

Response Strategies to Legal Risks of Big Data-Enabled Digital Economy

-- Based on Beijing-Tianjin-Hebei Synergistic Development

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Abstract. Under Beijing-Tianjin-Hebei's strategy of its simultaneous development, the digital economy with its networked, digitised and intelligent industrial operations is developing rapidly, and big data is both the object of its production and creation, and can also provide legal protection for the digital economy. Although the use of big data in practice is gradually increasing, it has not been fully embraced at the legislative, law enforcement and judicial levels as an adaptive means of safeguarding the digital economy. Big data can promote digital industrialisation and industrial digitisation, help digital rights and maintain intellectual property rights, regulate the platform economy against monopoly and unfair competition, accelerate data sharing and help protect personal information, can effectively make up for the existing laws and regulations and the traditional regulatory model of the digital economy of the soil and soil, so the law to absorb big data to solve the risks of the digital economy is imperative. Big data should be based on the different needs of criminal, civil and administrative laws, respectively; legislation for high-tech crimes, protection of personal information and intellectual property rights; law enforcement for the platform economy, anti-monopoly and anti-unfair competition, and tax evasion; and judiciary for the evidence of big data, the introduction of talents and smart work models, to build a legal risk response strategy for the synergistic development of the digital economy empowered by big data.

Keywords: Digital Economy; Big Data; Collaborative Development; Digital Rights; Smart Justice.

1. Introduction

Since General Secretary Xi Jinping put forward the strategic layout of Beijing-Tianjin-Hebei economic coordinated development in 2014, the economic and social living standards of the region have been steadily improving. With the innovation of 6G, Internet and other technologies and the emergence of big data, artificial intelligence, blockchain and other high-tech, the digital economy has gradually become a new growth point, and is an important driving force and direction for the coordinated development of Beijing-Tianjin-Hebei, and the "Regulations on the Promotion of the Digital Economy in Hebei Province" is a chapter dedicated to the coordinated development of the digital economy in Beijing-Tianjin-Hebei. Digital economy with data as the key production factors, with the network platform as an important carrier, and big data as the core technology driving force of digitalisation and artificial intelligence, is not only a representative of the digital economy itself, but also a powerful solution to forward-looking problems [1]. Therefore, how to effectively use big data to empower the synergistic development of the digital economy and strengthen the legal protection attributes of big data are issues worth exploring.

2. Digital Economy and Synergistic Development

2.1. Concept and Characteristics of the Digital Economy

Digital economy is a new type of economic form that takes digital knowledge and information as the key factors of production, takes digital technology as the core driving force, takes modern information network as the important carrier, through the deep integration of digital technology and the real economy, continuously improves the digital, networked and intelligent level of economic and social



society, and accelerates the reconstruction of economic development and governance mode [2]. In general, the digital economy is a new economic model relying on digital technology and huge volume of information and data resources led by big data and artificial intelligence to promote industrial transformation and upgrading and sustainable economic growth through the integration of traditional economic models. Therefore, the digital economy has disruptive features compared with the traditional economy:

First, digitalisation. Digitalisation refers to the fact that the digital economy uses digital as the main carrier and digital as the main body of economic growth, with two main aspects: digital industrialisation and industrial digitalisation. Second, platformisation. The digital economy creates value for the industry with digital, and its figurative way is to realise the cash through the platform built. The network platform has become the position of digital industry operation and management [3]. Third, intelligence. The digital economy relies on the core technology is big data and artificial intelligence, the two subvert the traditional computing model, open the huge volume of data future prediction and algorithmic model of deep learning of the economic mode of operation, the degree of intelligence of the industry has increased significantly, is more and more alternative to the role of manpower in economic development. Fourth, the radiation is wide. The volume and scale of the digital economy is not only huge, but also affects all aspects of social life, small to information screening and interception, large to economic trends prediction, ChatGPT intelligent dialogue to identify the needs of the digital economy has changed our lives.

