Intellectual Property Protection of data: Chinese Practice and related reflection

Meizhu Hu*

Department of law, Jilin University, Changchun, Jilin

*Corresponding author: 2575467623@qq.com

Abstract. The era of big data has arrived, and data has become an extremely important distribution factor in the current society. What kind of rights data belongs to is still unclear and is still under exploration, but the effective protection of data is imminent, which profoundly affects the development of science and technology and the vitality of the market. Due to the characteristics and value attributes of data itself, protecting data through intellectual property protection is a topic worthy of in-depth study.There are lots of different methods around the globe trying to solve the problem,and China has also promoted its own solution--Registration.This passage discusses the new practice China adopted recently,and is wishing to draw some inspirations from the different measures taken in the four different experimental units launched in China.

Keywords: data, IP protection of data, data IP registration, Practice of China.

1. Practice of China on a new way—registration

1.1. The general picture

Chinese is developing rapidly in the field of big data usage,hence has a strong motivation to polish regulations on the big data's protection. Since The 19th National Congress of the Communist Party of China, Chinese government has attached great importance on the conservation of data and the practice of IP protection of data. On 19th of December, 2022, State Department of China issued *The opinions of the CPC* Central *Committee and the State Council on building a data infrastructure system to better play the role of data elements*[1], which opened up a new era for data protection in China and became the guide to the following action taken to better use and protect data resources. Because the existing regulations on intellectual property's protection are more or less inappropriate and ambiguous for the big data conservation, and under the guide of the opinion, China is now adopting a new kind of protective system.There are several experimental units in china running the practice on "data IP registration",here we have listed three area's action to set for examples.

1.2. Practice in Beijing, Zhejiang, Shenzhen

Table 1. Three practices comparing

	Beijing[2]	Zhejiang[3]	Shenzhen[4]
Issuing agency of the guidance documents	The Beijing Municipal Intellectual Property Office, the Beijing Municipal Bureau of Economy and Information Technology, the Beijing Municipal Bureau of Commerce and the Beijing Municipal People's Procuratorate	Zhejiang Provincial Administration for Market Regulation, Office of the Cybersecurity and Informatization , Commission of the CPC , Zhejiang Provincial Committee, Zhejiang Provincial Development and Reform Commission, Zhejiang Provincial Department of Economy and Information Technology, Zhejiang Provincial Department of Justice, Zhejiang Provincial Department of Commerce, Zhejiang Provincial Big Data Development Administration ,Zhejiang Provincial Superior People's Court, Zhejiang Provincial People's Procuratorate, People's Bank of China Hangzhou Central Sub-branch, China Banking and Insurance Regulatory Commission and Zhejiang Regulatory Bureau	Shenzhen Municipal Development and Reform Commission
Quantity of registered corporations	26	180	85
Main types of registered corporations	The corporations registered in Beijing are mainly State-owned enterprises and BigTech. There are only few small and medium-sized enterprises registered in Beijing.	Mostly small and medium-sized enterprises	Mostly small and medium-sized enterprises
The type of data that is allowed to be enrolled	Data or data products that are legally collected and processed through certain rules or algorithms with commercial value and intellectual achievement attributes.And it should be undisclosed data.	Data or data products that are legally collected and processed through certain rules or algorithms with commercial value and intellectual achievement attributes.	Data or data products that are legally collected and processed through certain rules or algorithms with commercial value and intellectual achievement attributes. Raw data which are legally collected and preserved could also be registered.
Release time of guidance documents	2023.5.30	2023.5.26	2023.6.15

1.3. Analysis on practices in Beijing, Zhejiang and Shenzhen

Beijing, as the capital city in China, Numerous State-owned enterprises and the Headquarters of large enterprises are all located in it, and because of the extremely high land prices, most of the developing firms would like to choose cities like Shenzhen or Shanghai for better development prospects. Therefore, the main type of corporation that gains registration in Beijing are those State-owned enterprises and Big Tech. This kind of companies control over a large amount of high quality data products, hence it is necessary for them to gain registration.

