

Research on Data Portability in China's Personal Information Protection Law

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Abstract: In the digital environment of Internet, data, as a new production factor, plays a vital role in resource allocation. Countries represented by the EU have established data portability. Our country has also introduced the concept of data rights in the latest legislation level, to better break the head of the data monopoly and information lock, protect the legitimate rights of citizens. This paper discusses the history and development of data portability from the establishment of GDPR in European Union, and analyzes the connotation of data portability in the Personal Information Protection Law of China, and the benefits brought about by the implementation of the data portability. How to balance the relationship between individuals and data owners to form a virtuous circle, and how to rationalize the legal theory are the next steps to be considered and solved.

1. Introduction

Europe was the first region to specialize in personal data management systems, and the EU was the first organization to propose and create data portability. Since the 1990s, great changes have taken place in the competition environment of the data market, ranging from countries in the world to all walks of life, there has been unprecedented concentration of competition in the data market. Data monopoly mainly concentrated in the use of big data search engines in the Internet industry, such as e-commerce, social platforms. And these industries concentration growth trend continued to rise. Some platforms and enterprises that already have a certain market share take advantage of the accumulated advantages of early entry into the industry to continuously research and develop algorithms and gradually strengthen data barriers virtually so as to consolidate their market position and strengthen their monopoly power. After the failure to seize the golden age of the development of the Internet big data industry, the EU has fully realized the negative impact of data monopoly on the development of digital economy. If the obstacles to data access are not eliminated and the portability of data is improved, it will be difficult to regulate the existing and potential competition effects of data monopoly and seriously restrict the development of digital economy. So we set out to establish data portability right, data portability right. Start to see if you can reduce data monopolists' misuse of consumer data by protecting relevant data from data agents. At the same time, in order to promote benign competition in the market and improve the fluidity of data, a series of obligations are stipulated for data users. The data portability established by the EU can actually protect user data as well as help establish new rules for industry competition.

The Law of the People's Republic of China on the Protection of Personal Information introduces various provisions relating to data portability for the first time in Chapter IV, which regulates the processing and use of personal information in China, and protects the interests and privacy of data subjects, so that the autonomy and dignity of data subjects will receive explicit legal protection and support. At the same time, strengthening the localization of data portability in China can make the legal logic more perfect and reasonable.

2. Overview of Data Portability

2.1. The Concept of Data Portability

The EU first established the concept of data portability in the General Data Protection Regulations (hereinafter referred to as the "GDPR") adopted in 2016, which is important in the EU's personal data rights protection system.

The Right to Data Portability refers to the right of the data subject to access the relevant personal data provided to the controller under specific circumstances, and the personal data obtained shall be collated, commonly used and machine-readable. Data subjects have the right to transfer such data unhindered from one controller to another, provided that doing so does not harm the public interest or have a negative impact on the rights and freedoms of others. At the same time, data portability specifies that the ownership of data belongs to the original data provider.

The subject of data portability is divided into the subject of right and the subject of obligation. In the existing articles on data portability, the default data subject refers to the subject of rights but not the subject of obligations, the same in this paper. The subject of right can be understood as the original data provider, whose subject is and can only be natural person. The subject of obligation is the data controller, which can also be called data processor or data controller, namely, the other party who transmits data after accepting the application or consent of the data subject. Among them, subjects of right do not include legal persons, institutions or other organizations, these non-subjects of right have no right to require data controllers to provide specific data about their companies. For example, individual users of fund companies may require fund companies to provide their personal information and data, while enterprise users of fund companies do not have the right to request fund companies to provide relevant data.

2.2. Distinguishing between Data that Can Be Carried or Not

The data body has ownership of the individual's underlying data. The basic data can also be understood as raw data, that is, the primary data of an individual that is initially unprocessed, and only such data can be requested or transmitted by the data controller. This kind of personal information is linked with personal rights and interests, and the data subject enjoys autonomy, control and control over all his information. Personal information has personal attribute but not property attribute.

Enterprises also have the right to dispose of the added value arising from the analysis and processing of the data collected in the course of operation. The value-added data produced by secondary data processing has property attribute, and the property right of the data product developed subsequently is reserved and has property attribute. Personality rights and property rights shall be granted to the relevant data involving personal information, and data management rights and ownership of data assets shall be granted to the relevant information involving subsequent processing by enterprises. The best option for an enterprise is to keep personal data and non- personal data independently and provide them to the data body in a common data format.