2.2. The Connotation and Logic of Synergistic Development

Synergy usually refers to the mutual cooperation between the subsystems of a system or various related elements. This kind of cooperation can, to a certain extent, make the whole system gradually tend to be stable and orderly, and can produce greater efficacy in terms of quality and quantity, and then evolve new functions, so as to achieve the enhancement and value-added of the system as a whole [4]. Governance refers to the process of governmental and non-governmental subjects working together to solve public affairs. Therefore collaborative governance is generally understood as the process in which multiple subjects, such as government, market and society, coordinate with each other and act together to deal with public affairs effectively together. For the digital economy, built on the basis of the Beijing-Tianjin-Hebei region, synergistic development would include inter-regional synergy, synergy between digital and traditional industries, and synergy between government and non-government subjects.

Although synergistic development is diversified and open, it is by no means haphazard. First, synergy should adhere to the main line of "development and security". Secondly, the core of collaborative development lies in the open sharing of digital and technological resources. The main growth point of the digital economy is the integration and development of data and information under big data and other technologies. Thirdly, synergistic development requires the integration and joint promotion of legislation, justice and law enforcement. The realisation of synergistic development must start from all aspects in order to make progress in a stable manner and to move forward steadily.

2.3. Future Trends in the Collaborative Development of the Digital Economy

The combination of the digital economy and collaborative governance lies in the fact that there are many unstable factors in the development of the digital economy, and collaborative development is committed to preventing and resolving the risks brought about by the digital economy. On the one hand, the current digital economy's digitalisation, platformisation, intelligence and wide radiation have shaped the economic pulse of the new era, and the traditional model can no longer meet the requirements of economic strength and comprehensive national power competition. On the other hand, the level of regional economic development is uneven, the volume of industrial distribution is different, the lack of communication between each other, it is inevitable to go their own way, the overall quality of the economy is uneven [5]. The promotion of digital economy under the strategy of regional integration and coordinated development effectively solves the above two problems. Beijing

as the centre of aggregation of Tianjin, Hebei's industrial economy to achieve complementary advantages and common development of the Beijing-Tianjin-Hebei economy, but also not stop at traditional industries and business models, but must ride on the east wind of the development of the digital economy, borrowing Haidian Zhongguancun as a representative of high-tech industrial parks, vigorously develop the basic technology of big data and artificial intelligence, and build broad platforms to serve the new digital industry, radiation, surrounding areas, driving the regional The overall development of the region is driven by the synergy of the region.

Developing digital economy under the synergistic development, and promoting regional synergy to a higher level with digital economy. The synergistic development of the digital economy of Beijing-Tianjin-Wing starts from the adaptive risks caused by the traditional economy and the independent decentralised economic system, launches from the leadership and exchange of high and new technologies such as big data and artificial intelligence, and settles in the prosperity of the digital new economy in the synergistic industrial environment. The synergistic development of the digital economy is a necessary path for future economic and social development.

3. Key Risk Points for the Digital Economy in the Context of Synergistic Regional Development

3.1. Digital Rights and Intellectual Property Protection Challenges

3.1.1. Transformation of the "Production-Distribution" Model Impacts the Traditional System

From the basic principles of Marxism, science and technology is the key to promote the development of productive forces, and nowadays, data has been regarded as a factor of production alongside traditional factors such as land, labour, capital and technology. The "production-distribution" model in the digital economy has changed considerably.

From the perspective of production, production includes the production of material resources and the production of labour, which is the unity of the labour process and the value-added process. In the traditional production and distribution model, workers produce material goods, produce material results, and then realise the exchange value of the production results. And under the digital economic system, the object of workers' labour is no longer entity, but data information, by processing or transmitting the fruits of their intellectual labour to the virtual data information, the output is the processed or newly created content in the form of data, and the data or information will be sold to those who have the need to exert their labour on the data or information again [6].

From the perspective of distribution, the participation of data as a factor of production in distribution has completely reversed the identification of the value of factors of production in the traditional model. In the era of digital economy, the key to data operation lies in realising the value of data through data analysis or data trading, abandoning the previous traditional model of measuring value based on physical factors of production and then determining the method of distribution. The participation of data and information as factors of production in the measurement of value also represents that the labour of workers in processing data and information should be remeasured [7]. The development of digital labour and digital technology has led to the application of big data and artificial intelligence to the production process, especially the digital transformation of traditional industries can enable enterprises to focus more on research and development and production itself. Therefore, the traditional distribution pattern can no longer adapt to the needs of the digital economy era.

