



# Research on the Opportunity Identification and Pattern Innovation of Artificial Intelligence Technology in the Development of Silver Economic Market in Young Entrepreneurs

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**Abstract:** *With the increasing aging of the global population, the silver economic market contains great potential. The rapid development of artificial intelligence technology has brought unprecedented opportunities for young entrepreneurs to explore the silver economic market. This paper deeply analyzes the application status of artificial intelligence technology in the silver economic market, and identifies opportunities for young entrepreneurs in this process, including meeting the diversified needs of the elderly, improving service efficiency and quality, and tapping new business value. At the same time, the paper discusses the innovation of entrepreneurship models based on artificial intelligence technology, such as intelligent health care service model, personalized elderly product customization model, intelligent elderly social and entertainment model, and puts forward corresponding development strategies and suggestions, aiming at providing theoretical basis and practical guidance for young entrepreneurs to successfully start their own businesses in the field of silver economy.*

**Keywords:** Artificial intelligence technology; Youth entrepreneurship; Silver economy; Opportunity identification; Model innovation.

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## 1. Introduction

Population aging has become a global social phenomenon, and the increasing number of elderly people has promoted the rapid rise of the silver economic market. "Silver economy" is a specific economic activity in the process of pursuing universal, shared, fair and sustainable modern society with access, happiness and security [1]. Recently, The General Office of the State Council issued the Opinions on Developing the Silver Economy to Improve the well-being of the Elderly, giving the definition of the category of the silver economy, which is "the sum of a series of economic activities such as providing products or services to the elderly and preparing for the age stage." According to statistics [2], by the end of 2021, the elderly aged 65 and above in China will account for 14.2%, which has exceeded the deep aging line of 14%, and China has officially entered a deep aging society. The silver economy covers the needs of the elderly in many fields such as health care, living consumption, leisure and entertainment, and social communication. The elderly human market contains huge labor resources, and the elderly consumer market is a "potential stock" for expanding domestic demand and promoting consumption. Conforming to the requirements of The Times, developing the silver-haired economy, promoting elderly consumption, and meeting the multi-level and diversified needs of the elderly are inevitable requirements for achieving high-quality development of China's economy [3].

With the advent of the era of artificial intelligence, the development of smart and healthy elderly care industry has become an inevitable choice to actively respond to the aging population and meet the increasingly rich needs of elderly care services [4]. Wisdom and health care for the elderly industry is an important force to cope with the huge challenges of aging in our country [5]. In recent years, China's smart and healthy elderly care industry has continuously emerged with new products, new formats and new models, which have significantly improved the

efficiency and quality of China's elderly care services. At the same time, artificial intelligence technology is in a stage of rapid development, and it has achieved remarkable results in image recognition, speech recognition, natural language processing, intelligent decision-making and other aspects. Artificial intelligence technology can improve the quality of innovation and entrepreneurship [6]. When the content of artificial intelligence technology increases by 1%, the quality of innovation and entrepreneurship increases by 0.0019% on average. Mechanism identification found that artificial intelligence technology affects the quality of innovation and entrepreneurship mainly through the upgrading of industrial structure, rationalization of industrial structure and economic agglomeration.

As the main force of entrepreneurship, young people have innovative thinking, technical sensitivity and the spirit of courage to try. Artificial intelligence has become an important force enabling the development of entrepreneurship [7], playing an increasingly important role in entrepreneurial opportunity discovery and creation, opportunity resource integration, value creation and other links. The application of artificial intelligence technology to the development of the silver economic market can not only meet the growing material and cultural needs of the elderly, but also open up a new broad world for young entrepreneurs, which is of great significance to promote economic and social development.

