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The Research Progress in the Development of China's Health Industry

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Abstract: In recent years, China's health industry has been developing rapidly, and research on it has been gradually enriched. In order to explore the current research progress on the development of China's health industry and make a summary of the previous research. This paper provides an overview of the existing research in terms of the connotation and extension of the health industry, the emergence and development history of China's health industry, the current situation of China's health industry, the main factors affecting the development of the health industry, and the development mode and path of the health industry. Summaries the existing research results, identify the deficiencies in the research field, and put forward suggestions for further research.

Keywords: Health industry, Development status, Influencing factors, Innovation development.

1. Introduction

Health is not only a goal pursued by individuals and families, but also a basic condition for social and economic development, and an important symbol of national prosperity and national wealth (Xi, 2019). The health industry is closely related to people's health and has become a new growth point leading the world's economic development (Li, 2018). In developed countries, health industry has long been an integral part of modern industry (Fu, 2020). With a huge population base, China will become a large market for the global health industry (Yan, 2023). In recent years, China's health industry has been developing rapidly. According to relevant data, the market size of China's health industry was 155.73 billion yuan in 2009; the market size reached 813.10 billion yuan in 2019, which is more than five times that of 10 years ago, and compared with 6,893.5 billion yuan in 2018, it has grown by nearly 20 per cent, which is a very impressive growth rate (Yan, 2023).It is estimated that the scale of China's health industry will reach 14.0 trillion yuan in 2023, and is expected to reach 16.0 trillion yuan in 2030, with its pillar role in the national economy further emerging (Shenzhen Health Industry Development Promotion Association, 2022). But overall, there is still a big gap between China's health industry and that of developed countries (Yan, 2023).

In the new period, against the background of the great development of digital economy, the further development of health industry faces a series of opportunities and challenges. How to promote the innovation and development of health industry is a new topic facing China's health industry at present. The prerequisite for studying this topic is to systematically collate existing relevant studies on China's health industry. Based on this purpose, this paper tries to make an overview of the existing research from the connotation and extension of health industry, the rise and development history of China's health industry, the current situation of China's health industry, the main factors affecting the development of health industry, and the development mode and path of the health industry, etc. It summarises the existing research results, identifies the deficiencies in the field of research, and puts forward the suggestions to be further researched.

2. Review of Research Progress

2.1. Research on the Connotation and Extension of The Health Industry

The connotation and extension of the health industry has been a hot topic of discussion in the academic world, and is generally understood in both a narrow sense and a broad sense.

The health industry in a narrow sense is generally defined as the sum of economic sectors that provide products and services such as prevention, treatment, and rehabilitation directly to patients (Pan, 2021). The ICB (Industry Classification Benchmark) introduced by Dow Jones and FTSE Group classifies the health industry as a separate Tier 1 industry, which it defines as comprising five segments: health care, medical equipment, medical supplies, biotechnology and pharmaceuticals.

The health industry in a broader sense includes, in addition to the content of the health industry in a narrower sense, economic activities that provide health care products and services to healthy people. For example, Paul Pilzer believes that there is a difference between the disease industry and the health industry, and that the health industry is inclusive of both the traditional disease industry and the health industry. In Business Opportunities in the Health Industry, Bernd Eberle points out that a market in which the determining factor for a customer's purchase of a product is health is a health market, and that products and services offered through ‘active lifestyles’ fall within the scope of the health industry. He also suggests that the seven major sectors that represent the trend of the health industry are food (natural foods, functional foods), nutraceuticals and pharmaceuticals, care products and cosmetics, sports products, tourism, health counselling and other consumer products. According to Wang and Zhen (2012), the health industry in a broad sense includes all industries related to human physical and mental health in general, of which the service industry, manufacturing industry and so on belong to the category of health industry management. Wang and Guo (2012), on the other hand, divided the health industry into pharmaceutical industry and health service industry. Xue (2014) argued that the health industry mainly involves the medical industry, pharmaceutical industry, health care products industry and health management service industry. While Wei (2014) argues that the health and elderly care industry should be added to the four major industry groups mentioned above. There are also studies that suggest that the health industry involves both economic activities of health industry and health business (Ni, 2016).

