

Construction and Improvement of Data Property Right System and Its Role in the Development of Digital Economy

Yineng Xiao*, Yi Li

Advanced Institute of Information Technology, Peking University, Hangzhou, Zhejiang, 311200, China

**Corresponding author*

Abstract: *Digital economy, as an important driving force and practical approach to deepen supply-side reform, promote consumption upgrading and model innovation in the new era, has made great achievements, but also induced many regulatory risks and hazards. It is the key production factor of digital economy, but the existing legal system has not fully responded to this new form of property. With the decrease of internalization cost and the increase of income of data property rights, defining data property rights not only conforms to the analysis of economics, but also conforms to the standards of property law. With high innovation, strong permeability and wide coverage, the digital economy is not only a new economic growth point, but also a fulcrum for transforming and upgrading traditional industries, and can become an important engine for building a modern economic system. And perfecting the data property right system is the key support to encourage the right subject to participate in the development of digital economy in an orderly way. Starting from the definition of data property rights, this paper discusses the construction and improvement of data property rights system and its role in the development of digital economy, and puts forward some suggestions on the construction of data property rights protection system.*

Keywords: *Property right of data; Digital economy; Economic system*

1. Introduction

As a new factor of production, data has a great impact on the efficiency of resource allocation, and has become the core force of the development and transformation of digital economy. At present, the institutional and institutional bottlenecks that restrict the development of digital economy, especially the discovery of data elements, still exist. For example, the key data property rights system is still being explored, and it is unclear who owns the data, who collects it, who develops it, and who benefits from it [1]. How to motivate and continuously support the rapid development of digital economy, at the same time, how to deal with the value sequencing among multiple interests such as national interests, social interests, operators' interests and consumers' interests, and how to achieve a dynamic balance among innovation incentives, compliance operation and consumer protection has become the focus and difficulty that needs to be solved urgently at present [2]. Property right is not only different from material property right, but also similar to but different from non-material property rights such as intellectual property right, which has the characteristics of mixing, complexity, reproducibility and uncertainty [3]. With high innovation, strong permeability and wide coverage, the digital economy is not only a new economic growth point, but also a fulcrum for transforming and upgrading traditional industries, and can become an important engine for building a modern economic system [4]. In order to fully realize the market value of data elements and standardize the market operation of data elements, it is necessary to define the ownership of data property rights and construct the corresponding data property rights protection system.

It is the core element of the development of digital economy, and the data governance around the free and safe flow of data and the realization of value release is the core driving force of the development of digital economy. How to promote the safe and free flow of data and realize the value release, and how to give full play to the role of data in promoting the digital economy, is the core essence of data governance, and also an unavoidable topic in the development of digital economy [5]. Perfecting and perfecting the data property right system is the key support to encourage the right subject to participate in the development of digital economy in an orderly manner, the key factor to realize the reasonable distribution of data elements, and the important guarantee to protect and respect

secrets and privacy [6]. The development of digital economy needs the orderly and safe flow of data. Perfecting the data property right system is a basic problem that must be solved to make overall plans for development and security and promote the construction of data factor market [7]. Starting from the definition of data property rights, this paper discusses the construction and improvement of data property rights system and its role in the development of digital economy, and puts forward some suggestions on the construction of data property rights protection system.

2. The dilemma of digital economy operation

At present, the shared economy, smart city, artificial intelligence or blockchain industry, which has attracted much attention, are all multidimensional applications and differentiated derivatives of various data resources and technologies based on digital writing. Without the support of data resources and technologies, the eco-industrial chain of digital economy, from deep independent learning of data-based machines to algorithm design and optimization, and even product development and innovation, will not be accurately optimized and effectively extended. There are data producers and providers, and data users. Generally speaking, data producers rarely directly face the end users, and most of them realize the realization of their own data through intermediary channels. In principle, the ownership of user data collected by telecom operators is users, and that of data collected by Internet companies is users, but telecom operators and Internet companies have the ownership of data desensitization and data processing after mining and analysis [8]. To a large extent, it is necessary to use strong explanatory power to find out the legitimacy of rights and powers around digital resources and their different writing styles in different links and the feasible relief methods applicable to them from the limited norms. This dynamic and even uncertain status of legal regulation leads to unexpected confusion among all parties involved, relevant administrative agencies and judicial institutions when dealing with cases involving data factors, and even shows inconsistency in understanding and interpretation in different links of data application.

