



# Positioning and Protection of Personal Information in the Civil Code's Personality Rights Section in the Era of Big Data

Jingwei Li(✉)

Xi'an Jiaotong University, Xi'an, China

ljw0009@qq.com

**Abstract.** With the promulgation of the Civil Code and the Personal Information Protection Law, China's legal system has gradually strengthened the protection of personal information. Based on this, this paper selects 196 cases of personal information disputes in the past five years for data analysis, explores the shortcomings of current personal information protection in judicial practice, clarifies the focus of improving personal information protection, and through data analysis of cases, finds that to protect personal information, there is an urgent need to solve the problems of direct or indirect leakage by information handlers, illegal theft by others, and the inability of privacy protection technology to meet the demand of personal information utilization. This paper also proposes measures such as the way to improve personal information protection technology, the method to build a complete legal protection system for personal information, and the reconstruction of the relationship between personal interests and public interests, so as to deepen the legislation, optimize the technical system, and protect the personal information security of our citizens.

**Keywords:** big data · Civil Code · Personality Rights Section · personal information · positioning · protection methods

## 1 Introduction

The Personal Information Protection Law stipulates that “personal information of citizens” refers to all kinds of information recorded electronically or by other means that can identify a specific natural person or reflect the activities of a specific natural person, either alone or in combination with other information, including name, identity document number, correspondence and contact method, address, account password, asset status, trajectory, etc. [1]. In the era of big data, the value of personal information has become not only the object of privacy, but also a valuable resource to drive the digital economy. Based on this, in recent years, Chinese academics have focused on the positioning and protection of personal information in the era of big data, especially since the promulgation of China's Civil Code (Section IV Personality Rights) on May 28, 2020, many researchers and scholars have proposed a new model for the positioning and protection of personal information. A search of relevant literature through CNKI shows

that 113 papers on the topic of “personal information protection in the era of big data” have been published since 2020, which on the whole mainly includes: First, the research on the positioning methods and legislative protection principles of personal information in the Personality Rights Section of the Civil Code, mainly addressing the protection principles of personal information and other issues (57 papers). Second, the research on the definition of personal information, personal information positioning technology, and personal information protection methods in the Personality Rights Section based on the characteristics of the era of big data, highlighting the new features and new concepts of personal information positioning and protection in the Personality Rights Section in the era of big data (36 papers). Third, the analysis of the methods and legal basis of personal information protection in the Personal Rights Section, and propose some new conjectures from the perspectives of legal system improvement, industry regulation and personal information supervision (20 papers). A comparative analysis of the current domestic research shows that most scholars focus on the study of the Personality Rights Section itself, personal information protection mechanism or principle, and all advocate improving the legal system, strengthening personal information regulation and industry governance. In contrast, there is a lack of research on the positioning and protection of personal information from the level of big data technology and information technology, and this study focuses on improving the protection of personal information through technical means.

## **2 Sample Data and Analysis of Typical Cases**

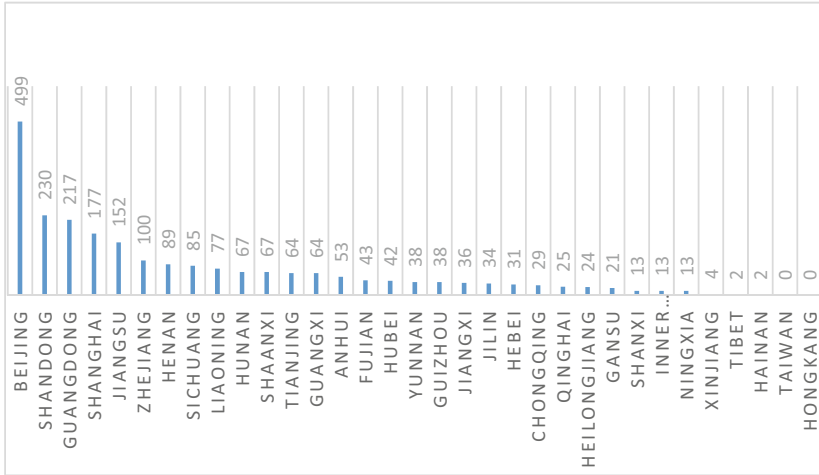
Through the adjudication documents, we can clearly understand the means of illegal use of personal information and the areas of frequent cases as well as the spatial distribution, and find out the problems in personal information protection, so that we can take targeted measures to solve them.