At present, the basic rules of the development of big data industry at the present stage are the

differentiation of individual original data, value-added data formed by post processing and series data derivatives.

2.3. Relationship between Data Portability and Related Rights

The exercise of data portability first depends on the realization of the right to know personal information by the data subject. A data entity shall have the right to be informed of the data to be collected, the form in which the data collected will be used, and the time period for which the data will be used, and to make the data entity aware of all types of information on the data collection platform in a prominent, clear and straightforward manner, including (but not limited to) the legal basis on which the data follow-up action is based and the possible legal consequences thereof. In the EU, where the data portability system has been in operation for the longest time, data controllers inform data subjects of all the information they need to collect before collecting data. In its system, the EU first ensures that data subjects know and understand who is collecting and processing their own data, what they will be used for, and whether it is legitimate, how long the data will be stored, and the various consequences that may arise before deciding whether to allow the collection of user data in exchange for the services of a data administrator. [1] Generally speaking, the right to know respects the free will of the data subject to the greatest extent, and endows the data subject with the right of self-judgment and self-determination.

Secondly, the data subject has the right to delete the already informed information. In accordance with Paragraph 3 of Article 20 of GDPR, the exercise of data portability right shall not violate the provisions of data deletion right. In the case of conflict between data portability and data deletion, data deletion has priority over data portability. The exercise of data portability should not constitute an obstacle to the exercise of data deletion rights. The core value of data deletion right is personal privacy protection. Data portability right embodies individual autonomy with positive orientation, while data deletion right is more inclined to the negative orientation of individual autonomy.

3. China's Provisions on Data Portability

3.1. Embodiment of Data Portability Right in the Personal Information Protection Law of China

In the fourth chapter of the Personal Information Protection Law, China systematically constructs the related rights of data subjects in the process of dealing with their personal information data. Article 44 provides for the right to know and the right of decision (restriction, refusal and withdrawal), Article 45 provides for the right to access and copy and the right to transfer personal information, Article 46 provides for the right to make corrections and supplements, Article 47 provides for the right to delete and the right to interpret rules. The rules for dealing with the problems that may arise subsequently shall be properly explained in Articles 48 to 50. [2]

The right of informed consent, that is, the collection and use of citizens' personal information must follow the principles of legality, legitimacy and necessity. The consent here is not an informed authorization, but a deeper consent in addition to general knowledge, including but not limited to the purpose of use, the way of use, the possible risks and negative effects, the legal consequences and other matters, and consent shall be deemed as a quasi-legal act with the function of similar illegal obstructions. Generally understood as informed authorization, to some extent, will weaken the protection of the interests of personal information of data subjects.

The right to make decisions, the right to limit, reject or withdraw others to their personal information processing.

The right of consulting and copying, and the data subject has the right to consult and copy its

personal information from the individual information processor.

The right to transfer personal information refers to the request of a data entity to transfer personal information to its designated data controller, and the data controller shall promptly provide the means of transfer if the relevant conditions specified by the national cyberspace administration authority are met.

The right of correction and supplementation. Where a data entity discovers that its personal information is inaccurate or incomplete, it shall have the right to request the data controller to make correction or supplementation.

Right of deletion. The right of deletion can fully implement the right of data subject to decide the behavior of personal information data processing. The exercise of the right of deletion is also the insistence on the principle of legality and purposive restriction in personal information processing. Under five circumstances, where a data controller shall voluntarily delete personal information but fails to do so, the data entity shall have the right to request for deletion: (1) the processing purpose has been achieved or cannot be achieved, or it is no longer necessary to achieve the processing purpose; (2) the data controller ceases to provide its products or services, or the storage period has expired; (3) the individual withdraws its consent; (4) the personal information processor processes personal information in violation of laws, administrative regulations or the agreement; or (5) other circumstances stipulated by laws and administrative regulations. The deletion provided here is not only the deletion of a single exponent by the controller, but also the deletion of a data body by the data controller upon request. And this right is only applicable to the behavior of dealing with the personal information of the data subject, which is the right of the data subject to the data controller, no matter the data controller is a state organ or a network platform. When the data controller infringes upon the data subject's right to delete, the data subject has the right to file a lawsuit, requesting the court to deal with it or ordering the data controller to perform the obligation of deletion. While the data subject enjoys the right of deletion, our country's "Personal Information Protection Law" also stipulates the obligation of partial deletion [3].

