

# Research on the Multiple Financing Models of China's Big Health Industry under the Background of Internet Finance

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**Abstract:** The 19th National Congress of the Communist Party of China introduced the "Implementation of the Healthy China Strategy," elevating the health industry to a strategic core position. Currently, China's big health industry is experiencing rapid growth. However, due to its characteristics of substantial assets, slow returns, and public welfare attributes, its further development faces restrictions from factors such as policy supervision, capital reserves, and technology. In the past two years, China has issued policy documents encouraging active capital entry into the health sector and promoting the sound and rapid development of the health industry through financial means. Furthermore, the "Internet +" model's continuous evolution has introduced new financing tools to address challenges in financing the big health industry, providing a fresh solution path. To foster sustained and rapid growth in China's big health industry and meet the increasing healthcare needs of the population, collaboration between the government, financial institutions, and big health industry companies is essential. This cooperation should focus on areas such as supervision, risk control, and innovation. By doing so, the health industry can become a new growth point for China's economic development in the future.

**Keywords:** internet finance; health industry; financing

## 1. Introduction

With the rise of per capita income and increasing health awareness, the demand and expenditure of residents on healthcare are steadily increasing. The concept of "big health," introduced during the 19th National Congress of the Communist Party of China, gave birth to the "Healthy China Strategy," and subsequently, planning outlines like the "Healthy China 2030" were unveiled. The big health industry is envisioned to become a pillar strategic sector in China's medium and long-term development.

However, China's health industry is still in its initial stages, facing numerous challenges such as funding difficulties, imperfect industries, and inadequate accumulation of basic disciplines like life sciences and medicine. Particularly concerning is the issue of funding gaps.

The emergence of internet finance, characterized by technologies such as the Internet of Things, 5G, big data, cloud computing, and blockchain, has brought profound changes to the traditional financial industry. It also offers diversified investment and financing channels for various companies in the big health industry chain.

This paper aims to delve into the profound integration of the big health industry and internet finance [1]. By analyzing existing literature research, the study will propose policy suggestions for implementing the "Internet finance + health industry" strategy. The objective is to foster the comprehensive development of the health industry, making it more standardized and sustainable.

## 2. Literature review

### 2.1. Research related to the big health industry

#### 2.1.1. Definition of big health industry

Throughout the literature at home and abroad, there is no clear and unified definition of the big health industry, and the definition of the industry boundary is still relatively vague<sup>[2]</sup>. The general views on the health industry can be divided into two categories: narrow sense and broad sense. <sup>[3]</sup> (2018) believe that the big health industry is essentially an industrial activity, but it also has a certain degree of public welfare. Fan Yuelei et al. <sup>[4]</sup> (2017) defined the connotation and extension of the big health industry from the perspective of the service object and content of the industry. The health industry in a narrow sense generally refers to the sum of departments in the economic system that provide services such as prevention, treatment, and rehabilitation to patients, which is closer to China's medical and health service industry. According to the International Industry Classification Standard <sup>[5]</sup>, the health industry generally includes five sub-industries of health care suppliers, medical equipment, medical supplies, biotechnology and pharmaceuticals. In a broad sense, the big health industry includes not only the content in the narrow sense, but also the economic field of providing health care products and services to non-patient groups.

#### 2.1.2. Interdisciplinary research on the big health industry

At the beginning of the 20th century, American scholars applied economic research methods to the field of health and formed health economics. Health economics has now become an important branch of mainstream economics. Mao Zhenhua et al. <sup>[6]</sup> (2020) believe that the construction of health economics with Chinese characteristics needs to solve various problems closely related to public health, pay attention to personnel training, promote the deep integration of medical education, research and production, integrate theory with practice, and highlight policy practice. The International Institute of Green Finance (IIGF) of the Central University of Finance and Economics first proposed the concept of "Healthcare Finance" academically. Health finance is a financial service provided for economic activities in the health industry under the strategy of healthy China in the new era, including supporting and serving investment activities, financing activities and risk prevention and control of the health industry. Academically, it is an important component of sustainable finance part. Lu Minfeng and Xu Yangyang <sup>[7]</sup> (2016) conducted a preliminary discussion on the use of Internet finance as a financing channel for the health industry, and discussed the possibility of combining the two.