3.1.2. Difficulty in Identifying the Fruits of Digital Labour

Production and distribution in the digital economy relies on data information produced by human beings or even the results of artificial intelligence or big data analysis, so the wisdom of data information analysis labor is called "digital labor", and the processed data information is called "digital labor results". The processed data information is called "digital labour". The results of digital

labour are the closest to the intellectual property rights under the traditional rights system, and the intellectual property law also stipulates that computer software, algorithmic models, etc. can be registered as patents, and some forms can even be copyrighted, but it is not enough to satisfy the demand for legal confirmation of the rights of the results of digital labour [8]. As the digital labour results are processed with data information with added value and presented in a virtual way, whether the data information can be recognized as results, whether the results with uniqueness can be applied for patents or copyrights, and whether its virtual nature will prevent the acquisition of its rights and interests belonging to the legislation must be answered, but unfortunately at present, China's laws have not kept pace with the development of the digital economy, and lack of the relevant rights.

As a production factor, the attribution of data rights and interests should be clarified first. Only after clarifying the rights and interests of data can we answer the question of the attribution of the fruits of digital labour. Data is different from personal rights such as property rights, claims, and reputation rights, although it is virtual, the traditional legal system has no clear provisions on its right attributes, right subjects and right contents. The right to data is a prerequisite for the successful transformation of labour fruits and the stable development of the digital economy, as well as a necessary condition for the legal promotion of the digital industry. Data rights need to be legally recognized like other rights, and new technical means should be used to confirm the output of digital labour fruits, otherwise the digital economy will become rootless water, resulting in huge economic risks.

3.2. Difficulty in Regulating the Platform Economy and Technological Crimes

3.2.1. Failure of the Traditional Regulatory Model for the Platform Economy

One important feature of the digital economy is platformisation. All data and information must find a suitable outlet after processing in order to be exchanged and shared externally and thus generate economic benefits, and this outlet is the virtual platform. Companies, enterprises through the construction of platforms, the processed data and information for display, like the traditional shop, business market transferred to the line, a variety of online shopping, news, academic, government platforms will create their own virtual products in a digital way to present, attract access to the value of the exchange [9]. The platform is an important carrier of digital economy, the platform economy is an important manifestation of the digital economy, only to grasp the key of the platform, in order to promote the development of digital economy by platform regulation.

The traditional regulatory model focuses on the supervision and inspection work carried out offline, including the issuance of business licences, on-site corrective treatment, etc., which may lead to administrative penalties, or even the consequences of criminal penalties. However, this traditional regulatory model fails to work for the digital economy where the "production-distribution" process is carried out in the virtual space of the network. In the face of the digital economy's platform network-based business model, regulation needs to change the way of entry, update the inspection method, and deal with it flexibly. On the one hand, the current regulation fails to recognise the importance of using high-tech means to make efforts from the platform side. Manpower offline operations can no longer meet the needs of supervision of digital platforms, but should focus on the advantages of high computing power and high security of big data, blockchain and other technologies to directly carry out digital inspections of platforms. On the other hand, the change of thinking in legislation and law enforcement should be accelerated to proactively respond to the challenges posed by the digital economy and fully absorb new avenues of law enforcement [10]. At present, the problem of legislative gaps and rigid and old law enforcement methods is prominent, and administrative organs are unable to adapt to the situation and have no way to start, resulting in a great risk of errors and omissions.

3.2.2. Difficulty in Investigating Technical Offences and Crimes

The carrier of the development of the digital economy is the platform, the essence is the value of data and information added, the content of science and technology than the traditional subversive growth, but the level of legal regulation has not kept pace with the development of practice. In practice,

phishing site fraud, online lending, online shopping, virus invasion and other illegal and criminal acts are common, a serious threat to the Internet environment and the security of the user subject. For example, the crime of fraud, in the traditional mode of telephone contact or offline induction of the way, and in the digital economy in the virtual network world is prevalent nowadays, phishing sites use forced insertion of jump links or alternative to the original site of the invisible link to induce users to carry out online operations or directly steal account information, in recent years, the losses caused by the fraud model has been far more than the traditional.