## **2. The Application Status of Artificial Intelligence Technology in the Silver Economic Market**

### **2.1 Smart Health Care for the Elderly**

The use of smart health monitoring devices, such as wearable devices such as smart bracelets and smart watches, can monitor the physiological indicators of the elderly in real time, such as heart rate, blood pressure, blood sugar, sleep quality and so on. These devices collect data through sensors and use artificial intelligence algorithms to analyze the data, and once abnormal conditions are found, they can timely warn the elderly themselves, their families or medical personnel to achieve early prevention and intervention of the disease. Home monitoring devices such as smart mattresses can monitor the sleeping posture and breathing rate of the elderly, assist in judging health problems such as sleep disorders, and provide personalized sleep improvement suggestions.

Using intelligent medical assistance system, medical imaging diagnosis system based on artificial intelligence can quickly and accurately analyze X-ray, CT, MRI and other image data, assist doctors to find lesions, improve diagnostic efficiency and accuracy, especially in the diagnosis of elderly diseases such as cardiovascular diseases, tumors and so on plays an important role. At the same time, the intelligent rehabilitation assistance robot can develop a personalized rehabilitation training program according to the rehabilitation needs and physical conditions of the elderly, and use sensors to monitor the training process in real time, adjust the training intensity and mode, and help the elderly better restore physical functions.

### **2.2 Elderly Living Services**

Through the intelligent home care service platform, it integrates various service resources such as housekeeping service, catering distribution, and emergency rescue, and uses artificial intelligence algorithms to intelligently match service providers according to the needs and preferences of the elderly. For example, suitable food and beverage dishes are recommended according to the tastes and dietary restrictions of the elderly, and delivery is arranged. Intelligent security system through face recognition, behavior analysis and other technologies to identify strangers into the unusual situation, the elderly fall, and timely notify the relevant personnel to deal with, to ensure the safety of the elderly at home.

The use of smart elderly AIDS, such as smart wheelchairs with automatic navigation, obstacle avoidance and other functions, can help the elderly with mobility difficulties more convenient travel. For example, a wheelchair can be controlled to a destination by voice commands or a mobile phone APP, while being able to sense the surrounding environment and automatically avoid obstacles. Smart walkers can provide appropriate assistance and balance support based on the walking posture and strength feedback of the elderly, reducing the risk of falls in the elderly.

### **2.3 Social and Entertainment Areas for the Elderly**

Build an intelligent social platform, design a social APP specifically for the elderly, and use artificial intelligence algorithms to recommend elderly friends with similar interests to promote social interaction among elderly groups.

For example, matching according to the hobbies of the elderly such as calligraphy, painting, photography, etc., so that they can exchange ideas and organize activities. It can also accompany the elderly to chat through intelligent voice chat robots, answer their questions, and alleviate the loneliness of the elderly. Chatbots can understand natural language, have smooth conversations with the elderly, and share news, stories and other information.

Create intelligent entertainment devices, such as smart TV boxes and other devices according to the viewing history and preferences of the elderly to recommend suitable film and television programs, operas, variety shows, etc., to provide personalized entertainment content. At the same time, virtual reality (VR) and augmented reality (AR) technology also have application prospects in the field of entertainment for the elderly, such as the development of immersive travel experience for the elderly, cultural experience and other applications, so that the elderly can enjoy the scenery and culture around the world at home.

### **3. Identification of Opportunities for Young Entrepreneurs to Explore the Silver Economic Market**

#### **3.1 Opportunities to Meet the Diverse Needs of Older Persons**

With the improvement of health awareness of the elderly, they have a strong demand for personalized health management programs. Young entrepreneurs can use artificial intelligence technology to develop a health management platform for different elderly individuals, integrate medical data, lifestyle data, etc., and provide accurate health assessment, disease prevention recommendations and rehabilitation guidance for the elderly. For example, based on the elderly's genetic data, medical history, and daily exercise and diet data, to predict disease risk and develop a dedicated healthy living plan.

The elderly desire convenient and efficient services in their home life. Young entrepreneurs can build a one-stop smart home elderly care service platform, integrating housekeeping services, shopping and distribution, and healthcare services. The service process is optimized by artificial intelligence algorithm to achieve fast response and accurate matching of services. For example, according to the geographical location of the elderly and the urgency of the need, intelligent dispatch of domestic staff or medical staff to provide doorknocking services to improve the convenience and comfort of the elderly's life.

