From the Perspective of Information Technology: The Realization Path of the Sustainable Development of the Smart Elderly Care Industry in the Process of Urbanization

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Abstract: In the new era, the trend of population aging in China is continuously strengthening, and the process of new urbanization is also accelerating, and the "untimely" situation of the traditional elderly care industry has gradually become prominent. This article starts with issues such as regional differences and contradictions between supply and demand, through optimizing regional industrial layout, integrating big data supply and demand information, and relying on Internet information technology to establish a big data exchange platform and other measures. This optimizes the "informatization + elderly care" model, and provides suggestions for the development of the smart elderly care industry. so as to promote the transformation and development of the traditional elderly care industry.

1 INTRODUCTION

The smart elderly care industry, as a new service industry derived from the traditional elderly care industry in the development of new media technologies, is an inevitable product of the development of the times. Its sustainable development conforms to the actual needs of China's aging society, and has a positive effect on alleviating the pressure of China's aging society. However, based on the acceleration of China's new urbanization process and the prominent urban-rural contradictions, in the development of the smart elderly care industry, both supply and demand ports will inevitably encounter various new dilemmas. Based on this, new information technology such as big data, the Internet and other new information technology methods are used to break through the obstacles brought by the new urbanization, integrate all the influencing factors of the smart elderly care industry, and put forward rectification suggestions, promote the rapid and sound development of the smart elderly care industry, and respond to my country The series of social problems brought about by the aging of the population promote the orderly development of the society and economy, and ultimately enhance the happiness and sense of gain of all people, which has extremely important significance of the times.

2 THE DEVELOPMENT STATUS OF THE SMART EIDERLY CARE INDUSTRY UNDER THE BACKGROUND OF NEW URBANIZATION

After the 21st century, the trend of population aging in China has continued to strengthen. Until recent years, the problem of population aging has become an important factor restricting my country's economic and social development. As of May 2021, China has a population of 264.02 million people aged 60 and over, accounting for 18.70% of the total population, of which 190.64 million people aged 65 and over, accounting for 13.50% of the total population. Figure 1 is a forecast of the proportion of the population over 65 to the total population in China over a period of

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time. It can be seen from this that from 2000 to the present, until a long period of time in the future, the problem of population aging in China will always become an important social problem (Qu 2021). At the same time, with the continuous development of new urbanization, the status quo of aging differences between urban and rural areas will become more prominent, and this status quo of differentiation will only impose stricter requirements on elderly care services. Under this circumstance, the importance of the newly derived smart elderly care industry has become more prominent.

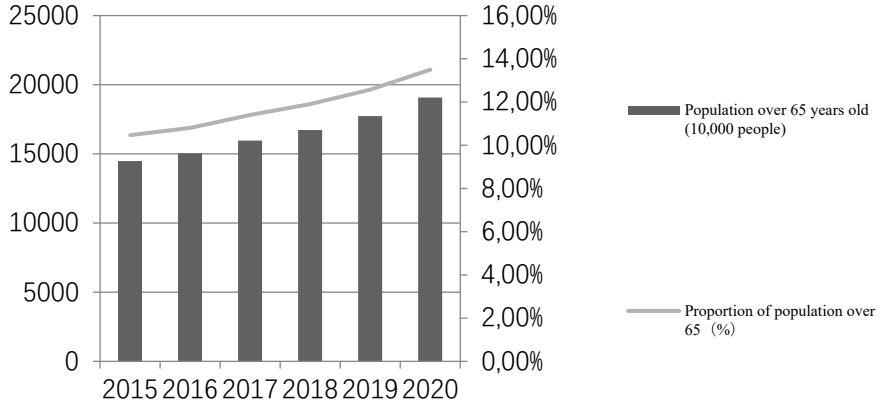

Figure 1: Proportion of the population over 65 in the total population in China over a period of time.

Since 2002, the government has successively issued a series of policies and recommendations on promoting the development of the smart elderly care industry. These policies are of great significance for improving the smart elderly care industry system, expanding the quality of smart elderly care services, and solving the contradiction between supply and demand for smart elderly care. At the same time, according to relevant data from the National Bureau of Statistics, as of the end of 2020, the number of companies involved in smart elderly care services in my country has reached nearly 400, and the scale of the smart elderly care industry has exceeded RMB 4 trillion. From this point of view, the overall development of China's smart elderly care industry is relatively good.