However, the perpetrators behind such high-tech criminal activities are often hackers with a high level of expertise, setting up platform traps that make it difficult to avoid falling into, the more with the development of the economy, the more rampant such phenomena, but the government and public security and procuratorial organs are difficult to investigate and deal with the lawsuit. The People's Republic of China Data Security Law, Article 29, Article 30 provides for a risk assessment and reporting mechanism, but the lack of more detailed implementation and liability penalties. The reason is that, on the one hand, and in the way of the digital economy and the virtual nature of the platform carrier, a lot of information precisely by the rules of reasonable hidden, for the investigation of similar crimes or administrative offences, the flexibility of the platform settings, the mobility of the data and information, the huge volume and other characteristics of the government and public security and procuratorial organs of the action have caused very great difficulties [11]. On the other hand, the public security and procuratorial authorities and government departments have a large talent gap, and the average staff member has difficulty in investigating and dealing with such technology-based criminals without the relevant basic knowledge or only receiving simple training. Under such circumstances, the relevant authorities are unable to accurately identify, investigate, determine and assign appropriate consequences to many illegal and criminal behaviours, thus resulting in many illegal and criminal elements going unpunished, posing a continuous threat to the safe development of the digital economy.

3.3. Improper Data Exchange and Sharing Triggers Market Economy Dislocation

3.3.1. Poor Effect of Open Sharing of Data Information

The open sharing of data and information is the lifeblood of the digital economy and the main goal of collaborative development. With the development of the economy and society, Internet technology has been significantly improved, and data and information are daily transmitted at multiple points with unprecedentedly huge volume and speed, which greatly improves the situation of economic occlusion, but at the same time triggers the boundary problem of data and information sharing and opening.

Widespread open sharing of data is supported by access and transmission technologies, with data as the underlying source, which makes it difficult to avoid the problem of inappropriate transmission and sharing of data. One is the violation of privacy data, which mainly occurs in the problem of data and information capture, improper access to private information that should not have been accessed, which is the risk caused by the uncertainty of the scope of sharing. The second is the risk of data leakage due to weak data security protection during transmission. As the fields of data transmission and sharing are diversified, rich in resources, and have different needs for data, it is inevitable that the risk of information leakage or attack on the safety and security system will occur in the process of multi-dimensional data transmission.

The Data Security Law devotes Chapter 5, "Security and Openness of Government Data," to promoting the opening and sharing of data, but unfortunately lacks specific and detailed safeguards for the process of data opening and sharing. Chapter 6 of the Law only stipulates that the competent authorities "may, in accordance with the prescribed authority and procedures, interview the organisations and individuals concerned and require them to take measures to rectify the situation and eliminate the hidden dangers if they find that there is a greater security risk in the data processing activities". It seems to be a strict regulation, but in fact, there is a large space of flexibility, "can",

"interview" and other words are not conducive to rigorous investigation and handling of data security violations, "greater security risk" is not a clear standard. There is no clear standard for "greater security risk", which makes it difficult to implement in practice. In general, the lack of in-depth provisions in the legislative branch and the lack of effective investigation and supervision and empowerment in the law enforcement branch have led to the fragmentation of the offline data and information sharing system, and the possibility of local protectionism in the form of non-sharing on the grounds of privacy and confidentiality, and the fear that synergistic development will be reduced to empty talk if the data are not shared and the transmission is not secure. At present, there is a lack of strong co-ordination means to ensure that shared metadata can be transmitted quickly and easily on the one hand, and on the other hand, that the data are not leaked or stolen during the transmission process. If the legislation and law enforcement authorities fail to provide strong guarantees for open data sharing in the above two aspects, it will hinder the synergistic development of the digital economy.

3.3.2. Data Divide Leads to Monopoly and Unfair Competition

The poor effect of open sharing of data and information on the other hand, leads to the direct result of the large difference in the amount of access to data and the imbalance in the value of holding data and information, which leads to the problem of data divide. The data divide problem directly affects the competitive environment of the market, leading to market economic disorders, the most typical manifestation of which is monopoly and unfair competition.

