Retraction

Retraction: Based on Big Data’s Analysis of the Focus and Strategy of High-quality Development of Private Economy (J. Phys.: Conf. Ser. 1744 032180)

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This article has been retracted by IOP Publishing following an allegation that raises concerns this article may have been created, manipulated, and/or sold by a commercial entity. In addition, IOP Publishing has seen no evidence that reliable peer review was conducted on this article, despite the clear standards expected of and communicated to conference organisers.

The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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Based on Big Data's Analysis of the Focus and Strategy of High-quality Development of Private Economy

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Abstract. With the development of the Internet, the era of big data has come. In China, as a country with the rapid development of the individually-run enterprises, big data has had an impact not only on the development of private enterprises in China, but also on the overall economic development. It is a question worth thinking about how the individually-run enterprises adapt to the era of big data and survive and develop in it. This study discusses the current situation of the development of private enterprises, the influence of big data on the development of private enterprises and the coping strategies of enterprises.

Keywords: Big Data, High-quality Development, Private Economy

1. The present situation of the development of private enterprises in China

Since the founding of New China, the market vitality of our country has been continuously stimulated.

From 1950s to 1970s, China's ownership structure was mainly a single public economy, enterprises under collective ownership and government organs. The number was relatively stable. After the reform and opening up, especially since the establishment of a socialist market economic system, the number of units has increased rapidly. Non-public enterprises, including private enterprises, joint-stock cooperative enterprises, Hong Kong, Macao and Taiwan investment enterprises, and foreign invested enterprises, have developed rapidly and played a significant role in improving growth and stabilizing employment. With the continuous progress of the reform of the commercial system, the registration of enterprises is becoming more and more convenient, the business environment is constantly optimized, and the number of units is further explosive growth.

A legal entity refers to an organization that has the right to own assets, bear liabilities, and independently engage in social and economic activities, including enterprise legal person, organ legal person, institution legal person, social organization and so on. In 1996, there were 4.402 million legal entities in China. In 2017, the number of units increased to 22.009 million, five times that of 1996, with an average annual growth rate of 8 per cent over the past 21 years. Among them, the number of units grew at a rate of 15.7% from 2012 to 2017.

The basic economic system with public ownership as the main body and the common development of various forms of ownership is not only an important part of the socialist system with Chinese
characteristics, but also the inevitable requirement of perfecting the socialist market economic system. Since the reform and opening up, the private economy has developed continuously from small to large. In 1996, there were 443000 private enterprises in China, which increased by 31.4 times by 2017, with a rate of 18 percent. The percentage of private enterprises in the total number of enterprises increased from 16.9% to 79.4%.

2. The role of big data in the development of private economy

2.1. A brief introduction to big data

Big data refers to a kind of data collection whose scale is so giant that it deeply exceeds the ability of old database software tools in the aspect of acquisition, management and analysis. Big data has four basic characteristics: 1) The speed of data flow is fast. 2) The scale of the data is huge. 3) Various data types; and. 4) Low value density.[2]

Among them, the large amount of data is the most prominent feature that distinguishes big data from the traditional data. The amount of data processed by big data is usually above the PB level, while the amount of data processed by the general database is at the TB level. The type of computer data processed by big data is no longer a table or a single text form in a structured database, it includes audio, picture, video, Weibo, order and other complex structure data. The key of big data is to quickly purify the data value and dig out the potential value from the huge data information through advanced analysis.

![Figure 1. The basic framework of big data era.](image)

Big data contains many types of data. The types of data are mainly divided into:

1) Transaction data:

Refers to the data from enterprise applications and e-commerce, including business-to-business (B2B), business-to-individual (B2C), individual-to-individual (C2C), ERP, group purchase and other systems. The complexity and scale of these data have been increasing.

2) Interactive data:

Refers to social network data from interaction, including social media interaction data and machine interaction data. Big data integrates these two types of data, and on this basis, processes the data, analyzes the potential value of the data, and grasps big data's related economic activities and business value chain.

2.2. The influence of big data on the development of individually-run enterprises

With the continuous development of modernization, China's economic system is also gradually changing. In this context, in order to win more economic benefits and value, enterprises are bound to take some actions and activities, which is the so-called corporate behaviour. When the external economic environment changes, enterprises should also timely adjust their own mode of development and improve their internal management structure, so as to adapt to the development of modern social
economy. The popularization and promotion of the Internet not only provides a lot of development opportunities and platforms for the era of big data, but also promotes the development and consumption of information. This not only has a large impact in improving the operational efficiency of enterprises, but also continuously adjusts and improves some traditional industries in our country, and plays a great role in the transformation of enterprises[3].