3.2. Impact of the Introduction of Data Portability on the Relevant Entities

3.2.1. Harmonizing the Relationship between Data Agents and Data Controllers

The core idea of data portability is that individuals are free to decide whether to transfer their personal data and information from one information provider to another. [4] Data portability enhances and protects the rights of data subjects in a more balanced and transparent manner.

The EU definition of the attribute of data portability is similar to ownership. Data portability allows the data subject to have the right to freely transfer personal data, which is the performance of strengthening the rights of data subject. The result flow of data portability is that the data main body applies for transferring one or more data, and then the data controller responds to accept or not. This kind of flow movement, is advantageous in raises the data main body the right consciousness. [5]

At the same time, from the market level, data portability allows data subjects to copy or transmit personal information according to their needs, without feeling passive about the "sunk cost" of data storage. In this way, it can not only protect the legitimate rights and interests of the data subject, but also prevent the data controller from setting up personal data transmission barriers and affecting the free choice of the data subject. Because the data controller who has a certain market position set up technical difficulty for users to obtain data for commercial purposes before the data portability right came into being. For example, the user interface is not interactive, different organizations or enterprises have data flow format incompatibility, to other data managers to transfer their personal data costs than expected. If we carry out the portability of the main body of data on a large scale, the Internet operators who have already stored a lot of user data will be at a disadvantage. It is easy to

see that the more thoroughly the right to carry data is enforced and applied, the easier it is to transmit data, but the more likely it is to be lost.

3.2.2. Market Competition

First, data portability actually gives consumers the right to choose. If they wish, they can choose to use better services and can switch more easily to avoid user lock-in effects. [6] Secondly, the introduction of data portability can break the blocking effect of data controller on user data, promote fair competition in Internet market, and strengthen personal data control. As the main body of data, the relevant personal information data can start to flow freely among the controllers, and the cost will be relatively low, which can greatly reduce the data owner's competition for personal information data and break the monopoly of large enterprises on personal data. Small and medium-sized enterprises can also optimize the user experience by reasoning and analyzing, optimizing the user's personal data twice, and satisfying the user's preferences.

Thirdly, establishing data portability can return data access right and transmission right to data subject itself, and endow data subject with actual control right. The portability of data to a certain extent eliminates the barriers for SMEs to enter the relevant data market, reduces the necessary expenditure for switching service providers, facilitates institutions and enterprises newly entering the market, and enables them to improve their competitiveness through innovation, promote data flow and form a virtuous circle. Let the potential competitor obtain more user's personal data and compete in the market. [7]

Finally, data portability requires that data formats be interoperable and interoperable, both to encourage innovation and to truly facilitate consumption. For example, the third-party sports and fitness platform can cooperate with online food retailers to clearly indicate the specific data of calories, energy and nutritional composition of the added food to the users, and calculate the reasonable range of the food intake in real time according to the weight management goals and diet plans set by the users, and give corresponding suggestions.

3.2.3. Increasing the Burden on SMEs

For SMEs without data portability format, they do not have enough resources, professional technical team, strong legal team, etc., but they share standards with large enterprises. The existence of such problems as long time of data transmission, high operation cost and heavy burden will restrict the development of SMEs, gradually eliminate the competition enthusiasm of SMEs, go against the long-term benign competition in the market, and violate the concept of establishing data portability to promote benign competition in the market.

In terms of transmission format, the European Union and countries require data controllers to implement data portability in a "structured, generic, machine-readable" manner. But there is no single standard for this. The EU has offered to guide the development of a European-style framework for interoperability from 2016 to 2020, but it remains to be seen whether technical issues can be addressed through a European-style framework for interoperability.

The existence of data portability is also a problem worthy of consideration for unlocking data and promoting healthy competition. Data portability institutional arrangements promote market competition by reducing data lock-in by providers to consumers, making personal data more accessible to individuals, and changing digital service providers to reduce data incompatibility. Due to the advantages of large scale, high product value, strong service level and ability, and relatively convenient data carrying, data users are more likely to choose large digital enterprises with better services and more security. Such selection may further reduce the lock effect of small and medium - sized digital enterprises on data subject, promote data transfer from small and medium enterprises to

head enterprises, and further consolidate the monopoly of head enterprises on data. Furthermore, the high cost of data mobility infrastructure has created barriers to the digitization of SMEs. Without disruptive innovation and the potential to explore other digital service spaces, it is difficult for SMEs to compete with head companies in the traditional digital enterprise space, let alone survive in scarce data resources. This is hardly a level playing field.

