

# Application of blockchain technology in Shaanxi Province

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**Abstract:** In recent years, the state has issued a series of policies and measures to accelerate the layout and development of blockchain-related technologies, in order to accelerate and promote the innovation and development of blockchain technology and its related industries, and actively promote the integration of blockchain technology with the current economic development of China. This paper analyzes the application and development of blockchain technology in Shaanxi Province through interviews and observation, and provides countermeasures and suggestions for the industrialization practice of blockchain technology in Shaanxi Province from the typical applications in agriculture, commodity traceability, digital identity, e-government and other fields.

**Keywords:** blockchain technology; Shaanxi Province; application and development

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## 1. Introduction

In the current global economic and social toward the modernization, block chain technology has increasingly become the focus of global attention and cutting-edge technology, and with the advancement of the network age, block chain technology also gradually began to spread to digital logistics, digital finance, cross-border electricity, electronic supply chain, intelligent manufacturing, Internet of things, government affairs, medical, and other related areas(Bodó B,2018) .

In the 18th collective study of the Political Bureau of the CPC Central Committee, General Secretary Xi Jinping proposed that blockchain should be taken as the entry point to accelerate the promotion of blockchain technology and industrial innovation, and the focus is to achieve independent innovation in core technologies. Since 2018, Shaanxi province has taken the lead in establishing a number of provincial blockchain technology research centers, and has set up blockchain-related disciplines in a number of universities. At present, Shaanxi Province has more than 100 registered blockchain companies, and more than 500 registered companies engaged in blockchain business. With the development of blockchain technology, the application of Shaanxi Province in the field of people's livelihood is gradually expanding, and it has achieved good results in medical and health care, real estate transactions and other fields.

## 2. Application of blockchain technology in the agricultural field of Shaanxi Province

Shaanxi province is the main producing area of kiwi fruit in China, but it is still facing the problems of consumer trust crisis, information asymmetry and high logistics cost in the market.

In kiwi fruit industry production supply chain system based on block chain, there are many participants, these participants include the kiwi fruit production enterprises, electric business platform, logistics enterprises, distributors, consumers, each participant can use block link block access to block chain, and will own all the transaction behavior records in the block chain. All participants can use specific vouchers, the transaction information recorded in a public account, everyone has the right to inquire, make all information transparent, true and reliable.

Under the system of blockchain technology, each block can store the production, logistics, order and inventory information involved in each step of the transaction(Risius M,2017). In the production information recorded in each piece, contains the information of all kinds of agricultural products required for kiwi planting, in the production process, the origin, the data is displayed in detail. At the same time, it can also display the specific information and data of each logistics link in the kiwi sales process; the order information contains all kinds of order information, the quality and quantity of traded goods, and the inventory information includes the storage time, the quantity of inventory, preservation period and other information.

## 3. Successful application of blockchain technology in food and drug traceability in Tongchuan, Shaanxi province

In restaurants on the streets and alleys of Tongchuan city, you can see a QR code at the cashier. Consumers can through mobile phone scan this a small qr code, not only with mobile phone can real-time access to the social entities name, address, head, social subject credit code, business forms, basic information, but also make consumers can through the phone to check the county market food and drug administration of food enterprises whether to carry out daily supervision and inspection, supervision of food sampling inspection, and can be real-time access to food business credit rating and its risk and credit rating. The formulation and implementation of this series of food supervision measures and measures, so that food supervision on the “fast lane” of food access to the Internet, facilitate the understanding and supervision of the masses, but also to a certain extent, directly forced the sales of food operators to further improve the quality of service, strengthen the sense of self-discipline.

The release and use of the two-dimensional code of drug production and marketing safety supervision information in the city will greatly protect the legal right of consumers and the right of enterprises to supervise, further optimize the resources of drug safety supervision, and improve the targeting of drug safety supervision and the efficiency of drug safety supervision.

