



Balance of Interests: The Legal Path of Data Circulation and Utilization in the Internet of Things Era

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Abstract. In the era of the Internet of Things, data circulation and utilization forms a trend. Judicial practice has clarified the “triple authorization rules”, that is, data circulation and utilization need to obtain the user’s authorization for data collection and users and data holders’ authorization for data circulation and utilization, which seriously affects the data flow and big data market development. The data circulation and utilization mechanism needs to be improved urgently. Based on big data industry development demand and commercial interests protection, rebuild the data circulation utilization benefit distribution mechanism, improve the benefit distribution mechanism between data holders and users, confirm the interests of data business subject, priority data holders in the conflict of interest interests protection, fully arouse the enthusiasm of the data business subject to participate in data circulation utilization.

Keywords: Internet of Things technology · Internet of Things cloud data sharing · Legal mechanism

1 Introduction

The Internet of Things technology is a new technology for connecting various sensors and the existing Internet. It uses various terminal sensors to collect user information, and transmit the information to the cloud or other information terminals in the way of data. Using smooth network transmission, the world can form an interconnected information network, namely the Internet of Things. The development of the whole Internet of Things. The Internet of Things technology is booming, the interconnected network is the infrastructure, and the “data and information” collected, transmitted and shared by sensors is the “blood” of the boom of the Internet of Things technology. The interconnection of information network and the sharing of data and information play a very important role in the development of the Internet of Things technology.

IoT cloud data refers to the production data that can identify user information when identified and collected by terminal devices that use the Internet of Things technology

and collected in the form of data. The Iot cloud data is formed by the user terminal device collecting user information, and then the Iot information network transmits the user data back to the information processing center, and screened, analyzed, processed and sorted out the data. Finally, the processed data is stored in the cloud for subsequent utilization. The entire Iot cloud data, from collection, to storage, and then to utilization, involves the data subject (i.e., the user), the data holder (i.e., the Internet of Things technology provider or operator) and the data user respectively. The data can be used for self-use, shared to other subjects, or sold to other subjects.

Content cloud data sharing usually does not affect the data holder of the possession and use of data, therefore, content cloud data sharing is more common, usually by the data controller, namely the platform open IDP port to other users, the use of other use subject behavior to monitor, other use subject within the scope of authorization to obtain data.

The use of IOT cloud data is diverse, and can be used for both commercial and public purposes. Such as the user information analysis of report feedback to users, or use the collected information analysis of user or user group instructions and demand, can accurate positioning and analysis of users, or as the basis for further monitoring user demand, further follow up and feedback to user needs, or use of content cloud data analysis and forecast of user or user groups, provide reference for public policy, and so on. At the same time, in the whole process of collection, analysis or circulation and sharing of IOT cloud data, the data may be cleaned and become pure data for different use purposes, and the personal information cannot be recognized, or the corresponding personal information can still be identified without processing, usually based on the data that can identify the personal information.

In the case of “Sina Weibo v. Mai Mai”, the court of second instance in the case initiated the “triple authorization principle”, that is, the first authorization for users to obtain data from the platform; the second and third authorization of the user and the platform to use the subsequent data acquisition. Based on the “triple authorization principle”, the platform still needs to obtain explicit authorization or consent from users when sharing data with subsequent users. It can be seen that although the sharing and sharing of IOT cloud data is a simple process of data transmission and utilization, the subject relationship involved is relatively complex and involves the construction of many mechanisms. This paper will combine the above issues, starting from the national industrial policy positioning, discuss the ownership of data, of cloud data personal information protection and sharing of the balance of interests and other mechanisms.

2 Analysis of the Benefit Balance Mechanism of Data Circulation and Utilization

2.1 Practical Dilemma of Data Circulation and Utilization and the Proposal of Industrial Policies

Sharing and sharing of the data, that is, sharing the data to other entities (including public parts such as the government or other commercial entities) in the form of packaging the transmission or opening the sharing port without affecting the data holder’s use of the data. Usually, the former is mostly open port shared.

However, at present, it is still difficult to achieve cross-platform and cross-regional data sharing and sharing, which seriously hinders the development of the digital economy industry. The reason is that the rights and interests of data resources are not clear enough, and the data circulation and utilization mechanism has not been established. In particular, the “triple authorization mechanism” formed by the court has seriously affected the collection and circulation of data. Therefore, breaking down the barriers of data islands and establishing a perfect legal mechanism for the sharing and sharing of data resources are the only ways to promote the development and prosperity of the digital economy. To promote data circulation and utilization requires the balance of interests of all parties and constructs a reasonable benefit distribution mechanism. Data is often held by the technology provider or operator of the Internet of Things technology, and the data circulation and utilization is also subject to the sharing willingness of the data holder. Because data contains huge value benefits, it is common to reject data sharing or overpricing; how in the process of data sharing and protecting the interests of data parties and how to price data information are all pending issues. Data circulation cannot be normalized, which will have a significant impact on boosting the development of the data industry.