### **2.1 Source of Case Samples**

This paper selects the samples with the help of Wolters Kluwer’s China Law & Reference, and the screening factors include: First, cases which have been concluded in the past 5 years (from 2019 to 2023); second, cases which belong to the category of civil cases; and third, cases which involve specific matters of personal information protection. A total of 2354 cases involving the protection of personal information were selected through the above factors.

### **2.2 Regional Distribution of Cases**

The 2354 cases involving personal information protection have been categorized according to regions (see Fig. 1), and the provinces with more than 100 cases are Beijing, Shandong, Guangdong, Shanghai, Jiangsu and Zhejiang, with the number of cases in these six provinces accounting for 58.4%. From the figure, it can be concluded that cases involving personal information protection are positively correlated with local economic



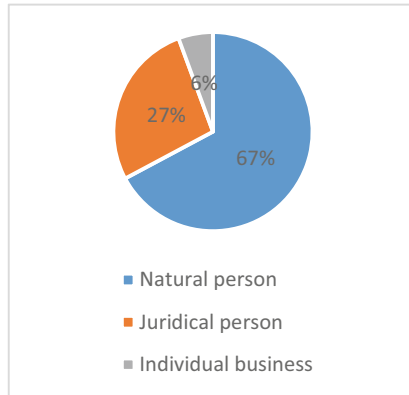
**Fig. 1.** Personal information protection cases in the provinces

activity and economic development, which on the one hand indicates that the more economically developed, the stronger the awareness of personal rights protection; on the other hand, it indicates that the use and protection of personal information in economically developed areas are closely related to economic activities, and effective protection of personal information has a positive effect on economic and social development.

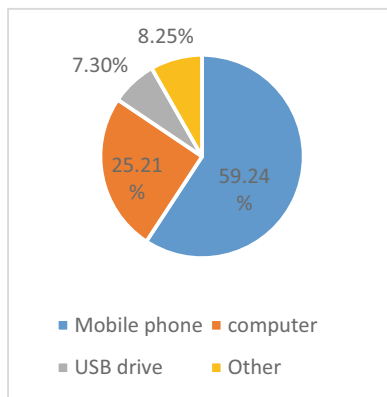
### 3 The Problems Reflected by the Selected Sample Cases

#### 3.1 Less Difficult to Implement Infringement

Among the 196 samples, 67.2% of the defendants belong to natural persons, which is absolutely leading in terms of quantity, while legal persons and other organizations account for 27.17% (see Fig. 2), indicating that a single or a few natural persons can commit infringement acts with a low degree of scale and organization. By reviewing the content of the judgment, the infringement acts committed are mainly through smartphones, computers and other tools (see Fig. 3). In the era of big data, various websites, APPs, service websites, information banks, etc. provide services for individual citizens and at the same time, they also increase the risk of leakage of citizens' personal information to a certain extent. When information practitioners carry out various services for the public, they mainly rely on big data to analyze the behavior tendency of information subjects (individuals) to visit websites, APPs, network payments, etc. Big data technology has carried out comprehensive processing of information and carried out various services by collecting individuals' age, gender, address, firefighting records, education, medical information, Internet traces, etc. When information practitioners collect and process citizens' personal information through big data technology, it is easy to overstep the boundary of "not to disclose or tamper with the personal information collected or stored", thus directly or indirectly leaking users' information and leading to the violation of citizens' personal information security.



**Fig. 2.** Composition of defendants



**Fig. 3.** Types of infringement tools

### 3.2 “Weak Dominance” of Personality Rights and Interests

It can be seen from the sample data that personality rights dispute is the main cause, with 168 cases, accounting for 85.96%. The number of contract dispute cases is 12, accounting for 6.53%. And the others are less than 10 (see Fig. 4), indicating that citizens’ rights to name, privacy and other personality rights are in a vulnerable state of infringement. In Section IV of the Civil Code, “Personality Rights”, personal information is clearly defined as a “weak dominance” degree of personality rights and interests [2]. In the era of big data, while people enjoy public services and information services, personal information is used by the state, society and enterprises, and personal information has become an important resource for the state, society and enterprises to carry out various services for individuals. In this case, the citizens’ right to dominate personal information is further weakened and manifested as weak dominance, and personal information faces security challenges.