### 2.2. Internet finance-related research

#### 2.2.1. Definition of Internet Finance

Ten departments including the People's Bank of China issued the "Guiding Opinions on Promoting the Healthy Development of Internet Finance", pointing out that Internet finance is<sup>[8]</sup>traditional financial institutions and Internet companies using Internet technology and information communication technology to realize financial integration, payment, investment and information intermediary services new financial business model. Scholars represented by Wang Guogang <sup>[9]</sup> (2014) believe that Internet finance is a brand-new operating mechanism and financial model, which has a good role in promoting economic operation. Dai Guoqiang <sup>[10]</sup> (2014) pointed out that Internet finance needs to use Internet technology to complete business operations, and what the Internet provides is only a technical support without too much influence. Wu Xiaoqiu <sup>[11]</sup> (2015) proposed that Internet finance is a combination of the Internet and the financial industry. With the help of the Internet platform, it is a new type of financial industry that relies on network technologies such as cloud computing and big data.

#### 2.2.2. The relationship between Internet finance and traditional finance

The relationship between Internet finance and traditional finance has long been the focus of academic attention. Zheng Zhilai <sup>[12]</sup> (2015) thinks that from a financial point of view, Internet finance has a huge impact on commercial banks' assets, business, liabilities, etc. situation. Shen Yue and Guo Pin <sup>[13]</sup> (2015) analyzed from the perspective of technology spillovers and expounded the promotion mechanism of Internet finance on the total factor productivity of commercial banks. Wang Jiayao and Liu Qing <sup>[14]</sup> (2019) believe that Internet finance uses the advantages of Internet cooperation, sharing, and equality to apply Internet networks to financial services, making new breakthroughs in the traditional financial industry. Traditional banking, insurance, securities and other financial industries have been affected to varying degrees by Internet finance, which has also promoted the online development of traditional financial institutions.

### 3. The Development Status and Existing Problems of China's Big Health Industry

China's big health industry, though relatively new, has been experiencing rapid growth. In 2019, the market size of the country's big health industry reached 8.131 trillion yuan, and it comprises five main industry groups: pharmaceuticals, medical services, health care, health management services, and health care products. Among these, the pharmaceutical and health care industries hold the primary positions, with market sizes accounting for 50.04% and 33.04% respectively in 2019.

Several background factors contribute to the development of China's big health industry. First, the aging population is increasing, resulting in higher fiscal expenditures, greater emphasis on preventive measures, and increased spending on health care. Second, there has been a continuous influx of capital into various subdivisions of the big health industry, including oncology drugs, in vitro diagnostics, genetic testing, medical devices, and Internet medical care. Third, advancements in information technology, such as the Internet of Things, 5G, big data, cloud computing, and blockchain, have empowered the big health industry, offering opportunities to optimize the medical structure and enhance service capabilities. Fourth, the policy environment has been improving, with policies focused on enhancing the medical structure, improving industry efficiency, and reducing medical expenditures, thereby supporting technological, model, and industrial innovation in the big health industry.

Nevertheless, the development of China's big health industry is not without challenges. Upstream companies in the industry face long inventory payment cycles, significant R&D investments, and high business expansion costs. Meanwhile, medical service institutions in the middle and downstream of the big health industry chain encounter prolonged medical insurance settlement cycles, unstable profits, and financial support issues for their operational and construction expansions. Additionally, market regulation of the big health industry needs improvement, as small and medium-sized enterprises in the industry chain often lack standardized processes in their business operations. Moreover, the integration of the big health industry with Internet finance remains superficial due to a lack of supporting documents that cater to the characteristics of the industry. This has resulted in haphazard development and limited solutions in the face of difficulties.

### 4. The integration of the big health industry and Internet finance

Since 2013, China has introduced various policies to support the development of the big health industry, including policies such as "Several Policies and Measures to Promote the Healthy Development of Private Investment," which encourage capital to actively enter the health sector. Compared to traditional financial models, the "Internet + Finance" model expands financing channels by introducing new supplementary financing tools, promoting inter-industry complementarity, and facilitating the mutual growth of the financial and health industries. China's Internet finance supports the big health industry through four main models: peer-to-peer financing, big data risk control financing, crowdfunding financing, and Internet trust.

