

Exploring the Impact of Blockchain Technology on the Development of Digital Economy

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Abstract: *The development of blockchain technology has attracted attention from all walks of life around the world, and at this stage it has promoted the transformation and upgrading of the digital economy. The blockchain is essentially a recording system. Since each recording system needs to be stored in blocks, the ID of each block forms a chain-like structure before and after the recording time. For the development of the digital economy, the blockchain has a more complete system support. With the effective integration of digital technology and the real economy, the position occupied by blockchain technology is becoming more and more important. Therefore, exploring the impact of blockchain technology on the development of the digital economy and building a new infrastructure for the development of the digital economy can ensure the order of the operation of China's digital economy.*

Keywords: *blockchain technology; digital economy; development; impact*

1. Introduction

With the development and upgrading of blockchain technology, a new type of economic model has been born, and the blockchain digital economy is widely well-known in the current society. Affected by the epidemic in recent years, the global economic development has been severely restricted. Therefore, with the help of new models and technological changes, by using the support of blockchain technology to promote the efficient development of the digital economy, the application and development of many new science and technologies such as big data, cloud computing and the Internet of Things has given the digital economy more technical support, which has had a certain impact on the current industrial structure. Therefore, attention should be paid to the application of blockchain technology in the digital economy to enhance the high-quality development of the national economy.

2. The current development status of the digital economy under the blockchain technology

The digital economy mainly refers to an economic form derived from new scientific methods such as cloud computing, big data and artificial intelligence. This digital economic form has enabled the renewal and development of traditional industries. And the development of the digital economy mainly depends on the security and efficiency of information. The main components are digital industrialization, industry digitization and subsequent digital governance. Due to the mature development of blockchain technology, the digital economy has obtained more economic opportunities at this stage. At the same time, there have also been many difficulties in the process of development. From the perspective of the current development model of China's digital economy, it is necessary to promote the transformation and upgrading of the market through the development of the digital economy, so that the digital economic system can be capitalized ^[1]. It is foreseeable that the combination of digitalization and finance will subvert global personal payment methods, reshape the trade settlement system, and reform the global currency issuance mechanism. As the bloodline of the real economy, the digital transformation of China's financial industry is an inevitable question. Due to the profound impact of financial technology on the organizational mechanism and institutional management of traditional financial institutions at the current stage, accelerating digital transformation has become an inevitable choice for changing the development mode and cultivating growth momentum, and it is also an inevitable choice to adapt to the general trend of future financial ecological reform. Therefore, under the blockchain technology model, the impact and development of finance and the digital economy have prompted the digital economy to form a relatively complete economic service system and have provided a new impetus for the current economic development.

3. Blockchain development trends and main application areas

3.1. The development trend of blockchain technology from a global perspective

The wave of digitalization is reshaping the global financial ecology. As an important emerging technology, blockchain has great potential in promoting the innovative development of the digital economy. From the current stage of blockchain development and evolution, blockchain technology is promoting the blockchain development of special smart contracts in the core area of digital currency. And in the future, it will gradually move towards the road of joint cooperation of human society. Its application area will not be limited to a single digital currency, but will gradually penetrate into many fields such as cultural entertainment, high-end intelligent production, social welfare activities, and even government services and social employment. This development model is gradually in line with the trend of social and economic development, which can effectively promote the development of new information technology industries and help the digital economy. And it will provide opportunities for subsequent new science and technology and new platforms such as cloud computing, big data, and the Internet of Things. At the same time, the development of blockchain can give full play to its own advantages in public management, social security and intellectual property from a global perspective, thereby effectively reducing the cost and capital of social management operations in various countries, and improving the quality and corresponding efficiency of social management. In recent years, blockchain technology in China and Europe has continued to develop, and more private and public entities have gradually participated in the development of blockchain. In some international metropolises, blockchain has gradually been strongly supported and introduced. London and some areas such as Crypto Valley are gradually paying attention to the positive impact of blockchain development.

3.2. Various applications of blockchain in the field of digital economy

With the continuous maturity and development of blockchain technology, various types of blockchain industry-related alliances have emerged at home and abroad. The innovative development of blockchain technology should be coordinated and the application of blockchain technology should be analyzed in the field of digital economy. First of all, in terms of securities trading, NASDAQ is the first platform to use the blockchain trading among individual stock traders, which shows that the continuous innovation and development of blockchain technology in the development of the international digital economy open a door for the subsequent digital development of the global economy. The second is banking business, where various banks form an alliance to develop and utilize the R3 blockchain technology of fintech companies. Including currency payment, currency clearing and settlement, financial supervision and accounting auditing, the blockchain technology is applied to the automatic review of the client and the application management program of the insurance company, which can strengthen the cognition of the blockchain technology and make it suitable for changes and development trends of the global digital economy.

3.3. Changes in the Internet and the global economy that blockchain brings

The emergence of the blockchain technology is a disruptive technology, which can change the way of the Internet and the development model of the global economy to a certain extent. The digitization of assets is realized, and the transformation of network networking functions has been gradually promoted by blockchain technology in the information age. Under the traditional Internet, effective value information can be viewed and exchanged at will, and even some assets can be circulated. With the continuous development of blockchain technology and regional maturity, the real-time value of the global economy continues to shift, and some large economic intermediaries are no longer playing a major role in development. The development of the global economy gradually builds so-called economic entities through computer codes. In the next ten years, this trend will gradually surpass the digital currency and the use to payment collection, leading to great changes in various industries, greatly promoting trade between countries, eliminating the expensive costs of intermediaries, ensuring the democratization among countries in the world and keeping the global financial system stable with minimal human intervention.

