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# Research on the New Intelligent Pension Model of "Internet of Things + Pension"

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## Abstract

**In recent years, the phenomenon of population aging in China has intensified, and there is a shortage of pension resources in China. Therefore, it is urgent to solve the problem of pension resources. For the elderly, it is not only necessary to do a good job in the basic life security of the elderly, but also to do a good job in the entertainment needs of the spiritual life of the elderly. Therefore, intelligent elderly care is the inevitable trend of the development of the elderly care service industry. With the reform of social economy and technology and the introduction of big data and artificial intelligence technology, the elderly care environment is bound to change due to these information technologies. This paper is mainly to explore how to make more effective use of these science and technology and social pension business, carry out efficient intelligent pension services, and create a new intelligent pension model of "Internet of things + pension", so as to ensure that the elderly can enjoy the technological achievements of social progress.**

## Keywords

**Population Aging; "Internet of Things + Pension"; Smart Pension.**

## 1. Research Background

China's elderly population is in a period of continuous growth. According to the results of the seventh census, China's population over the age of 60 is 264 million, accounting for 18.70% of the country's total population. Among them, the population over 65 years old is 191 million, accounting for 13.50%. Compared with the sixth census in 2010, the population over the age of 60 increased by 5.44%, and the population over the age of 65 increased by 4.63%. According to the internationally accepted division standard, the population over 65 accounts for more than 7% of the total population, that is, entering the aging society; Reaching 14%, entering deep aging; Reach 20%, and enter a super aging society. At present, our data is 13.5%, which means that China has been on the edge of a deeply aging society.

Although China's pension industry is also developing continuously, there are many places in the pension industry that need to be supplemented and improved. It is not difficult to see that the development of the elderly care service platform will be the inevitable trend of the future development of the elderly care industry, but at present, the establishment of the elderly care service platform still does not form a certain scale. For example, although the domestic industry involves the elderly care service industry, its connection with the elderly care is not close. The change of social economy and technology will cause the life expectancy of the population to be longer and longer, and the aging of the population will be more and more serious. The base number of the elderly is large and the growth rate is large. The change of the concept of providing for the aged will also result in an increasing proportion of the elderly living alone.

With the increasing population base of the elderly in China, on the contrary, the elderly care service institutions and elderly care service personnel can not meet the needs of the society, which will be a huge problem to be faced by our country. The scale of the elderly population is

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huge, but we really haven't found a suitable solution, which will affect the progress of social development. Due to the differences of national conditions, we can't solve it by simply "copying homework", that is, learning from foreign countries. For example, the United States and Japan supplement the shortage of labor in the pension industry by absorbing foreign labor. The shortage of labor force in the elderly care service industry may easily lead to the corresponding increasing elderly care costs. The final result is that the vast majority of the elderly will not be able to afford their own elderly care services, which will eventually affect the elderly's elderly care life in their later years.

At present, technologies such as Internet of things, artificial intelligence and blockchain are also developing rapidly and becoming mature, which means that we can solve the complex problems of elderly care with the help of science and technology. Therefore, when we are aware of the problem, we consciously use technology to study solutions and constantly improve them. Then, when the problem of providing for the aged really comes, we have been able to apply these technologies to improve the quality of providing for the aged and save human resources for us, so we can allocate more human resources to other places and successfully solve the problem of shortage of elderly care service personnel in this century. However, there is not much time left for us to study technology. Because no matter big cities or small cities, there has been a serious shortage of pension service supply. With the passage of time, there will be serious social problems in China's old-age service security. Therefore, it will be an extremely important task project to continuously improve the intelligent elderly care throughout the country as soon as possible.

## 2. Research Significance

In order to meet the social demand for elderly care function, we turned our perspective to the new elderly care model of "smart home-based elderly care". The so-called "smart home-based elderly care" is to change the traditional elderly care mode, standardize the elderly care industry in combination with modern information technology, make the elderly care service industry enter a new era, fully combine with big data information technology, and create an intelligent elderly care environment for the elderly.