#### 4.1. Peer-to-peer financing model<sup>[15]</sup>

P2P (Peer-to-Peer lending), also known as peer-to-peer credit, refers to providing a safe and orderly platform for the matching and selection of fund borrowing and lending parties through a third-party Internet platform. The other party who takes the loan and has the corresponding loan conditions, the party who is willing to take the loan and many other people who are willing to take the loan distribute a loan amount together. In today's development, this operation mode has gradually changed from a purely online operation mode to a bond transfer operation mode, a guarantee mode operation mode, and to today's O2O mode, P2B, and P2F modes. In terms of specific financing methods, some private medical institutions cooperate with upstream and downstream enterprises in the big health industry chain, and adopt the method of "grouping together to increase credit" to form a joint insurance unit to apply for and obtain financing. The peer-to-peer financing model has the dual advantages of banks and private lending. On the one hand, it effectively reduces the financing threshold of enterprises, especially helping small and medium-sized medical institutions and other health industry enterprises with small scale and insufficient assets. On the other hand, it promotes the standardized operation of enterprises. Since each enterprise conducts borrowing and financing in the name of a unified organization, within the organization, enterprises will supervise each other to avoid violations, and at the same time, the peer-to-peer financing model gives full play to the scale advantages of the enterprise and enables the enterprise to obtain economies of scale.

#### **4.2. Big data risk control financing model**

Online microfinance is one of the main modes of internet finance financing in China, also known as "big data finance" <sup>[16]</sup>, which mainly adopts the mode of "e-commerce + microfinance" and relies on digital technology means such as big data and cloud computing Provide credit loans for small and medium-sized enterprises on e-commerce platforms. Against the backdrop of sluggish growth in traditional financial intermediary business, tightened interest spreads, and prominent credit risks, online microfinance is growing strongly, mainly in the form of platform-based loans and supply-chain financial-based loans. First of all, through a large amount of data analysis, big health companies can effectively evaluate the potential market, enabling companies to better analyze market development trends and understand future consumer habits <sup>[17]</sup>, thereby reducing financing risks in the health industry and increasing loans availability. Secondly, the big data risk control financing model can also achieve precise marketing, push products or services to potential consumers with strong consumption intentions, avoid ineffective marketing, thereby saving sales costs and enhancing the profitability of enterprises. Finally, big data can help financing platforms to better identify which companies have more development prospects. At the same time, with the help of analysis tools, they can also discover risk information and false information in the operation of the company, and process the next step of the company's production and operation based on the information. Changes can be accurately speculated to avoid the occurrence of "black swan" events.

#### **4.3. Mass financing financing model**

The crowdfunding financing model is a financing model for small and micro enterprises to raise funds from public netizens in the form of group buying + pre-purchase. It mostly focuses on "winning by volume", and realizes a project or completes a plan through a large number of small-amount financing. At present, domestic crowdfunding can be divided into four types: reward crowdfunding, equity crowdfunding, debt crowdfunding, and donation crowdfunding. Compared with traditional financing methods, the online crowdfunding model is more open and has lower product development costs, but there are also problems such as more angel round financing projects and investors' willingness to invest. Health companies with financing needs can publish their projects on different online crowdfunding platforms, and attract investors to invest in their own projects through the description and display of related health products or services. In the traditional sense, project sponsors cannot promise any financial benefits to the funders through crowdfunding projects, or return equity or funds. However, investors and promoters can agree to adopt a combination of service crowdfunding + insurance products or wealth management products to make capital operation more efficient and achieve mutual benefit.