Companies with data provide consulting reports to governments and enterprises through data mining. Although these companies have no data ownership, they have data mining capabilities. And those companies that have no data but data mining ability can be entrusted to complete data mining. In the process of accelerating R&D and innovation of big data products, it is impossible to effectively protect the legitimate business interests of data enterprises, especially the operators or operators of big data platforms, brought by the new business model that is flourishing due to the deep processing and innovative use of data, and to give a clear response to whether data providers can share relevant business interests, that is, there is still ambiguity in how to achieve fairness and justice in the rights division between data providers, data controllers and operators, or how to share benefits.

3. Application and protection of data

Data sharing includes data sharing between government departments, inter-government data sharing across administrative regions, etc. Data openness includes the government's opening to the society, as well as the cooperation and opening of data between the government and enterprises. To promote the development of digital economy, we should focus on data openness and fully release the value of data. Some Internet companies believe that if user data is not collected, these original records can hardly be directly used for analysis or even for machine learning. The original records do not exist in digital form, so there is no such thing as data rights. In addition, enterprises invest huge costs in data collection and management, and their legal rights should be recognized by law, so as to encourage them to collect and use data better.

Individuals have the right to manage their own data, the right to get timely notification and the right to be forgotten when their data is leaked. Personal data processing must be regulated. Personal data can be stored for a long time only for the public interest or historical research, but not for other purposes. At the same time, it is also necessary to ensure that the collected personal data is guaranteed by technical measures and cannot be illegally authorized, illegally processed, lost or damaged. The iterative evolution from information assets to digital assets and then to data assets makes the hierarchical positioning of data confirmation inevitable [9]. Relying on the Internet, Internet of Things, cloud computing and other technologies, data can become valuable data assets and basic production factors like capital, land and technology. At the same time, a huge amount of diverse data drives the data processing industry chain such as data collection, processing, trading and sharing, covering all walks of life such as government affairs, society and economy, and the value of data is constantly

highlighted, resulting in the concomitant emergence of multi-level data subjects. The industrial structure evolution model of digital economy is shown in Figure 1.

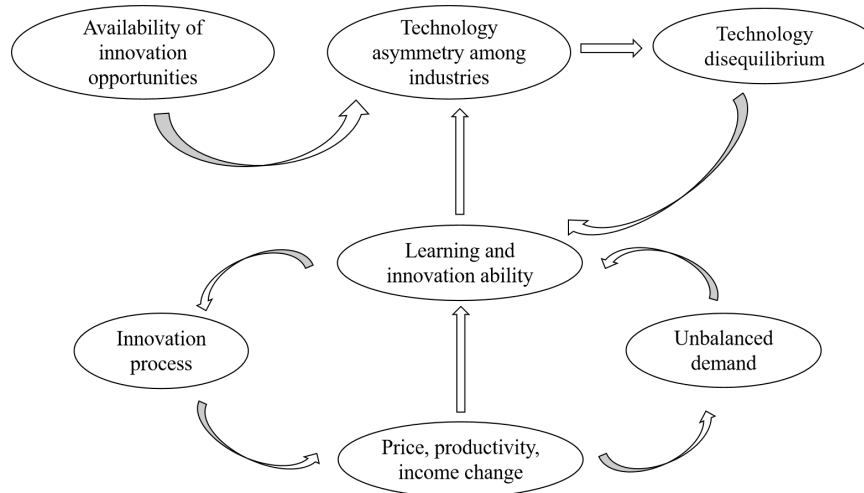


Figure 1: Evolution model of industrial structure of digital economy

The legal basis of the data subject's right to personal data is not all personal rights or privacy rights. The personal data should be classified and the personal data related to personal dignity and privacy rights should be strictly protected. If it has nothing to do with it, it does not need to be protected. On the whole, the definition of data property rights has not been unified in the existing research results, and most of the research results fall into the dilemma of the theory of special property rights and intellectual property rights. Adhere to the orientation of paying equal attention to data confirmation and assetization, improve the assetization system of data acquisition, development and transaction, and create a data assetization ecology of co-construction, sharing, symbiosis and common prosperity. It is necessary to activate the advantages of the credit mechanism provided by big data and blockchain technology, so that the real-time data of small and medium-sized enterprises can become mortgaged assets, and the production, processing, processing, trading and consumption of data can become an important link in the whole economic chain. It is necessary to participate in the formulation of international rules for cross-border data flow, form a two-way open situation inside and outside, and enhance the right to speak in the asset development of the international data factor market.