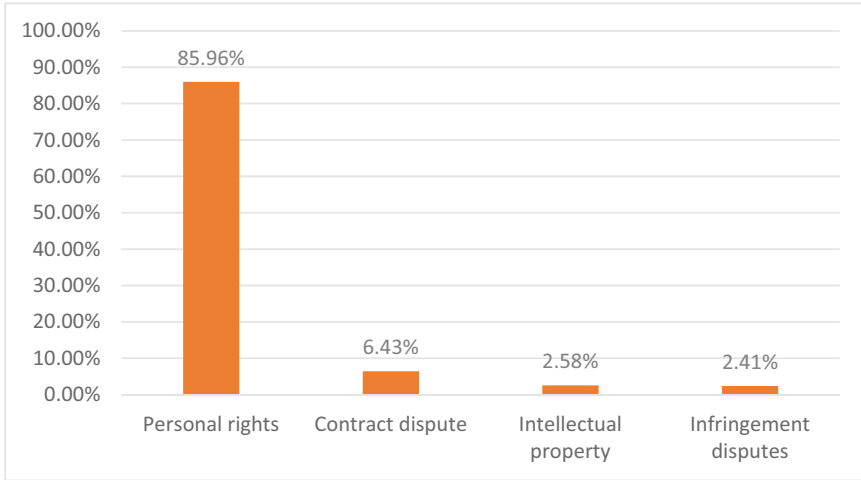
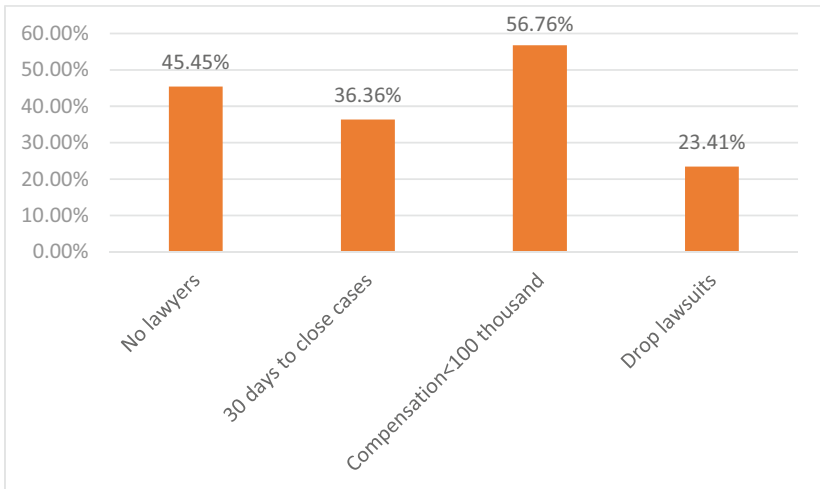


Fig. 4. Cause of action

### 3.3 The Current Mode of Personal Information Regulation Needs to Be Strengthened in Terms of Beforehand Prevention

By analyzing the sample data comprehensively from 4 aspects, such as whether the parties hire lawyers, the amount of subject, the length of closing a case, and the adjudication result, and screening out the data with the highest percentage in each of the 4 aspects, a very interesting result has been obtained (see Fig. 5), namely: more than half of the cases involved less than 100,000 yuan, about 45% of the parties hired no lawyers, and about 23% of the final adjudication result closed the case by withdrawing it, so the cases were often closed within 1 month, which indicates that a considerable part of the cases originally did not have to enter the judicial process, and the cases that entered the judicial process were often withdrawn, resulting in a waste of judicial resources. The protection of personal information in China’s Civil Code is mainly in the mode of behavior regulation, that is, by regulating the behavior of personal information utilization and strengthening the supervision of the behavior of personal information utilizers to ensure the legal utilization of citizens’ personal information resources while minimizing the leakage of personal information and the occurrence of personal information security incidents [3]. Thus, it can be seen that the protection of personal information by the Personality Rights Section is mainly realized through behavioral regulation. Article 111 of the Civil Code’s Personality Rights Section provides that “Personal information of natural persons shall be protected by law. Any organization or individual who needs to obtain personal information of others shall obtain and ensure information security in accordance with the law, shall not illegally collect, use, process or transmit personal information of others, and shall not illegally trade, provide or disclose personal information of others.” [4]. In practice, the protection of citizens’ personal information in China has relied on the legal system, but also can’t do without the privacy protection technology. However, the fact shows that the existing privacy protection technology in China is still unable to meet the demand of personal information utilization, and the



**Fig. 5.** Comprehensive analysis

phenomenon of “asymmetry between personal information utilization and protection” has emerged in the information service industry. APPs and websites such as Jingdong, Taobao, Suning, Meituan, Pinduoduo, Vipshop are mostly dedicated to the technology of commodity service and payment service, and cannot be symmetrical and effective in ensuring the security of customer information, thus the leakage of users’ information is frequent, such as marketing agencies obtaining user names and cell phone numbers through the software platform and user information leaked to third parties on the platform, etc. [5]. If we can further improve the information technology protection means based on the existing legal protection means, then a considerable number of cases will be resolved before the lawsuit, which will effectively save judicial resources.