## **4. Application of blockchain technology in the field of government affairs in Shaanxi Province**

### **4.1 Build a “smart chain overpass” and break down data barriers**

“Smart Chain Overpass” uses blockchain technology to collect and check government data under the consensus mechanism of blockchain, solving the pain points such as difficulty in data sharing and openness. In the process of data exchange, the information is uploaded to the blockchain after encryption to realize the “trusted sharing” of the data(WANG Weijin,2020).”Wisdom chain overpass” through the introduction of block chain technology, the government departments of information system, government service platform, business service platform and social service platform, broke the information island and data chimney, implements the exchange of information, sharing and exchange between departments, implements the cross-sectoral, cross-regional, cross-level business coordination . At the same time, “Smart Chain Overpass” encrypts, stores and manages the user privacy data and related business information through the blockchain technology, so as to ensure the user privacy security of users to the greatest extent.

### **4.2 Data integration, intelligent application, optimize the government and benefit the people**

Is based on “Shaanxi Digital Connect”, according to the “big as a whole, application, high efficiency, low cost” principle, around the “three village”, namely the village, financial village and medical village, “four” as the core, in Xianyang city more than 100 administrative villages and urban community to establish “four” convenient service workstation, mainly including business, financial, medical, a key through intelligent terminal. So far, it has provided millions of services to the residents, especially the poor people and the elderly. They can send the service to the most needed places by tapping the screen, making them run only once, which has greatly improved the residents’ sense of gain. At the same time, through the “sandbox” technology, to ensure the security and ownership of data, and in many aspects of in-depth application, for Xianyang yang 5 million people, city, county and town level more than 720 departments have provided services, the realization of data fusion, information sharing, convenient for the people’s life.

Based on blockchain, intelligent contract, artificial intelligence and other technologies, “Shaanxi Digital Connect” will continue to introduce new technologies to provide new ideas, new methods and new ways to clarify data ownership, improve data security, establish data trust, and solve the problems of combining government data and business.

## **5. Countermeasures and suggestions in the application and development of blockchain technology in enterprises in Shaanxi Province**

### **5.1 The government will increase capital investment to accelerate the research and development of blockchain technology**

Xi ‘an’s blockchain industry is developing slowly, Mainly because there is insufficient policy support, And the lack of a good industrial

atmosphere, Now, in many economically developed places, Have developed some policies related to blockchain, Most of these policies are from a corporate perspective, Subsidies and reward for various blockchain industries, However, xi 'an's theoretical basic research on blockchain technology and basic technology research is still weak, Enterprises can make breakthroughs around the basic technologies of blockchain and the key technologies applied in related industries, A project research group creating an emergency research project or large research programs, Promote the development and research of key blockchain technologies in enterprises and countries.

## 5.2 Strengthen the popularization of blockchain knowledge to the management and prevent corporate financial risks

The low development level of the blockchain industry in Shaanxi is mainly due to the lack of public understanding of the blockchain industry. Emerging information technologies, such as blockchain technology and digital currency technology, are inseparable from the regulatory capabilities of large companies(SAHNG Qi,2019). First of all, strengthen the research on the monitoring technology means of blockchain finance, and improve the various monitoring means and technical standards of blockchain technology. Second, avoid the use of blockchain technology to implement various scams, such as Ponzi schemes and beepot schemes. Third, predict the impact of the super-sovereign exchange rate on the company's operating policy and payment system as soon as possible, and make timely preparatory plans and countermeasures.

### 5.3 Attract talents and accelerate the ecological layout of blockchain

At present, there is a serious shortage of blockchain talent market. Enterprises need to accelerate the cultivation of blockchain talents, strengthen the cooperation with many domestic universities, actively cultivate blockchain technology development talents, and further manage and expand the planning and layout of enterprises in blockchain technology. If the company has a more ambitious development plan, it can consider the integration and innovation of blockchain technology and the company's existing commodities and businesses, improve the quality of the enterprise's blockchain patents, and promote the enterprise's independent innovative blockchain technology and products to the world.

## 6.Conclusion

As a key core technology in the development of China's digital economy, blockchain will also play a more obvious and prominent role in the future. Promoting the development of blockchain industry and the integration and application with other industries will inevitably make Shaanxi province gain a greater competitive advantage in the new round of technological innovation and industrial transformation.

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