4. Strengthen the R&D and application of various data core technologies

Personal data is usually embodied as the basic attribute of private property rights. Personal information data can derive information with various specific values through new technologies such as big data and the mining of various computing power and algorithms. The right design of this kind of data is mainly to protect personal privacy, prevent personal data with property attributes from being abused and personal rights from being infringed. Data legislation should involve all aspects of data activities, such as the unification of standards for data collection and storage, so as to ensure the safety and standardization of data applications in all aspects [10]. At the same time, it should be made clear that the purpose of legislation is to promote data circulation and maximize the value of data on the premise of ensuring data security. Excessive restrictions on data sharing and use should be avoided, so as to prevent our country from killing the chance of overtaking at corners in the digital economy. Enterprise data includes commercial data, aggregate data, desensitized and modeled data, artificial intelligence data, etc. The data that is not personal or that is desensitized, declassified and unidentifiable to personal information is mainly reflected in the limited property rights of data mining and controllers. The right design concept of this kind of data mainly promotes the free flow and convenient transaction of data on the premise of ensuring privacy and security. The industrial structure optimization model of digital economy is shown in Figure 2.

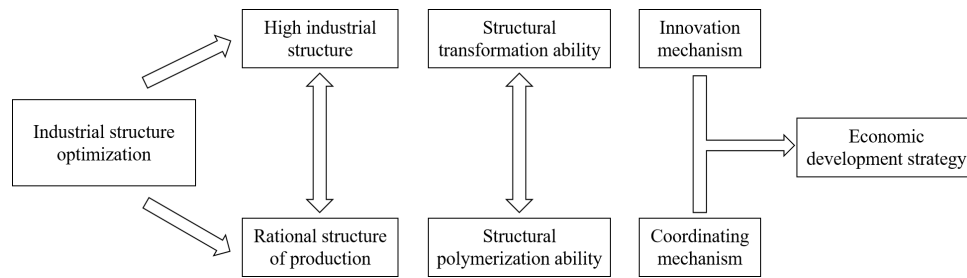


Figure 2: Optimization model of industrial structure of digital economy

Establishing scientific and reasonable data evaluation and pricing rules is the key measure to solve the problem of data transaction. As the value of big data varies from person to person, it is difficult to completely determine the pricing of data assets by objective models, and the subjective wishes of both parties to data transactions should also be referred to. At the application level, it guides and encourages all walks of life, especially the pioneering field of digital economy, to take the lead in popularizing and applying related technologies, break down data barriers, realize orderly data sharing, and let data and its application technologies escort the development of digital economy. As a new type of intangible asset, data can generate value and have the characteristics of goods and services. At the same time, data also has the characteristics of quasi-public goods, which are collected, stored, copied, processed, disseminated and shared without authorization. Therefore, the property right structure of data should be different from that of other assets. The structure of data property right should include ownership and control, and the control mainly specifies whether it can be used, how it can be used and whether it can share data.

5. Conclusions

China has entered the digital economy era at a high speed, and continues to advance to its depths. The high-order digital economy represented by platforms and algorithms has become the new direction and new kinetic energy of global economic development. Through the technological progress of data and the innovation of business model, the endogenous growth of economy has been promoted without changing the input of material capital. Therefore, it is urgent to endow data with property rights. Data has become the basis of the electronic portrait of everyone's virtual personality. Therefore, how to properly distribute the property rights of data will not only help to stabilize the expectations of all stakeholders, prevent data disputes before they happen, but also help to realize the dynamic balance between the personal interests of citizens, the economic interests of enterprises and the public interests of the country. On the basis of focusing on the challenges brought by digital economy to the regulation system, we need to collect data from the source in compliance, update the regulation idea, extend the regulation logic, improve the regulation method and reconstruct the regulation system, which is the current demand of the rule of law that needs to be answered urgently. As the main body to protect their own data rights, individuals should earnestly enhance their awareness of data leakage and other security incidents, strengthen their awareness of self-protection and skills training, especially actively understand and learn personal information protection policies and norms, and know the ways and channels to protect their rights.

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