According to the Anti-Monopoly Law of the People's Republic of China, monopolistic behaviours mainly include three kinds: monopolistic agreements reached by operators, abuse of dominant market position by operators, and concentration of operators which has or may have the effect of excluding or restricting competition. The Law of the People's Republic of China Against Unfair Competition stipulates that unfair competition refers to the behaviour of an operator who, in the course of production and business activities, violates the provisions of this law, disrupts the order of market competition, and harms the legitimate rights and interests of other operators or consumers. When data and information become valuable resources but gathered in the hands of a small number of subjects, its own exclusive or interconnected up, relative to most of the other subjects to form an advantage, the advantage will help to seize more market resources, improve efficiency, attract consumption, reorganise the distribution. For the subject, is to obtain competitive advantage, seize the market share of the good, and can use the data and information resource advantage to control the vertical upstream and downstream industry cost and selling price and the horizontal price of similar industries and seize its flow, which for other industries and economies will be a serious squeeze on its living space. A small number of subjects in the market to squeeze others will seriously threaten the stability of the market, because they can manipulate the allocation of resources in the field, and the government's macro-control will be ineffective against them. Therefore, instead of mandatory intervention when the economic market is deformed, it is better to solve the problem of rigidity and immobility of data and information from the source, to bridge the data gap, and to use the system to guarantee the effective implementation of anti-monopoly and anti-unfair competition.

3.4. Abuse of Collaborative Economy to Infringe on Individual's Private Rights

3.4.1. Unfair Distribution and Redistribution Mechanisms

When collaborative development is linked to the digital economy, the most fundamental problem is the issue of digital rights and the appropriate distribution of the fruits of digital labour. For the individual micro-subject, this involves two post-production distributions.

The first distribution is the direct distribution after production, the traditional distribution model of the data of this new factor of production is not enough attention, the need for the new situation of the digital economy and synergistic development of the policy direction of the output and value of digital information processing labour to make a more reasonable recognition, pay full attention to the value of the data and information processing. The second distribution is the way of the government's macro-

control to regulate income, and taxation is its most important form. On the one hand, the tax policy on the production and distribution of the digital economy is not very clear, and there is also the risk that the digital economy will evade taxes by virtue of its virtual nature. The reason for this is that the government currently does not have tax regulations on how to accurately pay taxes for the digital economy, which can lead to tax evasion and criminal acts, but also do not know how to pay taxes on the subject of tax evasion caused by the hidden risk of criminal offences, and more likely to occur in the high-tech industry, tax exemptions and norms are unclear and unable to play the role of industrial transformation and upgrading of the risk of promoting the role of industrial transformation and upgrading. On the other hand, at present, the digital economy tax issues, tax law system, such as timely response and effective response to changes in practice, it is inevitable that the digital economy activities and the established tax law framework, the system is expected to deviate from the enterprise is considered to be objectively exist "against the law to avoid tax" behaviour.

3.4.2. Many Loopholes in the Protection of Personal Information

Data and information are the basis for the synergistic development of the digital economy, and the acquisition and transmission of data is the first concern. The huge volume of data comes from all aspects of personal and business life, and some data, although of little value to the body, happens to be the raw material needed for the operation of another platform economy. In order to obtain these data, a certain cut market players improper access to personal or business and other subjects of data and information, it triggered the leakage of personal information, reflecting China's current personal information is always and the protection of personal information and the level of economic development is not commensurate with the problem.

At present, the personal information protection related laws and regulations system is not sound enough, the problem awareness is not clear, treating specialised areas need special protection of data and information is more flawless. According to reports, 2022 Ping An Life Liupanshui Central Branch Company insiders were punished for using their positions to leak customer information, and a number of people involved were sentenced to prison terms. In August, a domestic "hacker" used a Trojan horse virus to illegally control more than 2,000 computers and invade the intranet trading databases of more than 40 domestic financial institutions, illegally obtaining trading orders and several pieces of insider information, and trading related stocks for profit, with an illegal gain of RMB 1,835,700 yuan. The company's main business is the development of the digital economy. The risk of trampling on personal information protection laws and regulations will be even more serious in the digital economy, where data and information are used as a means of survival, and legislation and law enforcement must respond to the issue of personal information protection as soon as possible.