The Health Industry Statistical Classification (2019) released by the National Bureau of Statistics of China in 2019 clearly defines the health industry: the health industry refers to a collection of production activities based on medical and health care and biotechnology and life sciences, with the aim of maintaining, improving and promoting the health of the people, and providing the public with products (goods and services) that are directly or closely related to health. The classification defines the scope of the health industry as medical and healthcare services, health affairs and health environment management and scientific research and technology services, health personnel education and health knowledge popularisation, health promotion services, health protection and financial services, intelligent health technology services, distribution services of pharmaceuticals and other health products, other health-related services, pharmaceutical manufacturing, manufacturing of medical instruments, equipment and devices, manufacturing of healthcare equipment and intelligent devices, construction of facilities in medical and healthcare institutions, and manufacturing of healthcare equipment and intelligent devices. manufacturing, medical and healthcare institution facilities construction, Chinese herbal medicine planting and collecting, and other 13 categories. Including 58 medium categories and 92 sub-categories.

The health industry has special attributes that are different from general industries. Zhang (2018) believes that industrial activities are the kernel of the health industry, the combination of public welfare and industry is the extension of the health industry, and industrial activities with semi-public welfare are the basic attributes of the health industry. Wang (2019) and Zhang (2021) believe that the fundamental purpose of the health industry is to maintain the health of the masses, and the important purpose is to expand employment and promote economic growth, with the dual attributes of industrial economic properties and public welfare and social properties. Song (2021) believes that the health industry is closely related to the life and health of human beings, therefore, it has a wide range of coverage, high demand, knowledge-intensive, and scarce resources, and also reflects the characteristics of trust is the foundation, the public attaches importance to it and does not easily pay for it, and the government is strong in control and strong in policy.

2.2. Research on the Emergence and Development Process of China's Health Industry

According to Cheng (2020), China's health industry started relatively late, with the first health management companies appearing around 2000; in October 2005, health manager officially became a new profession, and a variety of related training began to develop rapidly. Since then, health management has officially become a complete and independent industry in China's health industry development system. The pre-development of China's health industry can be roughly summarised in three stages, namely the loose and no clear concept stage without integration, the stage with gradually clear concepts and the beginning of growth, and the stage of rapid development of the health industry and the gradual formation of the health industry chain (Gong, 2011).

Around 2010, China's health management industry entered a phase of rapid development, with a large amount of private capital entering the industry one after another, and the number and scale of related organisations increasing. At the same time, the specific connotation and service content of health management is also expanding, including health checkups, health risk assessment, healthy life management, health care, maternity care, early education for infants and young children, chronic disease management and a series of other aspects of the project, the relatively complete industrial chain of health management has been initially formed (Cheng, 2020).

In 2013, the Chinese government released Several Opinions of the State Council on Promoting the Development of the Health Service Industry, which for the first time put forward the concept of the health service industry and also for the first time clearly defined the connotation and extension of this concept. The issuance of this document signalled that China's health industry had entered a completely new stage of development (Cheng, 2020).

In 2016, the Chinese government promulgated the ‘Healthy China’ 2030 Planning Outline, which elevated the health industry as one of the key development tasks to a national strategy, and the health industry entered into a stage of rapid development. In 2019, the National Bureau of Statistics issued the ‘Statistical Classification of the Health Industry (2019)’, which further clarified the connotation and extension of the health industry's connotation and extension, creating better conditions for the standardised development of the health industry. However, overall, compared with the development of health industry in developed countries, China's health industry development is still in the primary stage (Zhang, 2018; Huang, 2021).

2.3. Research on the Current Development Status of China's Health Industry

(1) Aspects of industry scale and development factors. Bao (2019), Yan (2023), Lu (2023), and Huang (2023) argued that China's health industry starts late and grows fast, but the overall scale is small, the industry is underdeveloped, there is a shortage of developmental factors, and there is a lack of research and development (R&D) and technological innovation. Under the dual impetus of health demand and policy dividends, a large number of resources have begun to pour into the health field, more and more health enterprises have come into being, health product innovations are emerging, and the scale and boundaries of the health industry are expanding, which is becoming a thriving sunrise industry and a new engine of economic development in the new era (Yan, 2023). In terms of total volume, compared with developed countries such as the United States and Japan, and even many developing countries, China's health industry is developing rapidly, but it is still in its infancy. Statistics show that as early as before 2013, the health industry in the United States accounted for more than 15 per cent of GDP, and the health industry in Canada, Japan and other countries accounted for more than 10 per cent of GDP (Zhao, 2017). And the output value of health industry in China in 2022 only accounted for 5.2% of GDP (Yan, 2023). From the aspect of industrial development factors. Health industry is a typical knowledge- and technology-intensive industry, although

China currently has a certain amount of talent team support, but the effective supply of high-end health care personnel, complex management personnel and professional skills talents required by the health industry is insufficient, and the allocation of health industry data factor resources is obviously insufficient (Pan, 2021). Compared with the advanced medical and pharmaceutical research and development technology of developed countries, there is still a big gap between China's health industry in terms of innovation and research and development (Yan, 2023).