At the same time, many elderly people have narrowed their social circle after retirement, and have a high demand for social and spiritual and cultural life. Young entrepreneurs can use artificial intelligence technology to develop innovative social platforms and cultural entertainment products for the elderly. For example, the use of artificial intelligence to analyze the interests of the elderly, organize online and offline interest group activities, or develop intelligent interactive products with cultural inheritance and educational significance, such as intelligent calligraphy practice tools, elderly cultural knowledge learning apps, etc., to enrich the spiritual and cultural life of the elderly.

#### **3.2 Opportunities to Improve Service Efficiency and Quality**

Artificial intelligence technology can quickly process and analyze massive elderly customer data, including consumption data, health data, service feedback data, etc. Young entrepreneurs can use these data for accurate market positioning, customer segmentation and product design optimization. For example, by analyzing the purchase behavior and evaluation of different elderly care products and services by elderly consumers, we can timely adjust product functions and service contents, improve the quality of products and services, and better meet the needs of elderly people.

In the process of providing elderly care services, artificial intelligence can realize the automation and intelligence of the service process. For example, the intelligent customer service system can answer the elderly's inquiries and complaints online 24 hours a day to improve the service response speed; Intelligent scheduling system can optimize the work arrangement of domestic service staff and medical staff, reduce service waiting time and improve service efficiency. By introducing these intelligent service processes, young entrepreneurs can improve the operation and management level of enterprises and gain competitive advantages in the silver-haired economic market.

#### **3.3 Opportunities to Explore New Business Value**

The health data, consumption data and social data of the elderly have great commercial value. Young entrepreneurs can use artificial intelligence technology to deeply mine and analyze these data under the premise of legal compliance. For example, working with medical institutions to develop new medical products and treatment options by analyzing clinical and rehabilitation data of elderly patients; Cooperate with commercial enterprises to carry out precision marketing and product innovation based on the shopping data of elderly consumers, and develop new product lines suitable for the elderly, thus creating new business value.

Moreover, the silver economy also has the potential to integrate with many industries, such as medical care, technology, culture, tourism and so on. Young entrepreneurs can use artificial intelligence technology to promote cross-border integration and innovation of the silver economy and other industries. For example, the development of smart tourism products for the elderly, combined with artificial intelligence tour guides, intelligent itinerary planning and health care services, to provide high-quality travel experience for the elderly; Or create smart elderly cultural creative products, combine traditional culture with modern science and technology, open up new market space, and achieve diversified growth of business value.

## **4. Youth Entrepreneurship Model Innovation Based on Artificial Intelligence Technology**

### **4.1 Smart Health Care Service Model**

The young entrepreneurial team can integrate medical resources, health monitoring equipment manufacturers, insurance companies and other forces to create an intelligent health management platform covering the entire life cycle of the elderly. The platform uses artificial intelligence technology to collect, analyze and manage the whole process data of the elderly from health examination, disease prevention, disease diagnosis, treatment to rehabilitation. For example, in the disease prevention stage, through the analysis of the lifestyle data and physiological indicators data of the elderly, to provide personalized healthy life guidance and disease early warning services; In the stage of disease treatment, assist doctors to make accurate diagnosis and treatment plan; At the rehabilitation stage, intelligent rehabilitation training programs and tele-rehabilitation guidance are provided.

Establish a telemedicine service network with the help of Internet and artificial intelligence technology. Young entrepreneurs can organize professional medical teams to provide telemedicine services for the elderly through video consultation and intelligent diagnostic equipment. At the same time, in combination with the contract service model of family doctors, the elderly are equipped with a dedicated team of family doctors, and artificial intelligence assistants are used to assist family doctors in daily health management, such as sorting out medical records, making diagnosis and treatment plans, tracking treatment effects, etc., so as to improve the level of primary medical services and solve the problem of the difficulty of seeing a doctor for the elderly.