4. Legal Responses to the Synergy of Big Data-Enabled Digital Economy

4.1. Legislative Reform: Incorporating Big Data as a Regulatory Tool

4.1.1. Intellectual Property Legislation to Protect Digital Achievements

Under the general trend of synergistic development of digital economy, the main method to achieve competitive advantage in the process of value-added realisation of data and information is innovation, in addition to cost reduction and efficiency improvement. The results of human intelligence, if generally characterised by novelty, aesthetics and value, are increasingly linked to intellectual property rights (IPRs) that give them special protection and profit value. Intellectual property rights are the direct legal norms that protect innovation, give exclusive ownership and use rights to the results of innovation, and support the profit-making behaviour of this vehicle in order to promote the development of innovation. At present, the competition of comprehensive national power has become the competition of science and technology, as the first productive forces, the power of knowledge and technology is not to be taken lightly. And the digital economy, the Internet, artificial intelligence, big data as the world trend is the science and technology competition in the dominant position, intellectual property law from a professional and legal point of view that can be represented by the results of the

digital economy is also China's future in the field of economy, science and comprehensive national strength in the competition in the important guarantee.

Intellectual property legislation is highly specialised. If you want to respond to the needs of practice under the synergistic development of the digital economy, look forward to future trends, it is necessary to absorb the results of the digital economy into the law, from the scientific and technological and legal aspects of the innovation is also to pay particular attention to the role of big data. On the one hand, from the perspective of science and technology, big data is the mainstay of the digital economy, the use of big data technology to enhance the exchange and sharing of data and information to drive the synergistic development of Beijing-Tianjin-Hebei is one of the main strategies for regional integration. The use of big data qualities for intellectual property law to provide a model for research is conducive to intellectual property law to grasp the logic of scientific and technological production, the right medicine will be more in line with the needs of practice, to avoid the emergence of legislation does not understand the practice of scientific and technological development, the provisions of the innovation, practicality and other standards do not meet the logic. On the other hand, from the legal point of view, big data is a means for legislation to collect information and widely understand the situation of the digital economy industry. The technical core of big data itself is the collection and analysis of data and information, and then output results, therefore, the ability of big data capture analysis is the strongest, the legislator in the proposed law can be widely collected information, and the use of big data to refine the results of the knowledge of the innovative form of the core technology for the future of the situation of the predictive computing.

4.1.2. Criminal Legislation Gives Big Data More Room for Use

For criminal legislation, especially in the investigation stage, the high technology content of the auxiliary means of handling the case has been taboo. The reason lies in both judicial organs and commercial subjects. On the one hand, the judicial subject is afraid that too much technical means involved in the investigation process will affect the investigative stage of evidence collection legitimacy, be misunderstood as the abuse of technology investigation or the resulting evidence does not have the qualification of evidence and waste of energy, and this is especially true for big data technology. On the other hand, in the development of the digital economy, data and information may not only be used as evidence of a crime, but also has a potential economic value, regardless of whether it is relevant or not, are not willing to be easily accessed, and do not want to affect their business through big data. Commercial subjects believe that, in their own and illegal crime has no direct contact, does not have a strict obligation to provide evidence to cooperate with the investigation, do not cooperate with the evidence is small, the information disclosure is big, to avoid the risk of leakage is the first. Big data technology can effectively help the judicial authorities to quickly grasp the traces of crime in the platform in the era of digital economy, especially the process of collecting data for finding and analysing is urgently needed in the traditional way of investigating cases. For the judicial subject to be afraid of the technical sensitivity of big data, the criminal legislation should be based on the nature of big data, stipulating three points: First, in the investigation means of big data will be categorised as a legitimate means of investigation, confirming that there is no risk of illegal big data investigation activities carried out through strict approval procedures. Second, for some private information or in-depth practice of big data technology for mandatory investigative applications, the types of technical investigations should be appropriately expanded, and more stringent approvals should be set up accordingly in order to meet the requirements of due process. Third, the criminal procedure law should accept big data evidence as legal evidence, and allow big data analysis conclusions after corroboration, reverse reasoning, comprehensive determination and other testing processes to become legal evidence that can function independently without the need for effort to transform to avoid risks.

