is mainly manifested as follows: first, direct mental and physical labor for data processing; The second is the input of data processing software and scene construction. These "labor" with special personal attributes and sweat is like a pair of big hands of God. The data in the "public domain" is allocated to the private pocket. These big hands draw a line between the "public domain" and "private ownership", and give the right meaning, which can not be disturbed by anyone else. Secondly, through its processing, processing and other labor behaviors, enterprises make data with no economic value into data products with economic value, and should enjoy rights and interests over them.

2.2 The Justification of Data Property Rights based on Kantian Theory

Kant believes that for a long time, people often put objects under their authority or control. In order to pursue freedom, people need to have the ability to set various goals and purposes for themselves. In order to achieve these goals, people need to have stable and sustainable claims on objects. According to Kant, people aspire to fulfill their personal plans over particular objects, and from this arises the concept of legal possession. In the Kantian concept of property, those who act according to their own will are at the heart of it [15]. According to Kant, any object can be attributed to someone as long as they project their will onto it. People are eager to expand their freedom and fulfill their desire to make plans in the world. Sometimes, these plans require access to and control over external objects, hence the concept of property. Kant understood property as a relationship between people and objects, which may surprise modern scholars of property theory. The modern standard of property is expressed as a

system for adjusting the relations between people. The author believes that Kant's perspective is to bundle or concentrate the rights and obligations associated with a certain property on a single person, the owner himself. He places individual plans and goals at the heart of the process. Thus, to place his theory of property in the context of property rights is to say that a creator wants to impose his will entirely on the object he finds, and that stable possession is essential. The artist works on various media, such as canvas, white paper and iPad, giving form and life to the inspiration in his mind. The artist needs to apply his own skills and judgments to the objects he finds, and these personal skills and judgments put the mark of the will itself on the objects and expand its possession. These inspirations and images are invisible. Thus, Kant's theory of property rights applies to intangible objects as well. Kant wanted to preserve as much freedom of individual action as possible, and believed that this was the key to the greatest possible development of the human race [16]. This led to a very broad understanding of the range of things that could be appropriated. As Kant himself put it, "An object chosen by my will is something which I am physically capable of using."

Therefore intangible objects are also rightfully included in the possibility of human possession, and data as incorporeal objects are rightfully included in this range. Taking Kant's theory as the basis for modern data property rights, vibrant property rights enhance the independence of those with highly skilled human rights, such as technologists in the fields of big data, artificial intelligence, etc., because they produce a specialized technical input that is incorporated into products made by other large companies. Such as big data, computer algorithms, artificial intelligence products, which are unprecedentedly innovative, face an unrivalled market, and generate unimaginably large economic benefits [17]. These highly skilled people are able to work in an independent company, which gives them more control over their work and greater economic returns, and more control over their career destiny -- more autonomy. These data practitioners, or large data companies, project their will on objects, namely data. They apply their skill and judgment to the data, and they stamp their will

on it. These data practitioners or data companies need to have a stable and sustainable claim to the data in order to be "autonomous", that is, for their own development and greater freedom, in order to achieve personal dignity and autonomy, and thus the concept of legal possession is born. So they can have a legal right to the data, a property right.

2.3 The Justification of Data Property Rights based on Rawls' Distributive Justice Theory

The moral principles designed by Rawls aim to build a fair and just society. His thoughts focused on the rights of each individual, while emphasizing the just distribution of resources. Combining Kantian individualism with collective concern, Rawls proposed the following two broad principles to define justice: First, everyone should have an equal right that enables them to have a similar system of fundamental freedoms compatible with the broadest system of fundamental freedoms enjoyed by others. Second, all people should have an equal opportunity to compete for positions and offices, while ensuring that the fewest beneficiaries can maximize their benefits and that opportunities are fair. These principles aim to ensure that resources and opportunities in society are distributed equitably in order to promote equity and justice throughout society. Rawls argued that such inequality is permissible only when it benefits the fewest beneficiaries. This is often referred to as the maximization of the minimum principle, and social inequality is acceptable only if it raises the minimum level to the benefit of the least happy people. Rawls argued that everyone needs at least some form of property in order to carry out a particular personal plan of life or a general plan of life. Property therefore becomes part of the system of fundamental freedoms that any just society must secure [18].