3.2.4. Improving Legal Logic

The portability of data makes the natural person have the right to control the data, the data can be freely transmitted according to the will of the subject, the subject can exercise the right to control the data, but the legal nature of the data is not further clarified. According to the current theory of law, especially the theory of civil law, some object rights of subject are not placed in the right of freedom, but in the system of property such as real right and intellectual property, which do not include the right of subject to dispose data. Because at present in the legal profession, data has not been clearly divided into real rights or property rights. Therefore, from the perspective of law, in the process of developing digital economy and constructing digital China, data ownership has become an urgent problem to be solved.

4. Future Development of Data Portability

4.1. Optimal Distribution of Rights Reserved by Law

In fact, everyone's personal information more or less leaves its mark on other people, institutions or other people's information. In the transmission process, how to avoid the negative impact on the rights of others is the biggest test of data portability. With regard to the scope of data, data portability may conflict with the rights and freedoms of third parties when the rights of other data subjects are involved. Even so, it is possible for the law to make the best possible allocation to ensure that subjects exercise their rights.

Data portability shall not prejudice the rights and freedoms of others. Data portability may conflict with privacy and trade secret. If the data requested to be transferred by the data entity is the data generated during the use of data services, and also contains the privacy of other users (such as photos, chat records, etc.), [8] if the data entity requests to retrieve or transfer the aforesaid data, it may infringe upon the privacy rights of others. For example, if a user requests to transfer his/her photos to another network service platform, but the photos also contain the privacy of other users (such as private group photos, confidential pictures, etc.), whether the data controller can still refuse the user to exercise the data portability based on the protection of privacy rights remains to be resolved.

The exercise of data portability shall not harm the interests of others. If the current data transfer is suspected of infringing upon the privacy of others, the data controller may refuse the user's request. Whether the user data constitutes the trade secret of the data controller is still in dispute, but it should be avoided that the data controller can carry data on the ground of this.

4.2. Gradually Solve the Technical Barrier Problem

Generally speaking, technical barrier refers to the entry threshold for enterprises to maintain their market position and competitive advantage. It is not only a technical barrier but also a legal barrier. The barriers to technical barriers come from research and development costs. In the market, large enterprises and other data management users have algorithms, big data and other cutting-edge technology research and development team. Small and medium-sized enterprises with limited financial resources cannot continue to gain technological advantage and will be forced out of the

market. In addition, different standards applied by different data management users to digital devices and storage standards lead to the lack of uniform hardware and software standards for data portability. When personal data is bundled with a particular digital device or data storage standard, users lose control of their personal data. Data managers can refuse to transmit personal data on the grounds of device incompatibility, device particularity, or technical barriers to protect their own interests, and evade personal data protection regulations by collecting large amounts of mixed data. As a result, personal data portability is difficult to implement. For example, a self-driving car has an internal chip that records and stores the trajectory of the car's equipment and the trajectory of passengers' personal motion data. Assuming that there is no strict distinction between personal data and non-personal information, the administrator of self-driving vehicle data can indirectly collect and illegally use a large amount of personal data in the name of non-personal information.

However, the process of perfecting the legal system of personal information protection is also the process of improving the compliance cost of data enterprises. Data companies are bound to invest more in technology to meet personal portability requirements. Although this process is technically difficult, the marginal cost of increasing data portability also has a maximum threshold, [9] and as technology evolves, costs will continue to fall and be spread evenly. Once technical barriers are overcome, third-party data can be used in a timely manner to predict business opportunities, improve quality of service and upgrade algorithmic technologies, which in turn can improve access to and analysis of data and further enhance market position.

4.3. All Industries Enrich Their Functions and Optimize User Experience

The benefits of data portability can be found in all walks of life, in common in the development of personality and benefit from it, to better service feedback users can achieve more and more long-term sustainable development. Taking the financial industry as an example, through better use of analysis and personalization, we can promote the universality of financial services and improve the level of financial services. Financial institutions can combine data already held with data collected from other institutions and sources. In this way, more relevant products and services are offered to existing customers and market share is increased by attracting new customers. And financial institutions that recognize their lack of flexibility, speed, or innovation compared to startups can complement their products by working with financial technology companies, which add value to bank customers as part of a controlled and credible ecosystem.