(2) Industrial system and industrial structure. Wang (2018) and Yang (2022) et al. believe that the industrial system of China's health industry is becoming more and more perfect, but the industrial structure is unreasonable and the industrial chain is short. China's health industry system is becoming more and more complete, and has gradually formed a multi-sectoral synergistic development covering one, two and three industries, including medical services, health management and promotion services, health insurance, pharmaceutical industry, health care, health tourism, smart health, fitness and recreational sports, and other segments. The segments show a trend of expanding and extending to the upstream and downstream industry chain (Wang, 2018). At this stage, China's health industry follows a road dominated by imitation, which makes the current development of China's health industry homogeneous and unfavourable to the construction of the industrial and spatial chains (Pan, 2021).The industrial structure is not reasonable enough, the traditional medical service field occupies the vast majority of high-quality resources, the preventive health care field has fewer resources, and it is not perfect in health education, risk assessment, disease screening, etc., so it can't provide all-around systematic health services for the service users (Ding, 2018). Relevant data show that ‘medicine is the mainstay and pension is supplementary’ is still a prominent feature of China's health industry structure (Yan, 2023). Many health industrial parks in China blindly pursue the scale and number of enterprises, ignoring the correlation and permeability between enterprises, the development needs of enterprises, and whether the development concept is in line with the key planning and development of industrial parks, resulting in a large and short industrial chain, and the degree of industrial correlation is not high and so on (Yang, 2022).

(3) Industrial integration and industrial agglomeration. Wang (2018) and Pan (2021) et al. argue that the industrial integration of China's health industry has begun to emerge, and industrial agglomeration has initially developed; however, the efficiency of resource agglomeration is not high and integration is not strong, and the value chain is not high and competitive. With the rapid development of biology, information and other technologies, the health and pension, tourism, Internet, fitness and leisure, culture and other multi-industry in-depth integration, emerging medical tourism, medical and health care combination, intelligent medical big data, Internet hospitals and many other emerging industries, showing a good trend of cross-border integration and development (Wang, 2018). However, overall, China's health industry has the dual contradiction of excess low-end supply and insufficient mid- and high-end supply (Pan, 2021).The integrated development of health industry is still in the primary stage, still staying at the level of ‘health + other industries’, and has not yet formed the development mechanism of in-depth integration of industries (Yan, 2023), the efficiency of resource agglomeration is not high, and the spatial state of enterprise agglomeration is generally shown, and the Internet-based innovation ecosystem, and the flow and sharing of innovation factors are insufficient (Yang, 2022).

(4) Industrial policies. Fu (2020) and Peng (2023) argued that the macro industrial policy of China's health industry is becoming more and more perfect, and the direction of development is becoming more and more clear, but the normative standards of the segmented areas still need to be improved. Since the issuance and implementation of Several Opinions of the State Council on Promoting the Development of Health Service Industry in 2013, various departments and localities have issued policy documents, planning texts, norms and standards, guidelines and guides, etc., focusing on perfecting industrial planning, relaxing industrial access, fostering characteristic industries, enhancing factor support, optimising the development environment, expanding external exchanges and cooperation, etc., and basically constructing a policy system to support the accelerated development of the health industry (Fu, 2020). The policy system to support the accelerated development of the health industry has basically been constructed (Fu, 2020). In 2016, the National Health and Wellness Conference proposed that efforts be made to cultivate the health industry into an important pillar industry of the national economy; in the same year, ‘Healthy China 2030’ made the development of the health industry one of the five tasks for the construction of a healthy China, etc. The implementation of these policies has further clarified the direction of the development of the health industry. The implementation of these policies has further clarified the key development direction of health industry and effectively boosted the development of health industry. However, compared with the health industry in developed countries, which has strict and systematic industrial regulations such as quality and safety, technology assessment, etc., in China, as the health industry is still a new concept and a new thing, it has not yet established a perfect system of rules and regulations and institutions, the quality of the products and services varies, and the industry is not sufficiently regulated (Huang, 2020). Especially in the field of health products in the health industry, there is disorderly competition and mixed fish and dragons; the laws and regulations are not perfect, and it is impossible to strictly regulate the development of the health industry (Peng, 2023).

