
| RESEARCH ARTICLE

The Construction of Hong Kong International Technology Financial Center based on Blockchain Technology

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| ABSTRACT

As the booster of modern economic transformation, technology and finance are very important in economic life. As a financial center with global influence, Hong Kong uses blockchain technology, which can not only improve the sustainable economic development of the HKSAR but also promote the coordinated development of the inland economy. Based on the importance of building Hong Kong as an international technology and financial center, this paper discusses the practical problems in the construction process and concludes the important role of blockchain technology in helping Hong Kong into an international technology and financial center.

| KEYWORDS

Blockchain, technology finance, Hong Kong

| ARTICLE INFORMATION

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1. Introduction

“Science and technology finance” refers to guiding and promoting all kinds of capital such as banking, securities, insurance financial institutions, and venture capital through innovative financial science and technology investment methods, innovating financial products, improving service models, building service platforms, and realizing the organic combination of science and technology innovation chain and financial capital chain. It is a systematic arrangement of a series of policies and systems to provide financing support and financial services for science and technology enterprises at all stages of development from start-up to maturity. Strengthening the combination of science and technology and finance is not only conducive to the supporting role of science and technology in economic and social development but also conducive to financial innovation and the sustainable development of finance.

In October 2017, the Hong Kong government issued the 2017 policy address of the chief executive, in which promoting the development of innovative technology is one of the key governance tasks of the Hong Kong Government in the future. In March 2019, Premier Li Keqiang stressed the need to promote the construction of scientific and technological innovation centers, support Guangdong, Hong Kong, and Macao to give full play to their own advantages, and build an international scientific and technological financial center in his government work report (Liu & Ruan, 2020). Looking at the in-depth adjustment of the world economic structure and the international division of labor system, the construction of a science and technology financial center is a successful path for many developed countries and emerging economies to achieve innovation-driven, which plays a vital role in Hong Kong's fight for the initiative in the global science and technology and financial field. Through the use of literature review, qualitative analysis, and quantitative analysis of the Hong Kong international financial center's construction significance and important role, dig into the reality behind the urban development in order to explore the use of blockchain technology in Hong

Kong from the international financial center into the practical significance of the international science and technology financial center.

2. The Significance of Building Hong Kong's Technology and Financial Center

2.1 Science and Technology Finance Promotes Innovative Development

Science and technology are the primary productive force of development, and financial business is the core of economic development. The mutual penetration of science and technology and finance can effectively promote the development of scientific and technological innovation and enhance comprehensive competitiveness. In 2006, the Outline of the National Medium-and Long-term Science and Technology Development Plan put the integration of science and technology and finance on the agenda. In 2011, the 12th Five-Year Plan once again proposed to build a diversified scientific and technological investment system, attract more social resources to support scientific and technological innovation activities, and further improve the integration of science and technology and finance. We will strengthen the science and technology innovation financing system. In 2013, the Third Plenary Session of the 18th CPC Central Committee allowed private enterprises to set up small and medium-sized banks and financial institutions in accordance with the law, strengthen the supervision system, and expand the communication channels for private funds to enter the field of science and technology innovation (Zhang & Zhao, 2015).

2.2 Science and Technology Finance Promote Economic Development

As one of the regions with the highest economic density in the world, Hong Kong ranks fourth in the human development index. Since the end of the financial crisis in 1998, the development of Hong Kong's traditional economy has gradually slowed down (Na & Liang, 2018). With the rapid economic development of the mainland economy, the economic scale of Hong Kong SAR has been overtaken by mainland cities, Tokyo and Singapore. The excessively concentrated four pillar industries pose a serious threat to the sustainable development of Hong Kong's economy. At present, Hong Kong is at a "crossroads" of economic transformation. After the service industry and the manufacturing industry, whether Hong Kong can grasp the transformation and development of the innovative economy is a key node for whether Hong Kong can become an important gateway to the international technology and financial center.

3. Practical Problems in Building Hong Kong into an International Technology and Financial Center

First, Hong Kong's technology and financial system have not yet formed an effective radiation scale, and it is difficult to form an effective connection with mainland cities. The development of the financial industry on the basis of market credit, reputation mechanism is established on the basis of information economics to promote the important cooperation mechanism, but Hong Kong's "reputation information network" and credit system is not perfect, foreign and mainland research and development center constitutes an important part of the Hong Kong innovation system, science, and technology financial development situation is extremely unbalanced, did not form an effective radiation scale. Second, the proportion of technology services in Hong Kong is rising, but the technology and financial industry has failed to adjust efficiently to environmental changes. The prudent financial attitude of the mainland is different from that of the free capital attitude of Hong Kong. The differences and alienation between the technology and financial systems of the two places make it difficult to be directly adapted.

Science and technology research and development investment is an important indicator to measure the scientific and technological strength of a country and a region. According to the 2010-2019 Global Innovation Index, the global innovation index in mainland China is on the rise, while Hong Kong is on a downward trend, and the development speed gap is gradually widening (Figure 1).

4. The Application of Blockchain Technology in Technology and Finance

The application of blockchain technology in the financial field and its influence on technology and finance are increasingly increasing (Xiao et al., 2011). Introducing blockchain technology on the financial supply side, the construction of a new supply chain financial system can improve the overall office efficiency and quality of financial institutions and enhance system security.