## 4 Related Suggestions

### 4.1 Improve Personal Information Protection Technology

This article will introduce how to improve personal information protection technology from three aspects: algorithms, big data technology, and information technology.

**Algorithms.** Encryption technology – this is a commonly used method to protect personal information. By encrypting information, it can only be read in authorized situations, making it difficult for attackers to gain access. Commonly used encryption algorithms include AES and RSA, which provide high confidentiality and security for users.

Virtual Private Network technology – by establishing a “virtual private network” between users and the internet, VPN technology encrypts data transmission, protecting personal information from being stolen by attackers.

**Big Data Technology.** Differential privacy – this is a technique that balances information disclosure and privacy protection. By adding a certain amount of noise to confuse

the original data, data can be published or shared while ensuring accuracy and protecting personal privacy.

Data reduction – stores data while simultaneously deleting progressively smaller amounts of original data to reduce data storage requirements, effectively improving privacy protection.

**Information Technology.** Network authentication technology – by using dual authentication, where users provide a password and also authenticate with a biometric password or other methods, users can better protect their personal information.

Irreversible encryption technology – by using irreversible encryption algorithms, input data is transformed into seemingly random data and stored in a database. When users input information again, the system will use the same encryption algorithm to transform the information into new random data, compare it with the previous data in the database, and forward the information only when the comparison is consistent.

## 4.2 Construct a Complete Legal Protection System for Personal Information

In the era of big data, China needs to further improve the relevant legal protection system based on the definition and protection of citizens' personal information in the Civil Code's Personality Rights Section. On the one hand, it is suggested that China further clarify the scope and focus of protection of citizens' personal information in the Constitution, incorporate the characteristics of big data into it, and judge and re-optimize the scope and basis of protection of citizens' personal information according to the situation in the era of big data. On the other hand, based on the characteristics of the era of big data, the Law on the Protection of Citizens' Personal Information in the Era of Big Data should be formulated as soon as possible to protect the privacy and personal information of citizens by means of special legislation. In the special legislative work of personal information protection, we should reconstruct the tort liability law in the way of rights relief, focusing on improving the way of responsibility and the scope of compensation, and further improving the practicality of the legislation [7].

## 4.3 Strengthen the Relevant Industry Development Norms and Regulation

At present, the protection of personal information in China's Civil Code's Personality Rights Section is mainly in the behavior regulation mode, and the key to the behavior regulation mode is to strengthen the supervision and guidance of the information service industry, and to improve the legal awareness and behavior consciousness of information practitioners. On the one hand, government departments should strengthen the supervision of Internet enterprises, e-commerce enterprises, information technology service enterprises and other organizations, try to clarify the responsibilities and obligations of enterprises in the form of legal regulations and policy documents, supervise the normative use of personal information data by enterprises, and order enterprises to take the initiative to protect the security of customer information by promulgating industry policies suitable for China's national conditions. On the other hand, enterprises should be encouraged to increase their investment in security technology, strengthen their social responsibility, guide them to improve the personal information protection system of

users and employees, and prevent the leakage of citizens' private information through the supervision of their platforms [8].

## 5 Conclusion

In a word, in the era of big data, personal information reflects “weak personal control” and “strong industrial demand”. Based on the characteristics of the era of big data, it has become an inevitable trend of social development to seek new solutions for personal privacy protection and promote the improvement of the legal system of citizens' privacy in China. On the whole, personal information in the era of big data still faces many actual challenges, such as illegal theft, direct or indirect leakage by information processors, and the inability of privacy protection technology to meet the demand of personal information utilization. Based on these challenges, we should actively build a safe and stable personal information positioning and protection system from four levels: technical innovation, legal construction, relationship reconstruction, and industry regulation, and make every effort to protect citizens' personal information.

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