2.4. Research on Factors Affecting the Development of The Health Industry

Guan (2019) argues that the development of the health industry is jointly influenced by demand-pulling force, supply-driving force and policy-guiding force. Pan (2021) also pointed out in the composition model of the large health industry chain and the large health industry system that technology and innovation are the endogenous driving force of the health industry, industrial supply and demand and policy support are the exogenous driving force, and policy support, financial support, talent support, and data support constitute the support system of the health industry. Scholars such as Hu (2008) emphasised the importance of demand growth and technological development in the development of the health industry. Chang (2018) pointed out that policy support and scientific and technological innovation have a facilitating effect on the development of health industry.

Pan (2021) and others believe that technological innovation is the core driving force for the development of the health industry, which promotes the development of the health industry in three main ways: firstly, expanding the development space through the fusion and integration of technology and the spillover effect of knowledge; secondly, using new technologies to develop new products and improve the efficiency of production; and thirdly, promoting the innovation of modes and modes of operation with the help of new technologies. At present, a new generation of information technology represented by artificial intelligence, big data, cloud computing, Internet of Things, etc. is booming, providing a source of power for technological innovation as well as industrial development of the health industry, and promoting the transformation of the production mode of health products and services to intelligence, customisation and digitalisation. Huang (2021) believes that the application of new technologies has created a large number of emerging health service modes and new products to meet the new needs of health protection, promoting the accelerated development of the health industry. The future health industry is characterised by high technology, precision, intelligence, integration and internationalisation. Guan (2019) also pointed out that according to endogenous economic theory, technological progress and innovation are the most important internal driving force to promote the development of the health industry. Technological progress and innovation produce a transfer effect, which promotes the overall development of the health industry through the correlation between industries, the demonstration effect and the horizontal transfer of market transactions between health sub-industries. Innovation achieves the improvement of the industrial system and the extension of the industrial chain through the integration and utilisation of all kinds of factor resources in the existing health industry. Using medical and healthcare big data, user health profiles can be realised, relevant diagnosis and treatment business and scientific research can be carried out, and it can be used to develop medicines, medical devices and related products, etc. (Feng, 2021). Zhu (2023) believes that the activation of data elements can bring a lot of opportunities for the recreation industry, especially the aging industry. Hu (2020) believes that big data improves the speed of drug information discovery.

2.5. Study on the Development Model and Path of The Health Industry

Firstly, research on the development model of health industry. Ni(2018) summarised the main models for the development of the global health industry and proposed nine development models, namely: the biomedical industry cluster model represented by Boston-Cambridge in the United States; the medical device industry cluster model represented by Tuttlingen in Germany; the pharmaceutical industry cluster model represented by Toyama Prefecture in Japan; the generic drug industry cluster model represented by Bangalore in India; the ‘pharmaceutical manufacturing + medical + tourism’ model represented by Shizuoka Prefecture in Japan; and the ‘pharmaceutical manufacturing + medical + tourism’ model represented by Shizuoka Prefecture in Japan. The model of pharmaceutical industry cluster represented by Toyama Prefecture, Japan; the model of generic drug industry cluster represented by Bangalore, India; the model of ‘pharmaceutical manufacturing + medical + tourism’ industry cluster represented by Shizuoka Prefecture, Japan; the model of healthcare industry cluster represented by Rochester, U.S.A.; and the model of ‘medical + tourism’ industry cluster represented by Dubai, UAE. + tourism’ industrial cluster model; “plastic surgery and beauty + tourism” industrial cluster model represented by Seoul, South Korea; “pension + real estate” industrial cluster model represented by the pension industry in Arizona, the United States.

The second is the research on the path of health industry development. Scholars have carried out more studies on the path of health industry development, including from the aspects of mechanism guarantee, system construction, new model development, element improvement, culture cultivation, payment innovation and characteristic excavation (Pan, 2021). Yang (2022) believes that according to the different mechanisms of industry formation, the development path of health industry can be divided into two types: market-regulated integration development and government-guided cluster development. Zhang (2018) believes that the core power of industrial development lies in innovation, so the development of the health industry needs to build an innovation ecosystem and achieve synergistic symbiosis of industry innovation.