The use of big data analysis and personalized management, can better promote the development of financial services at this stage, improve the level of inclusive finance. Financial institutions can combine data already available with data collected from other institutions and sources for secondary analysis. In this way, existing customers can provide more comprehensive related products and services, while attracting new customers to increase market share. Recognizing that startups lack flexibility, speed, or innovation compared to startups, companies can complement their institutional offerings by partnering with financial technology companies, which can add value to banking customers and become part of a trusted ecosystem.

4.4. The Mode in which the Government Takes the Lead in Carrying Personal Information

4.4.1. Implement Mandatory Data Regulation Model

In countries where the principle of mandatory data regulation is applied, agencies are generally obliged to share user-authorized data with third parties, which must register with the regulator and be subject to strict monitoring of data processing and transfer by the government through a series of mandatory measures such as institutional regulations, industry standards, and models of corporate

behavior. [10] The countries and regions that have adhered to this principle are mainly the EU, the UK and Australia. Our country implements the compulsory data surveillance pattern may take the face recognition as the breakthrough point, then carries on the promotion by the spot and the surface. Face information is often exposed to the public environment, and can be easily collected without perception. Users can not know whether various enterprises are engaged in face recognition business. Compared with the traditional digital password, once the face information is lost, the user will lose the chance of setting it up again, so the face recognition information will be leaked. But the government is the public authority, the innate superiority is unable to neglect. How to start from this aspect of face recognition, good personal information carrying the first battle, still need to explore.

4.4.2. Establish Supporting Technical Support Policies

If the data controller refuses to fulfill its obligations related to data portability on hard and technically incompatible grounds, it is useless to refine the data portability regulations. The current Personal Information Protection Law does not make a series of standardized provisions on data storage format, data transmission compatibility and other hardware technical problems, which is bound to be a major obstacle to the realization of data portability in China. Meanwhile, the complexity of various data such as derived data, personal data, observation data and the relative difficulty of distinguishing various data will bring certain difficulties and uncertainty to the actual operation.

Therefore, in order to make our country's data portability more operable, we can establish the technical support policy suitable for data portability while formulating data portability regulations. Data compatibility across platforms may reduce innovation to some extent, but data portability requires format compatibility in the storage or transmission of data, not full cross-platform compatibility. Technical feasibility standards, as well as minimum requirements for data transmission and storage or industry-recommended standards, can be defined by reference to mandatory requirements for data storage interoperability to balance differences and conflicts of interest.

4.5. Regulatory Authorities Shall Strengthen Regulation

Data security problems are easy to arise in the transmission process, that is, the data from the party receiving the data transfer to the other party receiving the data transfer. If data controllers provide access to data to people who are not properly certified and should not have access to it, the data may be used to cause problems or even be used in illegal ways. For example, obtaining consumers' personal information on various platforms by improper means for the purpose of telecommunication fraud, frequently sending sales harassment information, embezzling others' information for illegal purposes, imitating others' identities to seriously affect the life of the original identities of consumers, and enterprises illegally mining and analyzing personal data without permission to abuse credit. In particular, the Internet information and data security industry has gradually become the main battlefield of a series of hacker attacks, telecommunications network fraud and other major crimes in recent years. Regulatory authorities shall be vigilant about the use of technology and consider how to solve the privacy and data security problems arising from the transmission process under the big data environment to maintain network security. Data subjects should also take the initiative to recognize the current or potential security risks of data storage and try not to store personal portable data in informal systems without security measures. Similarly, data controllers can also suggest some appropriate transmission formats and means of encrypting personal data to reduce the likelihood that received personal data will not be tampered.

5. Conclusions

As a new right created for the first time in the Personal Information Protection Law, data portability is of great significance. Data portability can eliminate barriers to market entry, reduce user switching costs, encourage innovation and promote competition to regulate personal data and strengthen natural person control over personal data. This paper briefly describes the relevant regulations and impacts of data portability in our country. Firstly, the research background and significance of data portability are briefly introduced, and the current research status and various research viewpoints are summarized. Secondly, the definition of data portability and data portability is distinguished, and the relationship between data portability and associated rights is briefly described. Then continue to interpret China's data portability at this stage, from the "Personal Information Protection Law" to the introduction of the relevant regulations on the pros and cons of the main impact. Finally, it describes the future development of data portability from five aspects: law, technology, all walks of life, government and supervision department.

It is worth mentioning that compared with other countries, the research on data portability in our country is different, starts late and less. And the specific laws and regulations are more extensive, the regulatory role is limited. Lack of practical operability, specific implementation is relatively difficult. Data portability is the trend of the times and the direction of the international development. It is necessary to strengthen the data protection system and maintain data portability.

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