### 2.1. Remote Intelligent Control

Due to the failure of most functions of the elderly and their extremely uncoordinated body, most household electronic devices do not know how to use, and blind use is likely to bring danger. Establish a perfect remote control system, so that family members can easily use their electronic equipment to understand the working conditions of various equipment at home, and remotely control these equipment, such as lighting control, home environment detection and health detection of the elderly. They can use remote control to understand the conditions of the elderly at all times, According to the needs of the elderly, it can also help them start family equipment.

### 2.2. Security Precautions

It is extremely important to do a good job of family anti-theft and ensure the safety of their own property, especially the elderly who live alone at home are most likely to be targeted by bad elements. We should take safety precautions, make good use of the function of smart home and do a good job in anti-theft. When there is a gas leak or other accident in the family, the smart home can send the information to the relatives' devices and send an alarm, or automatically call for help. Or when the elderly has an accident, such as slipping, when the sensor senses it, it will give an alarm to the guardian at the first time. At the same time, the elderly can also contact the hospital at the first time through wearing equipment or voice to obtain the timeliest assistance.

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**Fig 1.** Example diagram of a complete remote control system

## 3. Research Status at Home and Abroad

With the rising trend of global aging, some developed and developing countries have begun to use modern Internet, artificial intelligence technology and elderly care service industry to solve the problem of how to adapt aging to social development, and have conducted in-depth research and achieved certain development results.

### 3.1. Abroad Development Status

In foreign countries, due to the low birth rate and serious social aging in most developed countries, we pay special attention to the intelligent elderly care service industry. Most developed countries such as Britain, the United States and Germany have made remarkable achievements in intelligent elderly care. First, the "telemedicine" network service in the United States has been applied to Virginia. After it is put into use, it has provided great help to the local elderly. It not only improves the service efficiency, but also reduces the expenditure of nursing expenses for the elderly. Britain uses robot nurses to provide good daily care for the elderly in society, do their spiritual work, enlighten and please the elderly, and can provide some simple suggestions according to the needs of the elderly. The British life trust foundation starts from the living environment of the elderly to maintain the pension life of the elderly. For example, when building apartments for the elderly, it implements remote supervision and control of the life of the elderly by implanting control chips in the living environment. Due to the different cultural environment of the country, the elderly in Germany do not like to go to nursing homes for the elderly, but prefer to stay at home and live with their children. Therefore, German families will be equipped with artificial intelligence auxiliary systems. The elderly can use the alarm devices of these systems to obtain corresponding assistance in time. This system can also monitor the life of the elderly at any time, which can well ensure the safety of the elderly when they stay at home alone.

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### 3.2. Domestic Development Status

China's aging population is rising, the degree of aging is deepening, and the demand for the elderly care industry and convenient, intelligent and high-quality services is greatly increased. Since 2013, the national government has issued a number of documents to promote the development of the aging industry. Since then, the construction of smart health elderly care service industry has been upgraded to the national strategic level. In November 2015, China released the first blue book on Intelligent elderly care development report of China's intelligent elderly care industry. On the premise of summarizing the development reality of China's intelligent elderly care service industry in recent years, it also made a profound analysis on the key regions and successful cases of China's intelligent elderly care service industry, It also puts forward some effective suggestions on how to promote the development of China's intelligent elderly care service industry. Nowadays, China's intelligent elderly care service model has become a new development trend of elderly care model.

Relying on modern Internet of things, big data and other information technologies, the new intelligent elderly care model improves the management efficiency of China's elderly care service institutions to a certain extent and continuously improves the influence of intelligent elderly care services. More and more entrepreneurs begin to realize the huge market contained in the elderly care service industry. Research shows that China's elderly care service institutions have increased significantly in recent years. Under such market conditions, the competition of the elderly care service industry will enter a new level - Intelligent elderly care service. Which elderly care service institution can take the lead in intelligent elderly care, it can control a broader market. At the same time, the intelligent elderly care services enjoyed by the elderly will become better, and their health monitoring and protection, or their entertainment needs will be effectively met.

## 4. Current Developments

In the context of aging, China's pension problem is prominent. For how to solve the problem of how to adapt aging to China's social development, China has begun to use the combination of modern Internet, artificial intelligence technology and elderly care service industry, and has achieved relatively excellent results.