4.1 The Technical Principle of Blockchain

At the data level, blockchain technology has great potential and development value compared with the databases of existing financial system institutions. Distinguish Blockchain is actually a brand new database system. All the accounting data in the database is recorded not by the user himself but by the consensus mechanism running by the whole network. The consensus algorithm ensures that the data of the database cannot be tampered with, falsified, and traceable. At the application level, blockchain-based registration, settlement, and clearing systems can bring great potential and value to financial institutions (Zhang, 2016).

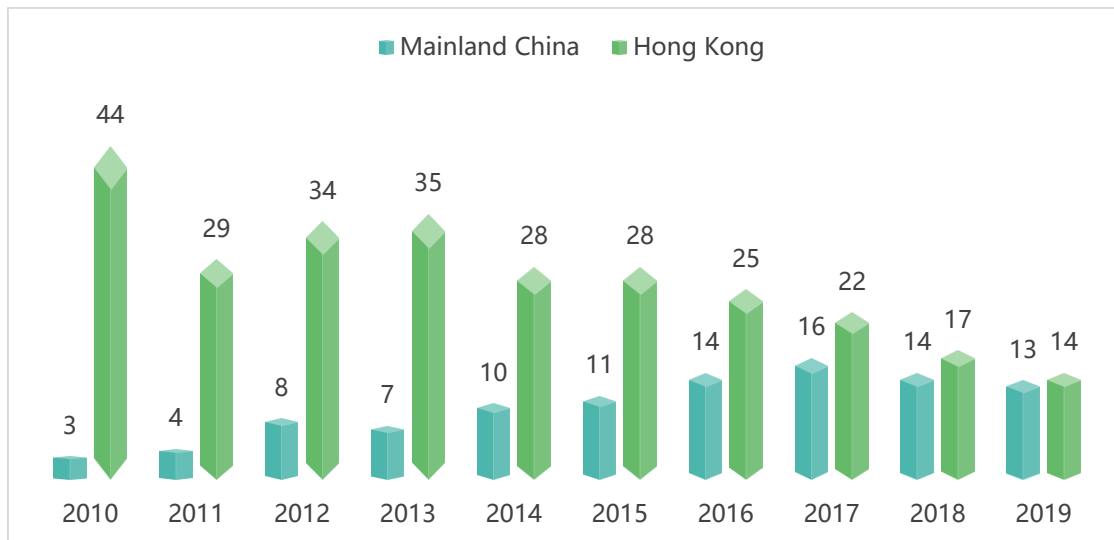


Figure 1. The Global Innovation Index Ranking of Mainland China and Hong Kong in 2010-2019

4.2 The Advantages of Blockchain Technology

4.2.1 Low Cost

In the 2017 Global Innovation Index jointly released by the World Intellectual Property Organization, Cornell University, and British International Business School, Hong Kong ranked 73rd in innovation efficiency. Hong Kong's investment in innovation technology accounted for only 0.73% of the total GDP. However, The financial database of blockchain technology is a decentralized open account book, which establishes credit through each other in P2P, unlike the traditional model, which requires asset endorsement to establish credit. Blockchain relies on the big data of transaction liquidity to establish credit and is the lowest-cost "credit" resource in the world.

4.2.2 High Security

Hong Kong has a well-developed financial system. It is the third largest financial center in the world and the second largest private equity fund center in Asia. It has an advanced currency issuance bureau system, a financial regulatory system, and a securities market management system. Against this background, Hong Kong is also a world-renowned information city. The PC household connected to the Internet accounts for 82.2% of all the households in Hong Kong, ranking first in the world. Blockchain technology greatly improves its security factor through centralized management solutions because there are scattered account books on each node, and the attack or tampering of any node is invalid, occurring only when more than half of the outlets agree, which greatly guarantees the security of user information transactions.

4.2.3 Great Expansion

In the field of technology and finance, Hong Kong has a huge financial industry foundation, but the development of fintech is very limited. Compared with the strong support of inland areas and government policies, the SAR government mainly guides the market direction, most of which is selected by the market and capital themselves, and the SAR government is supplemented by strict control. However, in recent years, under the great influence of the development of technology and finance in inland areas, Hong Kong's technology and finance industry has expanded rapidly with great potential (Xiao, 2018). Blockchain technology can register, trade, clear, and audit assets on a "chain" at the same time, creating a kind for people. A business model that integrates "consumption" and "investment" offers technological possibilities.

5. Conclusion

As one of the important financial centers in the world, Hong Kong ranks with its economic freedom and human development index among the highest in the world. However, due to the excessive concentration of Hong Kong's traditional economy and the lack of new forms of business such as technology and finance, the development speed of Hong Kong's traditional economy has been very slow in recent years. Hong Kong's status and development as an international financial center have gradually been surpassed by inland cities (such as Shanghai, Shenzhen), Tokyo, and Singapore. If Hong Kong cannot transform a new development model as soon as possible, Hong Kong will face serious development restrictions. Full text through theoretical analysis and practical research, the use of blockchain technology, with its low cost, high security, and sustainable technology advantages, can greatly make up for the Hong Kong technology financial industry supply shortage, improve Hong Kong informatization, digital transaction efficiency, reduce economic spending, improve the industrial service system, to help Hong Kong construction of international science and technology financial center necessity, feasibility and reality. To strengthen Hong Kong's position as an international financial center,

establish a comprehensive and multi-level technology and financial system, and play an important value in providing the world with more innovative and high-quality financial services.

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