Thirdly, it is a study on the innovative development of the health industry. Fan (2015) proposed that the development of health industry should be viewed in the spirit of innovation. China's health industry will usher in the era of digitalisation and intelligence (Hou, 2023). Zhang(2020), after analysing the current situation of the development of health industry in Shenzhen, proposed to strengthen the construction of the international standard of medical standards, promote the structural adjustment and upgrading of the life and health industry, improve the regulations and regulatory system in the field of life and health, strengthen the cultivation of composite talents in the field of life and health, and strengthen the technological innovation and integration in the field of life and health. Li and Zhang(2021), drawing on the experience of advanced international countries, proposed that we should make full use of information technology to promote the development of informatisation, digitisation and intelligence in the health industry; we should further strengthen our efforts to make breakthroughs in key technologies, promote the transformation and upgrading of traditional products, continuously improve the quality of our products, enrich the functions of our products, and create punchy products with core competitiveness. Nurbiye. A and Zhao (2022) believe that the development of the ‘Internet + Healthcare’ industry can fully satisfy the medical needs of the people, and is the mainstream development direction of China's healthcare industry in the future. Yan (2023) proposed that China's health industry should promote the reconstruction of the value chain based on the digital economy, promote industrial digital innovation, business model innovation and technological innovation, investment and financing innovation, and take the road of international development.

In recent years, with the extensive use of big data, cloud computing, artificial intelligence, blockchain and other emerging technologies in the health field, digital health has gained rapid development. Technological innovation has brought great efficiency improvement and level enhancement to health services, and has become an important driving force for the national health strategy (Li, 2020). Under the epidemic, new information technologies such as 5G, big data, and artificial intelligence have been able to penetrate into all aspects of the health industry, objectively providing richer possibilities for the digital transformation of health (Li, 2020).

Although China's digital health started late, it has been developing rapidly and is already at the forefront of the world (Feng and Li, 2021). Building a new digital health infrastructure can not only create social value in public health, but also inject strong kinetic energy into industrial transformation and economic development (Zhang, 2020). The digital economy can promote the transformation and upgrading of the health industry and the innovative development of the health industry (He, 2020; Qin, 2023). Song, Qin (2022) empirically analysed the relationship between the digital economy, education level and the development of health industry; Jin, Shen (2023) used empirical analysis to prove that the digital economy greatly promotes the development of the health industry, and that technological innovation is one of the mechanisms of its influence.

3. Summary

As can be seen from the above research review, there have been studies on the development of China's health industry that have achieved positive results, mainly in the following three areas:

Firstly, it clarifies the basic connotation of the health industry, outlines the extension of China's health industry, and clarifies the statistical scope of China's health industry, laying a foundation for the next step of deepening the research on the basis of the common concept.

Secondly, it more accurately summarises the current situation of the development of China's health industry, that is, China's health industry started late, developed fast and made remarkable achievements. However, on the whole, China's health industry is still in the starting stage (Zhao, 2017), with a small overall scale, insufficient industrial development, shortage of development factors, and insufficient research and development and technological innovation (Huang, 2020; Lu, 2023; Huang, 2023); irrational industrial structure, and a shorter industrial chain (Yan, 2023; Yang, 2022); resource agglomeration ineffectiveness, weak integration, low value chain and low competitiveness (Pan, 2021; Yang, 2022) and other outstanding problems.

Thirdly, in the light of China's actual situation, it analyses the factors influencing the development of China's health industry, its development mode and development path, and puts forward useful suggestions for promoting the development of the health industry. In particular, it puts forward some concepts and ideas for promoting the innovative development of the health industry in the context of the digital economy, which provides useful ideas for promoting the further development of the health industry.

Of course, from the above studies, it is easy to see that there are still obvious shortcomings in the existing studies.

Firstly, there are existing studies on the development of China's health industry, and except for a very few that use empirical research, the vast majority of these studies are preliminary summaries and analyses of the phenomenon and practice of the development of China's health industry. Although these analyses can also put forward good ideas, they lack empirical evidence to support them, and it is difficult to reveal a convincing general law of the development of China's health industry.

Secondly, most of the existing studies are macro studies on the development of China's health industry, and studies on subsectors and some regions are also involved, but in-depth and micro empirical studies on a certain subsector or a region are seriously insufficient, making it difficult to effectively guide the specific actions of market players or the authorities in formulating effective macro policies.

Thirdly, there is insufficient research on the new forms and modes of the health industry, especially on the mechanism for promoting the development of the health industry through new technologies such as digital health and smart health.

Based on the above analyses, we also need to continue to work on the empirical study of the development of China's health industry, the study of the development law of health industry subsectors, the study of the development mode and path of specific regions, and especially the study of the innovative development of the health industry in the context of the digital economy, with a view to revealing the basic law of the development of China's health industry, finding the basic path of the industry's development and the appropriate mode, and thus promoting China's further development of the health industry in China.

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