4. The impact of blockchain technology on the development of the digital economy

Blockchain technology is essentially a data structure. There are currently three main types, one is the public blockchain, the others are the consortium blockchain and the private blockchain. This mode of operation operates through a symmetric encryption algorithm, which includes multiple technologies and hashing algorithms. Therefore, in this area, new technologies and value functions have been applied in many fields, and various data generated are recorded at any time, which promotes the effective integration of blockchain technology and digital economy.

4.1. Blockchain--- the foundation of digital economy governance

The outbreak of the epidemic in recent years has had a certain impact on the development of the global economy. Correspondingly, some conventional economic activities and business models cannot operate due to external influences and shocks, which challenges to coordination at the decision-making level and to emergency response capabilities. The static management in Shanghai for about two months has led to the insufficient start-up of the consumer and service markets in Shanghai and the Yangtze River Delta, and the imbalance of foreign trade supply and demand will become the main contradiction. At the same time, due to the "time and space difference" of the epidemic between China and foreign countries, international capital is chasing safe assets, which may increase capital inflows, but it is mainly short-term capital, which may cause some risks to financial stability. Finally, short-term capital inflows limit the room for the depreciation of the RMB exchange rates, and the expansion of government fiscal expenditures will also affect subsequent macro-control capabilities. The development of blockchain technology is conducive to the circulation and sharing of relevant data, and the real-time implementation of some scattered information methods can better improve the ability of overall coordination and ensure the management and service level of various regions under the epidemic.

4.2. Creating a new engine for the development of the domestic digital economy

The development and application of blockchain technology has brought cooperation and development between different economies to a new level, promoting economic and social transformation and upgrading. The emergence of blockchain technology will break down data silos and solve issues like legitimacy and regulatory, intelligent operations, and service agility. It simplifies the process of various industries, improves the efficiency of collaborative work, and promotes economic development and social transformation. In the outline of the future development plan, in the face of the goal of building a modern and powerful country, blockchain technology has obvious advantages in supply chain tracking and payment financial industry, and it will be obviously applied in the links including identity security and labor contract dispute resolution, customer participation in reward programs, etc.. And these will become the template driving force for building a modern and powerful economy^[2].

4.3. Reshaping the new ecological environment of the domestic economy

At present, the national standardization organization is formulating a global unified standard for the development of blockchain technology, and more elites and giants in the international financial industry have begun to farm in the development of blockchain technology. With the development and maturity of China's blockchain technology, we will continue to support the high-quality development of blockchain technology. A corresponding horizontal data circulation mechanism should be established by using the advantages of digital information, and the application and support of some small sample groups for blockchain technology should be vigorously supported and professional technical personnel should be introduced. Especially under the epidemic, the digital economy plays an important role in ensuring the work and life of people during the epidemic. The convenience-for-people measures like "contactless distribution" services, online consultation, live teaching, Internet office, and remote instant maintenance have greatly reduced the impact of the epidemic on the work and life of people. In line with the status quo of China's economic development, in the development plan for the next ten years, building a modern economic system model and using smart contract digital asset management, can effectively save business costs, and rationally and scientifically apply the advantages of blockchain technology development to ensure the quality and transparency of data.

4.4. Helping to accelerate the transition to paperless global trade

According to the content released by the World Trade Organization, and according to the content of the corresponding report *Can Blockchain Revolutionize International Trade*, the development of blockchain technology has an important impact on the development of economic globalization in the digital age. Through the innovative application of blockchain technology, it is possible to promote the construction of a global payment credit system, so as to reduce intermediate transaction costs and promote the facilitation of international trade. At the same time, it can also improve the transparency of the global supply chain, enabling some small and medium-sized enterprises to enter the global market with the help of the development of blockchain technology. The application of blockchain technology has new requirements for the development of the global digital economy, which mainly refers to breaking the traditional wire transfer payment, reduce the risk of cross-border payment, and promote the transformation and upgrading of blockchain technology.

4.5. Promoting effective cooperation between global blockchain and digital finance

The development of artificial intelligence and 5G technology at this stage makes digital technology play an important role in economic and social development. The development of global blockchain technology can effectively promote the transformation and development of society to digitalization. At the same time, in global national trade, the development of blockchain technology can effectively improve the efficiency of economic transactions and reduce transaction costs. An alliance based on blockchain consensus should be constructed to play a key role in financial markets and economic development. The blockchain technology opens up the upstream and downstream and related businesses of the industry through the continuous and horizontal way and establish the most suitable distributed technology in digital ecology. The blockchain can solve the trust problem in the community ecology with lower cost, higher efficiency and more security, and can better support the main ecological business such as information flow, logistics, and capital flow.

5. Conclusion

To sum up, the development of the digital economy under the blockchain technology, which is combined with the current domestic and international economic development status, is based on blockchain encryption, distributed computing and storage and other technologies developed online data opening, sharing, trading platform, to form a trusted data management, development and transaction basis on a unified blockchain. In this way, a new digital economic development model is cultivated, so that the blockchain and digital economy can be integrated with financial services, global trade, social governance and other aspects to meet the needs of economic development in the current era.

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