4.1.3. Civil Legislation Permits the Use of Big Data to Defend Against Infringements

Big data as a very valuable search, access, analysis technology, the main application subject is the majority of commercial subjects, so civil legislation can be sure that commercial subjects set up their

own big data system to prevent infringement, so that the information obtained from the fixed and big data analysis results as proof of infringement of the elements of evidence.

Big data is much more in practice in civil justice than it is in criminal and administrative systems. In addition to the development of digital economy many companies will be big data as their main industry, more companies will use big data as their own industrial transformation and upgrading opportunities, the traditional industry and big data combined, mainly interested in big data information retrieval and analysis capabilities, more to protect the industry's security, rapid detection of infringement of the purpose. Therefore, based on the practice of big data in practice in civil subjects, civil subjects should be allowed to be able to use big data to safeguard their own security within the scope of lawfulness, i.e., not infringing on the legal rights of others, preventing and resolving the threats brought by infringement as soon as possible, restoring the economic order, promoting the synergistic development of the digital economy, and further stimulating the economic vitality of the Beijing-Tianjin-Hebei region.

4.2. Law Enforcement Reform: Using Big Data as a Means of Discovery

4.2.1. Using Big Data to Detect Platform Trends

For government agencies, investigating and dealing with digital economy violations is a much more quantitative task compared to criminal offences. In the face of the rapid development of the digital economy and platform networks, market regulators must appropriately improve their own working methods to adapt to the virtualisation, networking and digitisation of financial and personal information violations. Big data, as an efficient and accurate information interaction and analysis technology of digital and network, can be used as a bridge for the integration of traditional law violation investigation mode and digital economy. Big data can provide the function of rapid analysis of data and information content and prediction of the future direction of data and information, so it is an indispensable security measure for the platform. On the one hand, with the help of big data's rapid analysis of data and information content, the platform itself can set up a security mechanism to quickly identify illegal intrusion activities, check and kill Trojan viruses, and maintain the safe and stable operation of the platform's data. On the other hand, government supervision and management departments can use big data technology to carry out point-to-point supervision and network inspection of these platforms, and use big data to build out a regional safety net. The real-time full-coverage detection system cohesively built up by big data can prevent the risk of data security leakage and infringement theft of the collaborative digital economy that may be generated externally during the process of data and information interaction, and it can also supervise the illegal behaviours of internal platforms, so that internal and external forces can work in both directions to jointly construct a big data detection system for platform movements and safeguard the smooth development of the digital economy.

4.2.2. Using Big Data to Combat Digital Monopoly and Unfair Competition

The most likely problem in the field of financial market is the problem of monopoly and unfair competition, and in the era of digital economy, the situation of anti-monopoly and anti-unfair competition has become more and more complicated. On the one hand, with the continuous improvement of science and technology, the feature of intelligent means of violation of law under the digital economy has been very obvious, and the characteristics of the traditional physical and figurative investigation and handling of price, sales and other issues are disappearing, and the traditional way of dealing with offline evidence collection and processing has not been able to adapt to the needs of the development of the digital economy. For example, tmall and jingdong big price war, and require shops to two choose one stationed in the terms of the process and evidence to obtain most of the basic platform data and arithmetic rules; tencent and qihoo 360 require users to network access to two choices of the behaviour of the main relies on the platform's data and traffic statistics. And these examples all reflect the administrative investigation of intelligent, networked, virtualised crime field equipped with intelligent, digital administrative means of demand.

In the field of administrative enforcement of anti-monopoly and anti-unfair competition, big data can quickly collect locked information to prevent and resolve legal disputes with one hand. On the one hand, big data helps prevent such problems. Based on the relevant information collected through technology within the regulatory authorities, the assessment of the impact on the market based on its volume leads to the result of whether monopolistic behaviour has occurred. This process is far beyond the reach of human beings. On the other hand, big data helps to resolve such disputes. Big data is the first-hand source of relevant information for administrative authorities, and is also the main supporting material provided by the business entities involved. Bank flows, book information, communication records and other content in the Internet era has been the data storage as its main form of existence, and big data is the best processing and analysis tools for data that can be tens of millions of hundreds of millions of data.