### **4.2 Customization Mode of Personalized Elderly Products**

Young entrepreneurs can use artificial intelligence technology to design and develop products for the elderly. For example, through the analysis of ergonomic data, usage habits data and demand feedback data of the elderly, intelligent elderly products that are more in line with the physical characteristics and use needs of the elderly are designed. For example, smart crutches automatically adjust the height and support strength of crutches according to the height, weight and walking habits of the elderly; Smart clothing for the elderly, with warm, breathable, monitoring body indicators and other functions, and the style and color according to the aesthetic preferences of the elderly customized.

Build a personalized customization platform for elderly products to integrate manufacturers, designers and consumers of elderly products. The platform uses artificial intelligence algorithms to recommend suitable product styles and functional modules according to the needs and preferences of the elderly, and achieve customized production. For example, the elderly can choose the dial style of the smart watch and the combination of health monitoring functions on the platform, and the platform will send the order information to the manufacturer for production, so as to achieve personalized and differentiated supply of elderly products and meet the diversified consumer needs of the elderly.

### **4.3 Smart Social and Entertainment Mode for the Elderly**

Use virtual reality (VR), augmented reality (AR) and artificial intelligence technology to create an immersive social experience platform for the elderly. By creating virtual social scenes, such as virtual senior communities and virtual tourist attractions, the platform enables senior citizens to interact with other senior citizens in an immersive way. For example, in the virtual elderly community, the elderly can participate in virtual parties, cultural activities, etc., and communicate with others through voice, gesture and other interactive ways to enhance the fun and sense of reality of social interaction. At the same time, artificial intelligence algorithms continuously optimize social scenes and activity recommendations according to the social behaviors and interests of the elderly, and improve the participation and satisfaction of the elderly.

In addition, young entrepreneurs can also develop intelligent entertainment content ecology for the elderly, including intelligent games, intelligent movies, intelligent music and other entertainment products. For example, developing puzzle games specifically for the elderly, using artificial intelligence technology to adjust the difficulty and content of the game according to the level of play and interests of the elderly; Produce intelligent film and television programs with elderly characteristics, analyze the viewing preferences of the elderly through artificial intelligence, and provide personalized film and television recommendations and interactive functions, such as plot discussion and actor introduction; Create smart music works suitable for the elderly, play and recommend them intelligently according to their emotional states and music preferences, and create a colorful entertainment life for the elderly.

## **5. Development Strategies and Suggestions for Young Entrepreneurs to Explore the Silver Economic Market**

### **5.1 Strengthen Cooperation in Technology Research and Development and Innovation**

Young entrepreneurial teams should increase research and development investment in the application of artificial intelligence technology in the field of silver economy, and actively explore the application of new technologies and new algorithms in elderly health management, life services, social entertainment and other aspects. For example, research on more accurate elderly health data mining algorithms, more intelligent elderly service robot control technology.

Strengthen industry-university-research cooperation with universities and scientific research institutions, and make full use of their human resources and scientific research results. The innovative application of artificial intelligence technology in the silver economic market can be promoted through joint research and development projects and the construction of internship bases. For example, we cooperated with the computer department of universities to develop intelligent social platforms for the elderly, and cooperated with the medical school to carry out big data research on elderly health.

### **5.2 Focus on Talent Training and Team Building**

Cultivate interdisciplinary talents who understand both artificial intelligence technology and the needs of the elderly. Through internal training, participation in industry seminars, cooperation with professional training institutions, etc., team members can improve their professionalism and business capabilities. For example, organize team members to participate in courses such as geriatric psychology and geriatric sociology, so that they can better understand the needs and behavioral characteristics of the elderly.

Create a diverse entrepreneurial team, including technology research and development personnel, marketing personnel, senior service professionals, etc. Collaboration between people with different professional backgrounds can better promote the development of entrepreneurial projects. For example, technology research and development personnel are responsible for developing smart elderly products and service platforms, marketing personnel are responsible for promoting products and services, and elderly service professionals are responsible for collecting feedback on elderly people's needs and providing offline service support.