#### **4.4. Internet trust model**

In the Internet trust business, the trustor transfers the rights in his property (which can be money or things) to small, medium and micro enterprises (beneficiaries) through the Internet platform (trustee)<sup>[18]</sup> in accordance with the contract or the terms of the website. Fund turnover, the beneficiary transfers its original property and the income generated during the process to the client through the trustee according to the specified conditions and scope. Different from the traditional concept of trust, Internet trust platforms only provide investment and financing services for small, medium and micro enterprises, and Internet trust has the characteristics of lower capital threshold, shorter investment cycle, and more transparent project product information, which is more suitable for the public to enter with idle funds. The best situation is a three-party profit-making situation, that is, investors can obtain value-added services and corresponding investment income by purchasing Internet trust products <sup>[1]</sup>, large health industry companies use investors' funds to develop new sales models and channels, In order to expand production and obtain more income, trust companies obtain a certain amount of commission and handling fees by launching trust products. Different from P2P platforms, the existence of trust service agencies and the collection of service fees are in compliance with the law and protected by law. "Contract Law of the People's Republic of China" Chapter 23 "Intermediary Contract" clearly stipulates that the intermediary who provides media services for the conclusion of the loan contract may collect corresponding remuneration from the entrusting party according to law.

To sum up, the author believes that the four Internet financial models, namely peer-to-peer financing model, big data risk control financing model, mass fundraising financing model, and Internet trust model, have their own advantages and disadvantages. Enterprises in the big health industry should not develop them separately in actual application. Instead, they should be treated as an organic whole to jointly exert

their financial benefits. Relevant enterprises should selectively use one or more methods in light of their own actual conditions to deal with the impact of external environmental risks such as industrial upgrading. Taking the peer-to-peer financing model as an example, given China's huge population base, growing financing needs, and backward traditional banking services, if it is effectively supervised, this financial model could have given full play to the advantages of network technology and realized inclusive finance ideal. However, some people with ulterior motives took advantage of policy loopholes and adopted simple self-funding models, multi-platform self-financing and self-guarantee models, short-term fraud, "Ponzi" schemes and other methods, which caused a large number of P2P platforms to be thundered and the development of the entire industry to stagnate<sup>[19]</sup>. Therefore, although the Internet finance model is novel and flexible, it must be based on "legalization and compliance", within the scope permitted by the legal framework, combined with the actual operating conditions of the enterprise, and flexibly use Internet finance to assist the development of enterprises, thereby Realize the real "healthy" development of health industry related enterprises.

## 5. Suggestions for the development of "Internet Finance + Big Health Industry"

Under the background of the "Internet +" era, the big health industry is bound to absorb modern information management technologies such as the Internet, big data, and mobile Internet, and rapidly develop into a new industry, new format, and new model driven by the new technological revolution [3]. It should be improved from the following three levels:

### 5.1. Government

Strengthen supervision and improve risk control. On the one hand, start from the industrial chain, strengthen the cooperation between industry, university and research institutes, strengthen the connection between enterprises at all levels, governments and financial institutions, and build industrial clusters around technology research and development, patent application, organization of production and market expansion. On the other hand, establish a credit service system for the big health industry based on credit information resources, which is divided into two mechanisms: trustworthy incentives and dishonesty punishment mechanisms. For big health companies and other major violations such as fraud, violations, and public health and safety. The person in charge of the enterprise should be held accountable, unlisted enterprises should suspend or terminate listing, and listed enterprises should also be forced to delist to reduce the opacity of enterprise information, thereby enhancing the loan credit of private institutions [20].

Strengthen support and lower service threshold. First of all, build a positive incentive mechanism, reform from the financial supply side, provide financial support such as tax incentives, financial subsidies, and credit guarantees for high-quality big health companies and health financial development projects, reduce corporate financing costs, and increase loan lines. Secondly, the government can play the role of the locomotive. On the basis of ensuring the fairness of market competition, encourage non-bank institutions such as securities companies, insurance institutions, and enterprises to participate in the construction of the big health financial market, and set up industrial funds for start-up companies to cooperate with the big health industry-related companies sign interest distribution agreements to support the development of the big health industry. Thirdly, we should vigorously promote inclusive finance and new credit products, rely on China's policy support as much as possible to give traditional finance a larger innovation space, and set financial financing standards reasonably to lower the threshold for financial institutions to participate in financial services, thereby forming an inclusive financial market structure, and promote the simultaneous development of the Internet economy and the real economy.