Thus, it leads to the industrial policy positioning problem of data circulation and utilization. It is not difficult to find that the above difficulties reflect the certain value conflict between data circulation and utilization and personal information protection and data privatization. For the problem of value conflict, we need to provide solutions from the perspective of industrial policy; now we cannot eliminate the conflict, but can only balance the interests of both sides.

We propose the purpose of industrial policy: first, we hope to provide the solution of national industrial policy from the perspective of the development of data factor market: to guarantee the personal information of data, and emphasize the initial rights of data holders and the utilization rights of data utilization, so as to improve the efficiency of data circulation and further stimulate the market potential of data factors. Second, industrial policy orientation is the basis of the legal mechanism. Only when the state determines the direction of industrial development can it guide the improvement of the legal mechanism. To solve these two problems is an industrial policy bias in value conflict, rather than a pure legal problem. The legal mechanism lies in the implementation, and the industrial policy gives the macro guidance. Under normal circumstances, to advocate the scale of data circulation and utilization and personal information protection, the country needs to balance the interests and conflicts of various parties and seek “optimal solutions” from the perspective of industrial development, so as to realize the balance of interests of all parties. With the help of industrial policy positioning, a set of basic legal framework system is established for the data factor market, and the legal mechanism and specific rules of data circulation and utilization are implemented. Third, from the target level, it helps to eliminate the uncertainty of the commercial market. Whether data is shared basically depends on the private or private sector’s judgment and consideration of their own economic interests, rather than starting from the goals of economic and social development. Whether the data can be shared together depends on the case study of the market participants, which cannot make useful predictions for the market participants, or

form trends and trends. Unified industrial policy is of great significance to the formation of a unified and perfect data factor market.

This paper believes that for the data factor market, it is an important way to accelerate the construction of the data factor market, cultivate and improve the market and activate the market vitality to form the basic market mechanism and norms based on this demand. At the level of national industrial policy, two major issues should be considered: first, how to balance the interests of the conflict under the background of data circulation and utilization; second, how to form a legal mechanism to promote data marketization and sharing under the guidance of industrial policy.

2.2 Balance of Interests Between Data Holders and Users in Data Circulation and Utilization Under Industrial Policy

In the “Sina Weibo v. Mai Mai” case, the court of second instance has also established a rule that the data user should obtain the consent or authorization from the data holder to use the data. The reason is: first, the data holder has paid the necessary labor for the data, should confirm the data holder on the use of data decision; second, if the data user without consent or authorization mechanism, without consent or authorization, of course, without pay, then will cause the market disorder, impact the interests of the data practitioners, cause the development power, the development of the big data industry growth.

Some scholars believe that data is formed in the operation process of business entities, and commercial entities should decide whether to share it in circulation. No subject or reason can force the sharing of data. Of course, some scholars believe that from the perspective of social and economic development, the full use of data resources should promote the sharing and utilization of data. At present, many scholars can hold shared utilization. However, the conditions for data sharing and utilization need to be clarified according to the specific situation of the data.

It is necessary for us to analyze the basic principles and scales of promoting data circulation and utilization from the policy level first. How to achieve a win-win situation between public interests and commercial private interests in the big data industry. How to set industrial policies for the data circulation between data controllers and data users is the logical starting point of this problem, and also the basis for discussing the data circulation and utilization mechanism. As we all know, compared with data privatization, the circulation and sharing of data resources can stimulate the potential of big data and obtain positive externalities. The value of data circulation and utilization to industrial development and social and economic development is obvious. The policy should promote the sharing of data. However, industrial policy is not so simple. The development of big data is often faced with the constraints of external and internal factors, which mainly refer to the personal information protection and data security issues involved in the data, and the internal factors mainly refer to the interests generated by the use of data subjects.

The problem of the data controller’s willingness to use the data circulation is itself a matter of interest. In essence, this problem is the balance of interests between the data holder and the data user, which is shown as: one is the decision right of the data holder in the data circulation and utilization; the other is the profit right of the data holder in the data

circulation and utilization. All of these will affect the willingness of the holders of the data to share it. For the data controllers, from the perspective of commercial interests, whether to share the data for sharing and sharing depends on the profit comparison between the data self-use and the data sharing. In the absence of perfect industrial policy guidance and legal mechanism application, commercial subjects can only rely on the consideration of business environment and individual cases. From the perspective of market development, we propose effective solutions to balance the interests, which is a good mechanism to solve this problem.

Therefore, in promoting data circulation and utilization, attention should be paid to the balance between social benefits and private benefits of data circulation. This paper holds that first, based on the needs of industrial and social development, data sharing and sharing should be promoted in an orderly manner, implementing data sharing and sharing in policies, or even restricting or prohibiting monopoly data behavior; second, attention should be paid to promoting data circulation and utilization, while protecting the interests of data holders, respecting creation, and paying for labor value added. Therefore, based on the importance of the development of the big data market, it plays a decisive role in promoting the sharing, circulation and shared utilization of factors in the data factor market. Therefore, instead of the “industrial policy to promote the data circulation and utilization”, the problem of “how to promote the circulation of data between the data control party and the data utilization party” is proposed.