According to Rawls's first principle, property is seen as fundamental and necessary because it is closely related to the personality of the individual and necessary for the autonomy of the individual. Property rights are also consistent with Rawls's second principle, which is to maximize a minimum level of maintenance for the poorest members of society. A considerable number of new data

industries and their products provide direct benefits to the poorest members of society. Big data push and artificial intelligence technologies are highly valued by the lowest income groups because of the many benefits they bring to these people. These are the least happy people Rawls's second equity principle focuses on. For example, Douyin and Kuaishuoneng short video apps have provided some entertainment products or benefited from some technologies for many people in the low-income class. Low-income people can get the latest information and news quickly on these apps, breaking down the information barrier for them. Taken as a whole, these data industries and innovations bring a net positive value to the lives of the poorest people, which is exactly in line with Rawls's second principle of equity, which fully embodies the "maximum of the minimum". So giving property rights to data is not only legitimate, it makes perfect sense.

3. The Legal Perspective of Data Property Rights

Although in the previous article, we have demonstrated the data empowerment theory and the legitimacy of reality from three aspects: Locke's labor property theory, Kant's will projection theory and Rawls's justice theory. However, whether data has the traditional civil law

The nature of what constitutes property remains in doubt. If it has the characteristics of property, can it be elevated to a right? If these conditions are met, what property rights should be given to data? These questions need to be further analyzed after the justification of data empowerment is proved. The meaning of property has changed with the development of The Times. Roman law was limited to physical objects, while the industrial revolution in modern Europe and the development of science and technology gradually included intangible property such as intellectual achievements into the category of property." In the "Intellectual Property Strategy Outline" issued by Japan, it is proposed that information property and intellectual property are synonymous words, which is an extension of intellectual property [19]. Data with information as its essence is actually an extension of intellectual property. It is an objective "thing" different from thought and

consciousness, and basically possesses the characteristics of property: value, scarcity and disposable.

3.1 The Value of Data

The value of data refers to the importance and utility of the information contained in the data to achieve a specific goal or solve a specific problem. The value of data can be expressed in a number of ways. First, data, as an asset and resource, has direct economic value. By analyzing and utilizing data, businesses and organizations can identify new business opportunities, optimize business processes, improve efficiency and reduce costs, thereby maximizing economic value. Second, data provides fact-based decision support for organizations or individuals. By analyzing data, trends, patterns and correlations can be revealed to help make more informed decisions. Moreover, data holds great value in driving innovation and development [20]. Through data analysis and mining, new patterns, trends and rules can be discovered, which can provide reference and guidance for the development of new products and services. Finally, data has social value and can promote social development and improve people's lives. Through data, social problems can be solved, public services improved, quality of life improved and so on.

Value is the first condition for the material reality of nature to become a thing in civil law. "In civil law, a thing is defined as having a certain use value and being able to satisfy a specific social need. That is to say, those lacking in use value cannot be regarded as things in the legal sense, extending from the characteristics of physical objects to the identification of intangible property, data without use value cannot become data in the legal sense. In judicial practice, the court holds that relevant network service providers have invested a lot of human and material costs in the collection, sorting and induction of data, which has huge commercial value and is crucial to their business strategy. Moreover, the value of the data itself may be implicated in a larger economic tragedy, affecting the whole body. For example, Gary B. Gorton, a professor of economics at the Yale School of Management, provided advice to American International Group, an insurance industry benchmark, on credit default swaps The failure

of swap's risk data analysis model has been cited as one of the major causes of the 2007-2009 global financial crisis and the subsequent Great Recession.

3.2 The Scarcity of Data

At present, there is no legislation on data in China, which is enough to positively show that the monopoly of data in the legal level has not been recognized, and because of the non-monopoly and non-exclusivity of data, most scholars believe that it does not have the characteristics of scarcity, the author believes that its view is one-sided. Although data has become rich and diverse in the digital age, data of specific types or specific uses may still be scarce. The scarcity of data can come from a number of sources: First, for some specific fields of study or industries, there is limited availability of relevant data. This can be due to the high cost of collecting such data, technical difficulties, or poor accessibility of the data sources. Second, patent data, trade secret data, etc., may be protected by law and commercial contracts from access [21].