In Zhejiang and Shenzhen, small and medium-size enterprises take up a bigger proportion in the IP registration of data. These two places are well known for full of opportunities for smaller business, and those small business themselves are in great need of a strong confirmation to affirm their fair use over certain data products, so that they can have more smooth transactions to make profit. Based on this, the criteria of registration might seem more relaxed than Beijing.

The practices in three areas are all in accordance their Local condition, presents different characteristics.

2. International trends

2.1. United States

Back in the 1970 version of Copy Right Law of United States,Sweat Of Brow was the principle to judge whether a database could be protected,which means as long as efforts are put into the creation of the database,then it can be lawfully protected.But later on,this practice was no longer valid,due to the case of Feist [5].Ever after that,database must have a sense of originality to be protected by law,adjusting the regulations according to the changing situation in the field of data.However,because of the special nature of database,it can not be expected to have enough originality to gain sufficient protection from the changed law,and to thoroughly protect certain interests of the database creator,the United States introduced the "private protection"to solve the problem,as in sighing license contract to protect creator's appropriate rights[6],which actually gives the creator ownership of their database[7].

Moreover,the Federal Trade Commission Act says that it is illegal to use unjust competitive methods,providing an anti-unfair competition way to protect big data. If a corporation seizes other's undisclosed information by web crawlers then it is regarded illegal.But if the crawler is searching for disclosed information,then it is fully acceptable.[8]However,here comes a question:there is intersection between database created by certain firm and it's disclosed information,how to properly solve the conflict when the seized information happen to be both important part of a particular database and overt messages?

2.2. EU

EU is basically the first place around the globe to implement protection over big data.Currently,it is adopting a combination of contract,effective control of the owner,intellectual property,business secret and data protection laws to protect big data.Those measure appear to function well in the EU.[9]

In 1996,EU introduced *Directive on the Legal Protection of Database,whose protection covers all the databases created,ignoring the originality of them,as long as their creators payed enough material endeavor.*[10]

2.3. Korea

Korea's protection on the big data is basically divided into two parts:the first one is based on the Copyright law,using Compilation of works and neighboring rights.The others are methods outside the Copyright Law,including anti-unfair competition act, Content Industry Competition Law andIndustrial Digital Transformation Promotion Act.[11]

Among the above methods,the distinguished one is the Industrial Digital Transformation Promotion Act,which for the first time introduced the concept of "right of income" and the principle

of utilization and protection.This means the subject who put investment and efforts into the formation of data may make proper use of them and have the right to earn for it.And it is specially pointed out that if two subjects both play a part in certain information's creation without beforehand contract,then they are both regarded rightful holders of the right.[11]This particularly encourages all kinds of usage of the data.

2.4. Japan

Japan adopts two straightforward and practical measures to protect their big data.Firstly,it's legislation states that database is among opus in the Copyright Law,as long as it meets the standard of originality.Meanwhile,Japan also use the anti unfair competition act to protect corporation's data.It creates a unique system named "Limited provision of data",using particular encrypted ID and password to limit the scope of people who get to know the data intended to be protected,curbing the possibility of potential abuse.Some may argue that t it might harm the mobility of data,which is an essential aspect of data's value at the first place.But actually this strategy only applies for the data that satisfies the following requirements:being accumulated to certain extent,having Electromagnetic management,being limited provided,and not the data that can be shared by public for free.[12]

3. Uniqueness of China's new practice compared with international practice

3.1. Administrative nature

As we can see, the international trends in protection of data are all about using trails and existing legal system to protect rights over data from being violated, while China's practice of IP registration of data is adopting an administrative way to give more precise and concrete conservation, backed upon power of government.It is China's socialist market economic system that has enabled China to produce such unique new practice. The IP registration of data in China escapes the unresolved and controversial debate over data related rights, instead, it directly provides an effective and practical way to accurately solve the problem.