However, the problems are also obvious. Due to the differences in the development level of new urbanization and the differences in regional economic development, there are development difficulties in various industries between different cities, rural areas and regions.

3 THE DEVELOPMENT DILEMMA FACED BY THE SMART ELDERLY CARE INDUSTRY UNDER THE BACKGROUND OF NEW URBANIZATION

3.1 There Are Obvious Differences in the Urban-rural and Regional Layout of the Smart Elderly Care Industry

As an important measure of the level of economic development between regions, the degree of urbanization development will to a large extent also restrict the layout and structural adjustment of various industries between regions. In the eastern coastal area, the degree of urbanization development is much higher than that in the western area, and the level of economic development is relatively high. As a result, the eastern region is better than the western region in terms of various location influence factors. The final result is that in the layout of the smart elderly care industry, the eastern region will also be better than the western region, and the development quantity and quality of the smart elderly care industry will also

have significant advantages (Huang 2021, Lin 2021). In the same way, urban and rural areas will also experience differences in the layout and service quality and quantity of the smart elderly care industry for the same reasons. From a long-term perspective, the difference in industrial layout and development between urban and rural areas and between regions will have important negative effects on the sustainable development of the industry.

3.2 The Supply and Demand Structure of the Smart Elderly Care Industry Is Unbalanced, and There Is Lack of an Effective Informatization "Data Sharing Platform"

At present, China's smart elderly care industry is mainly concentrated in basic service areas such as life care and medical care, while it is relatively lacking in areas such as spiritual comfort and entertainment services for the elderly. It has formed a single supply and development status in the elderly industry. At the same time, the other side of the demand situation is that the urban elderly are limited by the fast-paced work mode of their children leaving early and returning late, while the rural elderly are limited by their children's tendency to empty nests caused by their children's long-term employment. The needs of the elderly are no longer limited to basic life care and medical care, but more spiritual comfort and daily entertainment services. However, due to the shorter development time of China's smart elderly care industry compared with Western countries, the development of supply and demand information exchange platforms relying on new Internet technology media is relatively slow, and there is no institutional and systematic information service platform, which leads to supply and demand. The information on both ends does not match (Shang 2021), and it is impossible to form a good information exchange between supply and demand, thereby changing the contradiction between single supply and diversified demand.

3.3 Insufficient Social Recognition of New Smart Elderly Care Products

Under the current situation where the level of urbanization is relatively unbalanced and the level of economic development is different, the smart elderly care industry and services mostly rely on high-tech and new network media. The elderly in different urban and rural areas are limited by their own educational level, ability to accept new things and other factors, they will compare traditional elderly care services with smart elderly care from their own perspective. There are varying degrees of rejection or distrust of smart elderly care products that rely on artificial intelligence and Internet platforms, which reduces the recognition of smart elderly care industry companies. In the end, it will lead to the development dilemma of smart pension enterprises, as shown in Figure 2.

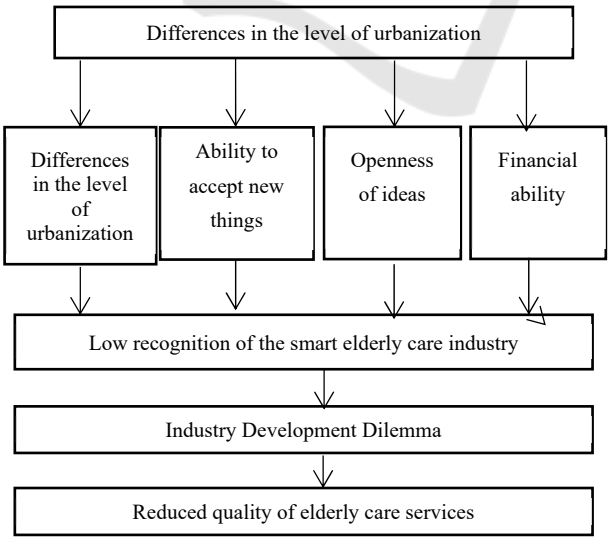

Figure 2: Process of the impact of recognition on the smart elderly care industry.