Moreover, despite the huge amount of data, high quality, accurate and complete data is still scarce. The high cost of data collection and maintenance, coupled with the diversity and complexity of data sources, make high-quality data difficult to obtain. Finally, in some cases, real-time data or up-to-date data is important, but access to this data may be subject to technical limitations or cost constraints, making real-time data scarce. In a legal sense, determining the scarcity of data is largely based on supply and demand. Due to the differences in data processing and development capabilities of various parties, the uneven distribution of data resources and the huge data gap, the contradiction between supply and demand has become increasingly prominent. Therefore, data has the characteristics of scarcity of property.

3.3 The Disposability of Data

Data is disposable. Even if it is valuable and scarce, it cannot be the object of civil legal relations if it cannot be controlled and dominated by people. However, the development and emergence of data control means make the control and control of data become a reality, and it becomes the object of property rights when it is different from the

data property controlled by others [22]. First, different legal and policy frameworks have a direct impact on the availability of data. For example, the European Union's General Data Protection Regulation (GDPR) enhances individuals' control over their data, including the right to access and delete data. These legal frameworks define how data can be used, shared and transferred. Second, the disposable nature of data also depends on the rights and methods of data use, covering the analysis, processing, storage, display and other aspects of data. Data owners or users can freely use and apply data according to their own needs and goals, so as to maximize the value of data. Third, data disposability also includes the degree to which data is shared [23]. The more data is shared, the more dominant it is. Data conforms to the three characteristics of value, scarcity and disposable, so it can become property. However, due to its strong circulation, it is more necessary to use legal force to control the property and bring it into the scope of private law, so as to achieve pure "legal possession".

4. The Right Structure of Data Property Rights

Based on the need of data property rights protection and its uncertainty, after demonstrating its legitimacy basis and the nature of rights, it is further necessary to answer how to exercise its rights, so as to implement its power role, give play to its function of protecting personal rights and realize the freedom of data information flow. From the standpoint of legal interpretation theory, it is necessary to clarify the subject, object and content of its rights, and show its complete right structure and power.

4.1 The Right Subject of Data Property Rights

With regard to the subject of data property rights, the "data producer theory" holds that whoever produces the data is the right holder. While the "data controller theory" holds that who controls the data is the right holder; "Data source issuer" that the right should belong to the data source, proposed based on the data ownership source of the usufruct proposed ownership and usufruct dual structure, should be given to the data of the original user personal data ownership, some people think

that should be given to the data platform corporate data usufruct "state ownership theory" that public data belongs to the national government, is for data utilization more Efficient and reasonable, data resources are more secure [24].

In the field of data, the subject of rights usually includes the following aspects: (1) as the producer and owner of data, individuals enjoy the ownership of the data generated by themselves legally and ethically. Data subjects have various rights over their personal data. (2) Businesses and organizations generate large amounts of data assets through their operations and management activities and legally have property rights over the data they generate. Under regulations such as the EU's General Data Protection Regulation (GDPR), enterprises, as data processors or controllers, are primarily responsible for data processing activities and must ensure that data processing complies with relevant laws and protects the rights of data subjects.

(3) Government agencies generate a large amount of data, including statistical data, administrative data, public service data, etc., in the process of performing their public administration and service duties. Government agencies, as the producers and managers of data, have legal ownership. Data property rights cannot simply be attributed to the above subjects, but it cannot be denied that some subjects hold the data. Based on the theory of labor property and will projection, the subject of data property rights can refer to the setting of the subject of intellectual property rights, and regard "intellectual workers" as the subject of data property rights. On this basis, natural persons, enterprises and the state can obtain the corresponding rights to the data and data products invested in labor and capital, so as to realize the reasonable allocation of data rights and promote the development of data industry.

4.2 Right Object of Data Property Rights

The object of data property rights is essentially data, however, not all data constitutes the object of data property rights, just as not all "knowledge" is the object of intellectual property rights, "intellectual property". The object of data property rights can be called "data property", which is not a tangible object in the general sense of property law, but information or data as an intangible object.

Strictly speaking, it is independent from the original form of personal information in the legal form, and it is a data collection or data product with specific function or utilization value. The specific performance is the property rights and interests formed in the labor production by the data laborer through the use and processing.