### 5.2. Financial institutions

Accelerate the innovation of financial products. According to the current situation and development trend of the demand side and the supply side, financial institutions predict the financial needs of enterprises in different life cycle stages through online and offline channels, and accurately and effectively provide financial products and services of "bonds + equity + options"<sup>[21]</sup>; expand the financing channels of the health care service industry, and develop personalized and customized products from the perspective of user experience, such as special insurance products, medical insurance specifically for a certain disease (malignant tumor medical insurance, severe infectious disease Guardianship medical insurance, etc.), or single-risk products that are closely related to life (Taiwan risk, rainstorm insurance, etc.). It also includes financing and credit products developed and innovated by banks and other financial institutions for pharmaceutical circulation and other links, such as supply chain financial services such

as inventory pledge financing, cargo rights pledge financing, and factoring financing.

Strengthen credit risk prevention and control. All Internet financial platforms must strictly implement customer-level management, adhere to dynamic classification and differentiated management of loan customers, and strive to adjust financial product structure, customer structure, guarantee type structure, etc. Specifically, loan customers are divided into four categories: gold customers, high-quality customers, general customers, and withdrawn customers, and the loan customers are classified in a timely manner, and timely adjustments are made according to their changes. Pay close attention to the credit risks of various small and micro enterprises, use artificial intelligence technology to explore the improvement of multi-dimensional fine data to anti-fraud technology, such as historical transaction reputation, customer partnership, capital relationship, etc., to achieve higher real-time, more targeted and Wider coverage of intelligent risk control.

### 5.3. *Big health industry enterprise*

Improve their own management level. Especially for small and medium-sized enterprises in the health industry, first, in combination with China's policy planning, formulate cultural and strategic goals that are in line with the actual situation, actively use Internet financial tools, and strive to achieve cornering overtaking. The second is to strengthen their own credit construction, improve corporate financial management, provide credible financial statement information, truly reflect the structure of financial needs, avoid fraud, improve themselves and credit<sup>[22]</sup>, and increase the success rate of financing. The third is to try to use the blockchain and artificial intelligence technology to improve the integration of the three-in-one (including: logistics, information flow, and capital flow) industrial chain finance and industry, and break the island of information.

Strengthen mutual cooperation between industries. Through mutual integration, large health enterprises can form partnerships based on common interests and goal orientation, and establish an equal, voluntary, mutually beneficial and win-win relationship. Once the group formed by the enterprise value chain has a higher credit rating, it can enjoy more favorable interest rates and reduce Internet financing costs compared with individual enterprises.

Explore new development models. Taking health risk identification and health risk control as the main line, cooperate with financial institutions, data companies, medical institutions, Internet companies and information companies to promote the transformation of health management methods. One is health monitoring, combined with the application of science and technology, a closed-loop health monitoring system and a health identification and evaluation mechanism are formed; the other is health testing, which is the development trend of genetic testing technology as the main detection method.

## 6. Conclusion

As China's future strategic pillar industry, the big health industry has a very broad future development prospect under the background of population aging, popularization of health concepts and policy dividends<sup>[23]</sup>. In terms of industrial economy, the scale and total capacity of the upstream and downstream of the big health industry chain are constantly expanding. In the capital market in recent years, the investment activity in the health industry has also increased year by year, but it is mainly financed through financial appropriations and bank loans. It is bound to be unsustainable, especially for public medical institutions, which have a large funding gap due to their "public welfare" nature. The combination of "Internet finance + health industry" will greatly promote the development of the health industry. Point-to-point financing models, big data risk control financing models, public financing models, and Internet trust models can alleviate the financing problems of the health industry to a certain extent. Solving the capital bottlenecks encountered in its development will make the big health industry a new bright spot for China's sustained economic growth in the future.

## References

- [1] Su Rujie, Zhang Huanyu. *Analysis of the Mode and Approach of Using Internet Finance to Develop China's Health Industry* [J]. *Macroeconomic Research*, 2018 (03): 118-124+147.
- [2] Pan Weihua, He Zhengchu, Pan Hongyu, etc. *The Development of the Big Health Industry: From the Perspective of Industrial Chain and Industrial System Construction* [J]. *Scientific Decision Making*, 2021(03):36-61.