3.2. Beforehand protection of data instead of afterwards protection

The current practice in the international world is using afterwards protection to protect data safety, which wouldn't come into play unless benefits has already been violated. However, adopting IP registration of data is a beforehand protection that not only helps with maintaining the trust of the market to promote the further development of the digital economy,but also provides more concrete and convenient preliminary evidence for data disputes.Moreover, using beforehand protection has a publicity effect, curbing the possibility of violation.

4. Necessity of China's IP registration

4.1. Reduce market transaction costs

Without IP Registration,corporations could still conduct smooth transactions,but legal risk behind the data can not be determined if nothing can be shown to prove their Legitimacy. If certain corporation would like to ascertain their partner's right over the subject data, it may requires a lot of manpower and material resources to get things done.Just like the representative of JD said,"Data IP protection is important because it will ensure that data ownership is adequately protected and value is effectively used."

4.2. In line with China's reality

China's market economy is born from reform and opening up,which has only lasted for approximately 40 years,unlike the long period that went by in the Western world.Moreover,china has the largest market in the world , and the environment of market has changed drastically ever since the

era of big data arrived,hence China and Chinese corporations are in need of concrete and certain legal support of data protection more than Western countries.

4.3. Suits the trends of the times

With the development of technology and economy, the world is stepping in an data based era. Massive amount of data is being created each day, and the efficiency of data protection can not be ignored. IP registration of data can greatly improve the efficiency in both business transactions and data protection, which consequently leads to a better market environment for the coming data age.

5. Effect brought by the practice

5.1. Positive influence

5.1.1Confirmation of rights related to data

With the data IP registration practice functioning,the registered data can be clarified to a certain subject,giving it the power to use,profit legally.This greatly solved the problem connected with the abuse of data usage like unlimited web crawler.

5.1.2Promotion to market order

As long as the data is formally belonged to certain entity,then it is cleared that who get to make use of these data in a particular way,clarifying the order in the field of digital economy,curbing the rate of unfair competition,and provide with all the firms a safer market environment and a tougher protection.

5.1.3Provision powerful evidence for dispute over rights related to data

When registered,then it has publicity effect and it means entity has legal rights on the big data product.Therefore in disputes,rightful user of the data no longer need to search for other evidence and to explain their rationality on using the data,instead,they just need to show that they have gained the registration from authority.

5.1.4Encouragement to creation of big data products

Just like the purpose and effect of traditional intellectual property system,conservation of them is conservation of creativity.Developers' proper expectation of being protected is satisfied, so that they have enough motivation to keep devoting themselves in the development of such demanding works.

5.1.5Promotion to digital economy

This is an overall effect,resulting from all the effects above.Since the right is confirmed,the market order is maintained,the dispute is better solved and enthusiasm is encouraged,then the digital economy is bound to prosper.As is said, "A market economy is an economy governed by the rule of law."With proper regulation,the economy surely has a b brighter picture.

5.2. Existing defects

5.2.1Disagreement on essential notion

Some units say that raw data collected to a certain amount can also be registered and gain rightful use of it,while the others exclude it.This is an issue worth discussion,influencing many fields.

5.2.2The nature of the data related rights is still not clarified in the practice

Although this data IP registration practice gives a practical way of solving the existing problem of data protection,it has not make clear state of right in data,which is an fundamental aspect for long term development in digital economy.

5.2.3The authority is not in charge of substantive examination

This may result in lack of accountability,while there are no other ways to confirm the rights,which may harm the normal order of market and increase transaction costs.

6. Conclusion

Big data protection is a serious problem encountered with the whole world,and different countries have distinguished approaches to deal with it in accordance with their own national conditions. China's practice of IP registration of data focuses more on the safety and how to motivate the usage to the big data in order to promote the digital economy.The new approach adopted by China vividly shows China's focus in this field,and is also a great innovation on the protection of data,which can provide with the world an effective and practical way of management of data. My research is now met with a temporary end, but the research on this topic still has a long way to go.

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