4.2.3. Use of Big Data to Investigate and Deal with Tax Offences

Big data to investigate and deal with tax is mainly aimed at the problem of tax evasion in the process of commercialism tax. Big data based on its powerful information retrieval capabilities, not only can be used to capture data information, but also to provide data and data correlation between the presentation, therefore, in this digital era where all operations have traces and data can hardly disappear out of thin air, the existence of big data undoubtedly makes it more difficult to erase the purpose of income flow or transfer of assets, which on the other hand, also provides a powerful weapon for the tax department to combat the violation of the law. On the other hand, it also provides a powerful weapon for tax authorities to combat illegal behaviours. Taxation is the economic lifeline of the country and an effective means of redistribution to achieve social justice, and tax fairness must be firmly guarded in order to better promote the development of the digital economy.

4.3. Judicial Reform: Recognising Big Data as an Auxiliary Means

4.3.1. Recognition of Big Data as an Auxiliary Proof

With the extension of innovative technology to the judicial field, big data applied to the field of criminal justice evidence to prove the practice is increasingly rich, and become the forefront of technology-based new forms of evidence. Big data evidence is based on a huge volume of data sets, algorithmic models, and analysis results, and is intended to prove the facts of the case with the exact conclusions drawn. From the legitimacy, at present, "big data evidence" is not explicitly listed in the statutory types of evidence, the legislation does not recognise the results of the analysis of big data as evidence to be used in court, is a key factor in the judicial process of big data constraints. Only when legislation gives big data the status of legal evidence, big data can become real evidence. At present, although the judicial organs of big data analysis results with the case has a real connection with the doubt, for big data intelligent capture, automatic analysis of the process of exclusion of human intervention caused by human also can not judge, can not understand the problem is particularly prominent, but also can not deny that the analysis of the conclusions reached by the big data on the case to broaden the idea, clear direction of the proof, to find the evidence of the auxiliary role. Therefore, on the basis of risk prevention, big data should be allowed to use its correlation as auxiliary evidential material to guide and corroborate the determination of the facts of the case. This bypasses the problem of the legality of the statutory evidence of big data, and realises the effective application of big data evidence on the existing basis.

4.3.2. Absorbing Big Data Professionals to Assist in Handling Cases

Due to the lack of professional knowledge and the problem of technical recognition, judicial personnel, especially judges, often fall into the predicament of not understanding the proof of technology and not daring to recognise the legal issues in specific cases. Therefore, absorbing professionals to assist in handling cases is the optimal solution to change this embarrassing situation. On the one hand, for a specific case, should absorb expert witnesses, expert aids as professional evidence, professional knowledge of the questioning, debate assistance. With the help of professionals, big data will be argued in a more comprehensible way, and judicial officers can better

accept the case information, and do a better integration of science and technology with the law. On the other hand, the judicial system should be widely absorbed professionals to enrich their workforce, especially familiar with big data, artificial intelligence and other aspects of the legal workers in the digital economy on the issue of the case problem analysis, evidence problem judgement will have a more in-depth understanding of the overall economic synergistic development is also conducive to the long term. With their knowledge of cutting-edge technological disciplines and their legal expertise, they are an invaluable source of talent that can help the judicial system operate more efficiently and accurately.

5. Conclusion

Under the tide of Beijing-Tianjin-Hebei coordinated development, the Central Committee of the Communist Party of China (CPC) has explicitly proposed the development of digital economy, promoting digital industrialisation and industrial digitisation, establishing property rights for data resources, regulating the platform economy, enriching the exchange of information and protecting personal information, etc., which ushered in new opportunities and challenges for the digital economy, and the integration of big data into the legal system of "law + science and technology" is an inevitable need to guarantee the achievement of the above goals. The incorporation of big data into the "law + technology" legal system is an inevitable need to ensure the realisation of the above goals. Although the existing legal system does not make full use of big data to ensure and promote the coordinated development of the digital economy, big data can be used in the legislation, law enforcement, and judicial process for civil infringement, administrative violations and criminal offences in the three areas of useful system construction. We have reason to believe that big data-enabled collaborative development of the digital economy will bring new opportunities for the Beijing-Tianjin-Hebei region to win better development.

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