At present, the intelligent aging service system implemented by many elderly care institutions has subverted China's traditional industry cognition. It is really initiated from the demand side of the elderly and combined with the elderly care service industry by using artificial intelligence technology. With the establishment of intelligent elderly care service standard system, the update speed of technology is faster and faster, which makes the intelligent elderly care model further developed. It is conceivable that the combination of intelligent elderly care and modern information technology will make the future elderly care model colorful. The intelligent elderly care mode is more through video monitoring terminals, such as infrared cameras, which can detect clearly all day and capture the real-time dynamics of the elderly, so as to deal with sudden diseases and other situations in time. There are also some intelligent products, such as sleep meter and intelligent insole. The implementation of these technologies can well ensure the safety of the elderly at home alone.

## 5. Existing Problems

### 5.1. Insufficient Implementation and Supervision of Policies

Although many policies on elderly care have been issued, local government staff are required to pay more attention to elderly care services to ensure the elderly's elderly care. However, the pension policies in some areas have not been implemented, and the pension construction is

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relatively slow. The construction speed of the new intelligent pension model of "Internet of things + pension" is relatively slow across the country.

### 5.2. The Enthusiasm of Managers in the Elderly Care Service Industry is not High

Most elderly care industries are not very enthusiastic about the "Internet of things + elderly care" smart elderly care model, and are unwilling to spend a lot of cost to invest in the construction of the "Internet of things + elderly care" smart elderly care model, resulting in a very slow speed for the smart elderly care model to enter the elderly care life in society.

### 5.3. Insufficient Construction Funds Invested

The creation of the smart pension model of "Internet of things + pension" requires a lot of cost. Whether adopting new technology or combining existing advanced technology with pension services, it will cost a lot of capital cost. This is a long-term construction project, and the investment in the construction of this industry is not high in today's society.

### 5.4. Technology cannot be Effectively Combined with Elderly Care Services

For many advanced technologies to be used by the elderly, full consideration should be given to their own conditions, not as long as the technology is sufficiently advanced. In order for the elderly to effectively use these technologies and equipment, mediation must be done, such as reducing technical operations and strengthening the combination of artificial intelligence services and elderly care, So that the elderly can easily use these elderly care equipment. This combination and adjustment need to constantly explore and spend more manpower to find their balance.

## 6. Suggestion

Due to changes in the economy, medical level and science and technology, social peace and stability, the life expectancy of the population is getting longer and longer, and the aging of the population is becoming more and more serious. The base number of the elderly is large and the growth rate is large. With the change of the concept of providing for the aged, the proportion of the elderly living alone is increasing. Because of its intelligence and humanization, smart home will certainly provide convenience for the life of the elderly. This means that smart home will have a greater market in national life in the future. We should strengthen the supervision and management of the construction of the smart pension model of "Internet of things + pension", strengthen the supervision of local pension industry, and urge relevant government staff at all levels to focus on the creation of "Internet of things + pension", so as to ensure that the elderly can better enjoy the technical achievements brought by social progress and live a comfortable life for the elderly. And do a good job in the corresponding publicity and education, so as to make the intelligent elderly care model of "Internet of things + elderly care" deeply rooted in the hearts of the people, deepen people's understanding of it, improve the attention of the whole society, let more people and institutions participate in it, and create this project to protect the elderly's later life together.

## 7. Summary

At the same time of rapid economic development, the basic livelihood construction should also be well controlled. Livelihood construction is a basic project. Only by building our country's livelihood construction and improving people's living standards can the country move forward steadily and build a strong socialist country. Pension is an important part of a person's life. To do a good job of pension for the elderly is to protect the rights of the elderly, so as to create a harmonious socialist country. The new smart pension model of "Internet of things + pension"

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fully reflects the combination of rapid development of economy and technology and pension, and is in line with the concept that science and technology connect life and scientific creation is to create a more harmonious and better life. The smart pension model of "Internet of things + pension" in society is not mature enough and needs us to constantly explore, Continuous improvement can ensure that the elderly can enjoy the technological achievements of scientific and technological progress and social development.

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