From the perspective of industrial policy, to realize the data circulation and utilization of data resources between the data controller and the data user, it is necessary to solve the pain points of the data controller and the data circulation and utilization, first, how to realize the appreciation of data circulation and utilization from the perspective of the data controller; second, from the perspective of the data user, how to avoid the wrong, incomplete or unneeded data to ensure the usefulness, integrity and correctness of the data provided.

3 Distribution Mechanism of Benefits for Data Circulation and Utilization

Data circulation and utilization of how to allocate the benefits generated by data circulation in multiple subjects, this paper believes that there are three main implementation mechanisms:

First, Confirmation of benefits during data circulation and utilization. First, the data cannot generate profit at the generation level, that is, the data subject, the user himself, cannot claim the data profit. This paper holds that, if analyzed from the level of rights, although individuals are the subject of digital rights, but only based on personality rights and interests, and no property rights and interests; individuals cannot sell their personal information in exchange for consideration. Property rights are only generated in subjects with commercial property value to user data. The data of personal information in business should only protect the corresponding personality rights and interests from infringement. Why can't individuals enjoy property rights in their personal information? Personal information cannot be obtained in the person, only the flow can produce possible property benefits. This interest is actually an interest generated from being exploited.

Avoid personal profit from selling their personal information. In addition, as property rights and interests are based on the value created by the subject through labor, while users provide their own information to the Internet of Things to enhance the life service experience, which cannot be used as the source of property rights and interests.

Second, data can generate profits at the utilization level. Based on Locke's theory of labor empowerment, whether it is the profit of data circulation or utilization level, we should confirm the benefits of data processing and innovation addition.

As a data holder, there are two ways to obtain property rights: one is to analyze, process and conduct possible profit activities; the other is to package and share the collected data with other commercial entities for profit. From the perspective of promoting the balance of the efficient utilization of data resources and personal information protection, the sharing and sharing of data and information should limit the scope of its utilization and profit. This paper believes that the sharing of data information should be limited by two aspects: one is the limited field, namely the collected data can only be used for the Internet of things services; the second is the limit of profit, data can only be shared and shared, rather than the data resources, after sharing is still the control body, the data control and security obligations. At this time, the source of the property rights acquired by the data control subject is not the value of the data itself, but the value-added value obtained based on the collection, analysis, collation and processing of the data.

As the subject of data utilization, usually only the authorized data information can be used, and only limited to the use within the scope of authorization and pay the corresponding consideration. At the same time, the transfer of IOT data information is prohibited to make a profit.

Second, the pricing in the data circulation process. In order to avoid the illegal or improper profits of the data holders from the data and affect the healthy development of the big data market, the benefits of the data holders should be limited to a certain range. At present, the data value basis includes: the information value reflected in the data itself (the profit value generated by the data), the processing value (including screening, collection and other processing means), and the hidden value of the user itself. This paper holds that the data pricing should be based on the processing value, and should not include the information value of the data itself or the additional value that the data may produce to the user.

Third, the conflict of interest in the process of data utilization, that is, in the process of data circulation and utilization, the interests may conflict among different subjects. For example, it can be competition-oriented. However, competing interests need to be rethink. The competitive interests of data controllers will be affected with the sharing of data, which may affect the economic benefits of data controllers generated by using the data. For example, the data controller and the data user belong to the same class of enterprises, producing a competitive relationship in the business. In such cases, the industrial policy should further consider addressing the competitive interests of the data controllers and the data needs of the data users.

In general, if data collection is a monopoly, sharing of data is normally denied. If the data collection does not form a monopoly, the data user can obtain the data source by himself or through other paths, it can obtain the source through other ways. However, if the subsequent use of data does not affect the competitive interests of the data controller,

the data controller should share in principle, unless the data controller can prove that the data may be used for illegal purposes and may harm the social welfare; the data use may infringe the interests of the data subject or the data controller; the business competition and conflict between the data controller; the data user may share the data with the third party; the associated enterprises of the data user, etc.

4 Conclusion

In the era of the Internet of Things, data circulation and utilization has become a kind of balance of power. Based on the demand of the development of big data industry, the data circulation and utilization mechanism needs to be improved urgently. In order to fully tap the potential of data and further promote the development and improvement of data factor market, we should change the existing data subject complete self-determination right of information, change the consent authorization mechanism into informed mechanism, supplement the users' data retrieval right under illegal collection, circulation, utilization, fully mobilize the enthusiasm of data commercial entities, improve the benefit distribution mechanism between data holders and users, confirm and distribute the interests of data commercial subjects, and protect the interests of data holders in conflict of interest.