3.4 The Informatization Supervision Mechanism Needs to Be Improved, and the Supervision Effectiveness Is Lacking

The government has always taken the government as the leading body of the industry system in China's elderly care industry. The government takes the lead in the allocation of various elderly care service resources and the construction of platforms between supply and demand. At the same time, due to the development of urbanization, the relationship between urban and rural There will be cross loopholes in industrial supervision and management, which will lead to a certain degree of lack of supervision effectiveness, and it is difficult to ensure the security of information and data. On the other hand, smart elderly care services mostly rely on models such as mobile terminals or online supply and demand matching. Different products and services have quality differences, and the supervision is mainly offline. This situation will be separated from government supervision and separation from products. Lead to the lack of effectiveness of supervision.

4 COUNTERMEASURES AND SUGGESTIONS FOR THE DEVELOPMENT OF THE SMART ELDERLY CARE INDUSTRY BASED ON INFORMATION TECHNOLOGY

Based on the current reality that the development of China's smart elderly care industry is still in its infancy, and the goal of reducing the differences in smart elderly care services brought about by the process of urbanization, the sustainable development trend of the industry needs to be strengthened. In addition, a sudden new crown epidemic has swept the world, and it is bound to have a certain degree of external obstacles in the development of the smart elderly care industry. In view of the difficulties faced by the sustainable development of the smart elderly care industry, some suggested countermeasures are put forward from the perspective of information technology.

4.1 Strengthen the Design of the Top-level Mechanism of Location Conditions and Optimize the Layout of Industrial Informatization

The problem of urban-rural and regional differences in the smart elderly care industry is a common problem faced by most service industries in the process of urbanization. In response to these two regional differences (Ding 2021, Chen 2021), the government should give full play to the role of service providers in the development of the market economy and rationally optimize the layout of the smart elderly care industry. From economically developed regions to economically underdeveloped regions, from cities to rural areas, all Taking into account the location factors, make overall considerations and rationally design policy plans. Utilize modern information technology and Internet platforms to open up the location links between urban and rural areas and between regions. At the same time, the government can also take advantage of the organizational hierarchy from top to bottom to regularly conduct feedback surveys on the location elements of the smart elderly care industry in various territories, establish an informatized industrial feedback mechanism, and promote the introduction of relevant government policies and measures. Related companies provide more excellent service conditions. Communicate and share relevant industry-specific policy issues and solutions within the industry system to better promote the development of the smart elderly care industry (as shown in Figure 3) and reduce the development location of the smart elderly care industry brought about by differences in urbanization development Differences, promote the integrated development of smart elderly care services in urban and rural areas.

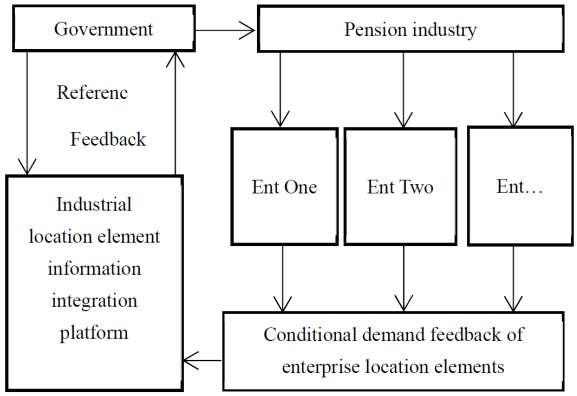

Figure 3: Feedback path mode of location element demand in the elderly care industry.

4.2 Relying on Internet Technology to Establish A "Big Data + Pension" Supply and Demand Information Exchange Platform

In view of the contradiction between supply and demand in China's smart elderly care industry, the most prominent one is the mismatch between the diversification of demand and the simplification of supply. First, the government must rely on its in-depth administrative management system to establish a data platform. At the same time, relying on the account management model of the social security system, integrate the basic conditions of the elderly and other special groups to establish a demand port database for the supply and demand data platform. Secondly, the smart elderly care enterprise organization establishes the supply port database of the supply and demand database according to its own service scope and service advantage positioning. Then the databases at both ends are connected to the supply and demand ports in the data platform established by the government. At the same time, as an important carrier organization in today's elderly care services, the community can serve as a third-party support object and participate in the interaction of the platform. According to the specific conditions of the community, it can match between the individual needs of the elderly and the supply side of smart elderly care companies. Sexual policy recommendations are used as reference opinions for matching services at both ends. The government is responsible for relevant platform supervision, review of relevant smart elderly care industry qualifications, and daily operation and maintenance. After the platform is established, the elderly and other beneficiary groups can choose services according to their own needs, and companies can also adjust their service positioning based on the beneficiary groups' feedback and community suggestions, and provide refined services according to their needs, while the government fully played the role of a server, as shown in Figure 4.