Big data promoted the birth of new industries and the upgrading of existing industries. The active development and application of big data in these industries can greatly expand the space for industrial growth and greatly promote the development of emerging industries. Large traditional industries can also accelerate development and upgrade production capacity through the development and use of big data, resulting in value-added service enterprises, and then promote the production of high-end products. In the development of electronic information industry, through the active application of big data, we can promote memory computing, integrated data storage, processing servers and other products to update and upgrade[4].

Big data creates economic benefits for economic and social development. Big data can effectively improve the efficiency of social operation and improve the operating profits of various industries. Enterprises have higher management efficiency and independent innovation ability, the information cost of enterprises has been further reduced, promoting the process of urbanization in our country. For specific enterprises, the development and application of big data can also improve the economic benefits of enterprises. Enterprises can accurately understand the needs of consumers and grasp and analyse the dynamics of the market in real time[5].

Big data promoted the overall improvement of the level of social governance. Maintaining social stability and security, promoting social fairness and justice, and rational distribution of social resources are all important contents of social governance. In this process, the active development and application of big data can make the decision-making of social governance more scientific and give better play to the role of social governance. Through the application, sharing and analysis of massive data, the government can have a higher service level and management ability in security prevention, traffic management and urban planning.

3. Challenges and countermeasures for the development of individually-run enterprises in the era of big data

3.1. Challenge
The information from the patent database of 350,000 enterprises indicates that the private science and technology enterprises in China are full of innovative vitality. Attaching importance to science and technology, innovation and talents are very outstanding in private science and technology enterprises. Today, private enterprises have contributed more than 70% of the achievements of technological innovation, and private enterprises have become an important force in technological innovation.
However, private enterprises still have some defects:
(1) The willingness of private enterprises to become bigger and stronger is not strong. Many private enterprises are lack of progress, and the sense of cooperation is not strong, products or services lack of innovation, mostly for simple price.
(2) The industrial layout of private enterprises is unreasonable. Most of the private enterprises focus on labor-intensive products and are less engaged in technology-intensive industries. Private enterprises have low technological content, low added value of products and lack of market competitiveness.
(3) The driving force of independent innovation of private enterprises is insufficient. Private enterprises are lack of talents, backward technology and lack of independent innovation.
(4) It is difficult for private enterprises to raise funds. The funds for local financial support and guidance of private enterprises are limited, and the financing channels of private enterprises are narrow. The guarantee condition of bank loan is high, the procedure is complicated and the period is long.
(5) The overall development environment of private enterprises needs to be optimized.
At present, most private enterprises are far from realizing big data's advantages in enterprise development strategy and management level modernization, and have no subjective tendency to big data's integration, let alone with enterprise economic development. There is still a certain distance to realize the deep integration of digital economy and real economy in private enterprises in the short and medium term. In other words, whether China, as a country that accounts for a considerable proportion of the private economy, can be in an invincible position in the wave of world economic development is still a severe challenge for us.

In the face of the challenges faced by private enterprises in the era of big data. The analysis of big data requires an IT system, and the analysis of the data requires a lot of money. Small and medium-sized private enterprises are facing the pressure of small scale of funds, difficulty in financing, shortage of talents, especially professionals, cruel market competition and so on. This means that it is very difficult for small and medium-sized private enterprises to have a place in this revolution of big data. How to adapt to the big data era of small and medium-sized private enterprises has become a new topic[6].

3.2. Strategy
(1) Under the leadership of the state, we should strengthen and expand the learning and training for the integrated development of the digital economy and the real economy, and constantly enhance the understanding, concept and technology of enterprises. At the same time, the relevant departments should carry out extensive exchanges between the government and enterprises, enterprises and enterprises. This makes enterprises further realize the great significance of the deep integration of big data's application and enterprise management, and enhance big data's service to enterprise management.
(2) As the commercial secret of the real economy, the digital economy has some concerns about the security and confidentiality of the government cloud platform established by the government. The relevant departments should issue laws and regulations to regulate the protection of trade secrets and enhance the trust of private enterprises in big data.
(3) The establishment of a part of benchmarking enterprises can provide ideas and experience that can be used for reference for entity enterprises to access big data integration on a large scale.
(4) The introduction of corresponding preferential policies to exemplary benchmarking enterprises for policy preference and financial subsidies, play a guiding and supervisory role.
(5) While training professionals, enterprises and the government should also do a good job in vocational education, give preference to disciplines and specialties, and reserve suitable talents for enterprises in the use of big data.

4. Conclusion
Big data, as a new generation of information technology industry, its standard and industrial pattern have not yet been formed, which is a valuable opportunity for our country to achieve leapfrog development. With the development of the Internet, as a field that produces a large amount of data every year, it is necessary for private enterprises to carry out all kinds of innovative research around big data's technology, so as to discover knowledge and create wealth. To achieve success in the era of big data, private enterprises need to have big data thinking, be good at sharing information, and build an information platform with their own characteristics. Enterprises should rely on technology and finally realize the benign closed loop of market, service, technology, organization and management.

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