First of all, data, as the right object of data property rights, is the core object of data property rights. Data can be structured or unstructured information, including text, digital, image, sound, video and other forms. The importance of data lies in the fact that the information it contains can be processed, analyzed, and applied to produce value. Firstly, the data of an individual's social media activities can be used for user profile analysis to provide a basis for personalized recommendations, which has commercial value [25]. Secondly, the object of data property rights also includes the products and services derived from data, that is, data derivatives. It belongs to or is generated, collected or held by enterprises, organizations or government agencies, such data may include internal reports, financial data, operational data, etc., and its protection is aimed at maintaining trade secrets and operational efficiency. These products and services are new products and services generated after processing, analysis, mining and other processing based on the original data. Moreover, data association information is one of the right objects of data property rights, which refers to the metadata and additional information associated with the data itself. Finally, the object of rights of data property rights also includes the data generated by the government or public institutions and which may be open to the public. The open use of public data aims to promote transparency and democratic participation. These permissions are usually controlled and managed by governments to ensure the safe and lawful use of data. The value and benefits of data can be maximized through data sales, licensing, cooperation, etc.

4.3 Content of Rights in Data Property Rights

Due to its unique "non-competition" and "non-body", there are a lot of debates in the academic circle about what kind of rights

should be included in the content of data property rights. Most scholars believe that the content of data property rights should be designed according to the real right system. For example, some scholars believe that data property rights should be constructed with reference to the right of ownership. "Data workers" or data operators can exercise the four rights of possession, use, benefit and disposal of the data and data derivatives they have invested money and time in. Some scholars divide the rights of data property rights into positive rights and negative rights, and further put forward the rights of control, storage and utilization rights, income rights, data property defense claims (data risk removal claims and data nuisance exclusion claims) and other rights from the perspective of two rights [26].

The content of data property rights is multifaceted, including the right to hold, the right to use, the right to protect and the right to compensation. (1) The right to hold, also known as the right to control, is the right holder's ability to actually control specific data property and exclude others' interference. Because the data can not be "possessed" like physical objects, but can be "held" by technical means, the data holder has the right to decide how to use, manage and dispose of the data. The essence of the right of control is to ensure that the use and processing of data can meet the wishes and interests of the owner, which is the basis and premise of data property rights, and maintain the ability of data property rights holders to control specific data property. (2) The right of use, allowing it to use, process and utilize the data within a certain range. The right to use includes access to data, view, download, modify, disseminate and other operations, which need to be exercised under the premise of legal compliance [27]. The right to use the data can give the data owner the ability to use their data for a variety of activities, which may vary depending on the nature of the data, legal constraints or other relevant agreements. The right to use the data should also include the right to authorize the use of the data by others. Data owners may, according to their own wishes and needs, authorize the use of their data to other people or organizations, including paid authorization and unpaid authorization. (3) Protection power, the right to data protection is an important

safeguard measure to ensure the security and lawful use of data, involving data storage, transmission, processing and other aspects, need to take appropriate security measures and management measures to protect the integrity, confidentiality and availability of data. When data property rights are infringed, the data owner should have the right to pursue compensation or compensation through legal channels. (4) The right to compensation: the right holder shall have the right to pursue responsibility and claim compensation from the infringing party. They may defend their rights through civil litigation, arbitration, mediation and other means to safeguard their legitimate rights and interests. The right to compensation includes just compensation, punitive compensation and restitution.

5. Conclusion

In the era of big data, the value of data is not the same, and even becomes the key to the survival of an enterprise. Data is increasingly becoming an important asset. In the information society based on the Internet and the core carrier of digital technology, the important position of data has been widely valued by all parties. Data property rights, as a new type of property rights, have been certified under the guidance of the Civil Code. Only when individuals clearly define their data property rights can they realize personal autonomy. The protection of data property rights still faces many challenges and difficulties, and it is necessary to further strengthen research and exploration, constantly improve relevant laws, regulations, policies and measures, and promote the healthy development and innovation of the data industry. At this point, we should continue to pay attention to the latest trends and development trends in the field of data property rights and their legal protection, in-depth discussion of the theoretical and practical issues of data property rights, promote the in-depth development of data property rights protection work, and make greater contributions to the sustainable development of data industry and social and economic prosperity.

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