### **5.3 Policy Support and Market Cultivation**

The government should introduce relevant policies to encourage young people to start businesses and explore the silver-haired economic market. For example, it provides policy support such as entrepreneurship subsidies, tax incentives, and loan interest discounts to reduce the costs and risks of young people starting businesses. For

example, a special silver economic entrepreneurship support fund has been set up to provide financial support to eligible youth entrepreneurship projects.

Strengthen the cultivation and publicity of the silver economy market, and improve the social awareness and attention to the silver economy. Activities such as silver economy industry Expo and senior products promotion Conference will be held to demonstrate the application results of artificial intelligence technology in the field of silver economy and promote the prosperity of the elderly consumer market. For example, the organization of smart elderly products trial activities, so that the elderly experience the advantages of smart products, stimulate their consumer demand.

#### **5.4 Data Security and Privacy Protection**

When using AI technology to develop products and services related to the silver economy, young entrepreneurial teams must attach great importance to data security and privacy protection. Establish a strict data management system, and adopt encryption technology, access control and other means to ensure the safe storage and transmission of elderly data. For example, the elderly health data is encrypted, and strict user permissions are set so that only authorized medical personnel and the elderly themselves can access specific data.

Comply with relevant laws and regulations, such as the Data Security Law and the Personal Information Protection Law, clearly inform the elderly of the purpose, method and scope of data collection, use and sharing, and obtain the informed consent of the elderly. For example, the privacy policy description page is set up on the elderly product and service platform to let the elderly clearly understand the processing of their data and protect the legitimate rights and interests of the elderly.

### **6. Conclusion**

The development of artificial intelligence technology has brought rich opportunities for young entrepreneurs to explore the silver economic market. Through in-depth analysis of the application status of artificial intelligence technology in the silver economic market, the opportunities of young entrepreneurs in meeting the diverse needs of the elderly, improving service efficiency and quality, and mining new business value are identified, and innovative models such as intelligent health care services for the elderly, personalized customization of elderly products, and intelligent social and entertainment for the elderly are proposed. At the same time, in order to promote the successful development of young entrepreneurs in the field of silver economy, the author puts forward some development strategies and suggestions, such as strengthening cooperation in technology research and development and innovation, focusing on talent training and team building, striving for policy support and market cultivation, and ensuring data security and privacy protection. With the continuous progress of artificial intelligence technology and the continuous development of the silver-hair economic market, young entrepreneurs should actively grasp the opportunities, have the courage to innovate, and realize their own entrepreneurial dreams while meeting the needs of the elderly for a better life, and make positive contributions to social and economic development. In the future development, it is also necessary to further pay attention to the deep integration of technological innovation and the needs of the elderly, and constantly optimize the entrepreneurial model and development strategy to adapt to the dynamic changes and sustainable development requirements of the silver economic market.

### **References**

- [1] Ma Qiji. "Silver economy" provides new impetus for high-quality development [J]. *Zhongguancun*, 2024, (02):24-25.
- [2] Jia Xuan. The "silver economy" is still in the "blue Ocean" to boost the elderly care consumer market. What is the focus? [J]. *China Economic Weekly*, 2023, (Z1):38-40.]
- [3] Li Guojun. Research on the development model of China's elderly consumer market under the background of population aging [J]. *China Business Theory*, 2024, (11):70-73.
- [4] Yao Xue. Research on countermeasures of developing smart and healthy elderly care industry in Daqing City [J]. *Social Sciences in Daqing*, 2024, (05):139-143.
- [5] Chen Huaijin. Development status, problems and suggestions of China's intelligent health care industry [J]. *China Economic and Trade Guide*, 2024, (09):79-81.
- [6] Zhang Jinshan, Cui Xueliang. How does artificial intelligence technology affect the quality of innovation and entrepreneurship? Empirical evidence from the city level [J]. *Qiushi Journal*, 2022, 49(05):85-95.

- [7] Li Dayuan, Pan Zhuang, Chen Xiaohong. Artificial intelligence enabling entrepreneurship: a review based on structural topic model [J]. *Science Research Management*, 2019, 45(11):14-25.

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