- [3] Zhang Chewei, Zhao Wen, Cheng Jie. *China's big health industry: attribute, scope and scale calculation [J]*. *Chinese Population Science*, 2018, 5:17-29+126.
- [4] Fan Yuelei, Mao Kaiyun, Chen Daming, Yu Jianrong. *The development status and promotion suggestions of China's big health industry [J]*. *Competitive Intelligence*, 2017(06):4-12.
- [5] iResearch. *2019 China Big Health + Industrial Finance White Paper*
- [6] Mao Zhenhua, Wang Jian, Mao Zongfu, Guo Min, Yuan Xuedan. *Accelerating the Development of Health Economics with Chinese Characteristics [J]*. *Management World*, 2020, 2:17-26+58+215.
- [7] Lu Minfeng, Xu Yangyang. *Strategic Research on "Internet Finance + Health Industry"—Based on the Analysis of the Health Industry's Internet Finance Financing Method [J]*. *Journal of Nanyang Normal University*, 2016, 15(02):48-55.
- [8] Liu Yongmei. *Research on Multiple Financing Models for Small and Micro Enterprises Based on Internet Finance Background [J]*. *Enterprise Reform and Management*, 2020(15): 74-75. DOI: 10.13768/j.cnki.cn11-3793/jf.2020.1392.
- [9] Wang Guogang. *The Road to China's Financial System Reform [J]*. *Financial Market Research*, 2014(9): 4-12.
- [10] Dai Guoqiang, Fang Pengfei. *Interest Rate Liberalization and Bank Risk—A Study Based on the Perspective of Shadow Banking and Internet Finance [J]*. *Financial Forum*, 2014(8): 13-19.
- [11] Wu Xiaoqiu. *Internet Finance: The Logic of Growth [J]*. *Finance and Trade Economics*, 2015, 36(2): 5-15.
- [12] Zheng Zhilai. *The impact path of Internet finance on my country's commercial banks—Based on the perspective of the impact of "Internet +" on the retail industry [J]*. *Finance and Economics*, 2015 (05): 34-43.
- [13] Guo Pin, Shen Yue. *The Impact of Internet Finance on Risk-taking of Commercial Banks: Theoretical Interpretation and Empirical Test [J]*. *Finance and Trade Economics*, 2015(10): 102-116.
- [14] Wang Jiayao, Liu Qing. *The Development of Internet Finance and Its Impact on Traditional Finance [J]*. *China Collective Economy*, 2019(33):87-88.
- [15] Liu Yongmei. *Research on Multiple Financing Models for Small and Micro Enterprises Based on Internet Finance Background [J]*. *Enterprise Reform and Management*, 2020(15):74-75.
- [16] Sun Ying. *Analysis of the Financing Innovation Model of Small and Medium-sized Enterprises under the Background of Internet Financial Support [J]*. *Business Exhibition Economy*, 2020(13): 38-40.
- [17] Deng Lifang. *Practical thinking on financial services for the big health industry [J]*. *Journal of Zhuhai School of Administration, Party School of the Zhuhai Municipal Committee of the Communist Party of China*, 2018, (05): 56-62.
- [18] Zhang Baoming, Li Xueqian. *"21st Century College E-Commerce Professional Planning Textbook Network Finance"*. Beijing. Tsinghua University Press, 2017.03
- [19] Yang Tao. *"Real P2P Online Lending Innovation Risk and Supervision"*. Beijing. Economic Management Press, 2016.07
- [20] Yao Yao, Cui Yujie, Yuan Suwei, etc. *Analysis on the Present Situation and Countermeasures of Health Finance Development in Shanghai [J]*. *China Health Resources*, 2019, 22(02)
- [21] Li Jinbing. *Constructing the Comparative Advantages of Financial Capital Services in High-tech Zones with Characteristic Industries—Silicon Valley Experience and the Practice of Taizhou Pharmaceutical High-tech Zones [J]*. *China Development Observation*, 2018 (Z1): 111-113.
- [22] Sun Ying. *Analysis of the Financing Innovation Model of Small and Medium-sized Enterprises under the Background of Internet Financial Support [J]*. *Business Exhibition Economy*, 2020(13): 38-40.
- [23] Wang Tingting, Xu Yangyang. *Research on the operation of Internet finance in the health industry [J]*. *New Finance*, 2016(02):37-42.