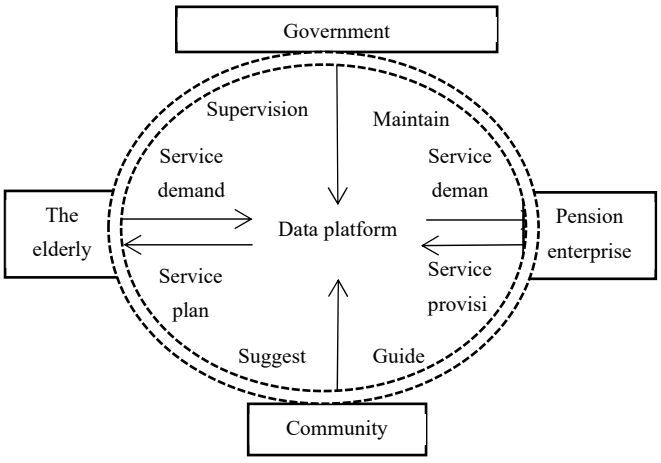

Figure 4: Operation process of supply and demand data exchange platform.

4.3 Mobilize All Forces to Establish a Three-dimensional and Information-based Publicity and Training Mechanism for Smart Elderly Care Services

In the smart elderly care service industry chain, in order to increase the industry recognition of the elderly, all parties must be mobilized to form an informatized publicity and training system of "government + community + enterprise". First of all, the government relies on the government service system to incorporate the contents of publicity and training for the elderly care services and people's livelihood security into the grassroots e-government "one-stop" application system. At the same time, the civil affairs department is responsible for the management and maintenance of the platform, and the government's service-oriented role is played in the information training mechanism. On the other hand, the community can provide the elderly with voluntary consultation on elderly care services through informational means such as serving WeChat and mobile clients, and cooperating with volunteers to enter the district. Companies can use television, newspapers, and other information-based communication platforms that are more acceptable to the elderly to promote the characteristics of their products and services. Through the joint efforts of the three parties, the recognition of the elderly will be increased.

4.4 Give Full Play to the Advantages of Information Technology and Establish a Networked and Three-dimensional Supervision System

In the process of establishing the supervision system, we must follow the "government + individual + society" model. First of all, as the main body of administrative supervision, the government must fully abide by laws and regulations, relying on high-tech means such as network supervision and illegal information interception to restrain illegal and transboundary behaviors in the industry chain. Individuals can report and feedback illegal service behaviors through the enterprise service evaluation window in the supply and demand platform. Social organizations or the media rely on new media platforms to provide regulatory opinions or implement public opinion reports. Give full play to the supervision power of the three parties, form a networked supervision system, and achieve the supervision effect of "1+1+1>+∞", as shown in Figure 5.

5 CONCLUSION

In the process of new urbanization, the development of the smart elderly care industry is bound to face many difficulties, but at the same time, its positive role in sustainable development is also highlighted.

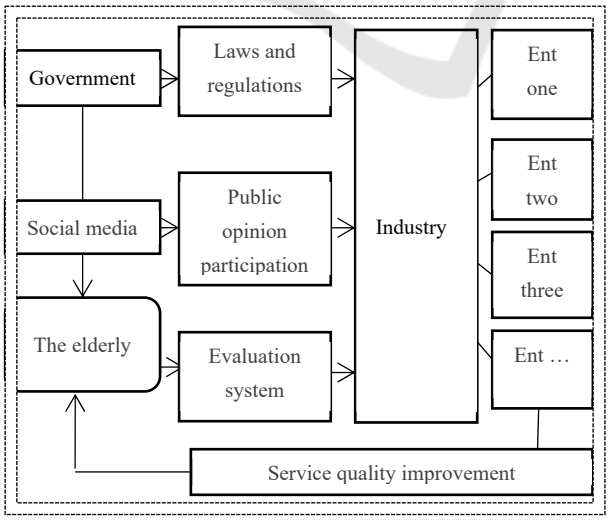

Figure 5: Operating model of networked supervision mechanism.

Making full use of the advantages of information technology, exploring the healthy and orderly development of the smart elderly care industry, and alleviating the pressure on the elderly in the new stage of China's urbanization process will surely become a hot research topic.

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