

Research on Intelligent Entertainment Facilities for the Elderly Community in Liaoning Region Based on the Background of Internet Big data

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Abstract: Based on the background that the population of Liaoning Province is gradually entering the "aging" structure, combined with the important role of 5G information communication technology and artificial intelligence products in modern society, as well as the application of entertainment facilities in intensive community activity rooms for the elderly in the future, this paper carries out a systematic study from three aspects of social economy, service and design. Especially on the premise of the relatively special climate conditions in Liaoning, how to solve the problem of daily recreational activities of the elderly groups according to local conditions, while developing regional elderly economy, promoting regional economic development and other related topics are studied.

1. Introduction

With the continuous development of China's economy in recent decades, people's material living standards have been significantly improved, the industrial structure is constantly upgraded, especially the rapid development of the Internet and the surrounding economy has made remarkable achievements in the world. Under the background of the establishment of the "One Belt, One Road" global economic development direction, and the continuous progress of 5G information and communication technology in recent years, it is the general trend to vigorously develop the artificial intelligence industry. As the results of the national population census in 2020 show, the "elderly population" in Liaoning has reached 25.7%, far higher than the national average of 13.6%. How to combine the characteristics of the population structure in Liaoning with the current economic development trend, and improve the service level of the elderly and adapt to the future social development is the main significance of this paper.

2. Research Background and Status quo

At present, in the context of the global aging society, intelligent devices serving the elderly are constantly being developed and put into use. In Europe, the United States and developed countries in Japan and South Korea, artificial intelligence services for the elderly are being applied in society, especially in the aspects of medical treatment, life and health care for the elderly. In China, with the implementation of the national construction of social service and security system for the elderly, intelligent products for the elderly are also vigorously developed in various regions, and the combination of Internet communication technology is gradually solving the problems of elderly life. Although the types of intelligent facilities serving the elderly are becoming more and more abundant, in the field of leisure and entertainment facilities, both foreign and domestic, are just starting. Especially for the northern regions with relatively backward economic development, the investment of intelligent entertainment products for the elderly reflecting humanistic care still has a large space for development. Promoting economic development has a major impact.

3. The development of elderly community recreation facilities in Liaoning

According to the latest national census data, the elderly over the age of 65 account for 17.42% of

the total population in Liaoning Province, ranking first in the country. Through the data, it can be concluded that the proportion of population in Liaoning Province is aging in both urban and rural areas. As Liaoning Province is an important national heavy industry base, known as the "eldest son of the Republic" said. Therefore, the cities in Liaoning Province developed earlier and have a large scale, so there are a large number of old residential areas. There are some problems that need to be solved urgently for the daily entertainment and leisure activities of the elderly in the community, as well as the entertainment rooms and entertainment facilities used. According to the survey, the problems are more prominent in the three aspects of security, intelligent control and comfort.

4. Research on the application of intelligent entertainment facilities in the activity room for the aged

Through the preliminary investigation, it is found that the elderly activities in urban areas of Liaoning are mostly traditional entertainment facilities for the elderly. In summer, most of them are chess and cards. In winter, affected by the weather, most of the elderly cannot go outdoors, and there are few entertainment and leisure ways. In some areas with good activity space conditions, there will be table tennis, badminton and other activity venues, and simple exercise equipment in the outdoor activity space. Although these overall conditions can meet the daily leisure and entertainment activities of the general elderly group, the way is still relatively simple, and modern Internet technology is not fully used to enrich the entertainment. So that the elderly can spend their old age in a faster, better and safer way.

Artificial intelligence entertainment facilities are now being applied in the lives of more and more young people. Combined with network transmission technology, remote control can make life more convenient. At the same time, the use of voice and other controls in the family, completely free hands. Then, how to apply modern intelligent equipment design in the field of elderly activities, so as to solve the problems of economy, climate and service in Liaoning region?

4.1. The role of Internet technology in intelligent entertainment facilities

Through the preliminary investigation of intelligent entertainment facilities, we can know that intelligent entertainment facilities for the elderly can be divided into three categories: visual, tactile and comprehensive; According to the above three categories, combined with the Internet big data analysis technology, the research on entertainment facilities for the elderly group is carried out.

Visual: visual entertainment facilities include electronic display screens, integrated control systems, 5G Internet communication and other conditions combined to form an audio-visual intelligent system, which can make the elderly in the long winter, break the boundaries of the region, can carry out remote interaction and communication, for example, Liaoning elderly groups have a lot of Beijing Opera fans, like traditional opera and other programs. With the help of visual intelligent entertainment facilities, we can provide better services for the elderly and increase their communication and exchange between different places. At the same time, visual facilities can use modern virtual reality technology to complete sports projects with relatively small physical effort through simulation scenes and movements. Virtual reality technology is also one of the directions of future development, and its biggest feature is not restricted by sites and personnel, and more selective.

Tactile entertainment facilities: Tactile entertainment facilities mainly involve the physical activities of the elderly. For example, the electronic automatic mahjong machine in daily life is a typical tactile entertainment facility. With the help of Internet big data technology, through the daily operation habits of the elderly users and other data analysis, so that it can better provide services for the elderly users.

Comprehensive: Aiming at the characteristics of the elderly population in Liaoning city with higher cultural literacy and better education level, comprehensive intelligent entertainment facilities mainly meet the needs of the elderly population to learn and communicate in culture and art. Among the elderly population, there are more groups who love singing and set up choirs, and they can carry out related entertainment activities by using comprehensive intelligent singing equipment.

Most of the old people still have the awareness and attitude of learning. For example, in cooking, they can provide intelligent kitchenware and other equipment.

4.2. Application feasibility analysis

Liaoning region is affected by climatic conditions, the winter is relatively long, and the temperature is low. Intelligent entertainment facilities can not only meet the daily entertainment and leisure needs of the elderly, enrich the life of the elderly, but also complete some "outdoor" sports projects without going out. With the help of the corresponding intelligent security monitoring system, in the event of an emergency, you can alarm or contact the ambulance personnel in the first time. Therefore, Intelligent entertainment facilities and equipment relying on Internet technology can be fully applied to the activities of the elderly.

In the aspect of control feasibility analysis, vision, touch and other aspects of ergonomics are utilized according to the common activity characteristics of the elderly. Although in terms of physical flexibility, the ability of the elderly is greatly reduced compared with that of the younger generation, they can still be controlled through basic sense and perception. Therefore, for the use of intelligent entertainment facilities, The control terminal is optimized to meet the requirements of the elderly.

5. Applied research methods

In this paper, the application of research methods, mainly using the case study method and analysis method, in Liaoning Province with a representative provincial city - Shenyang, as the objective object of investigation and analysis, Shenyang related community elderly recreational activities for research and analysis.

Based on the characteristics and problems of entertainment and leisure activities common to the elderly over 60 years old, the design and development of form and function are combined. The three principles of safety, function and beauty are integrated into the design of entertainment facilities for the aged. The safety of facility products is extremely important for the elderly. Under the premise of meeting the use function, there should be protective measures or devices to timely monitor the abnormal activities of the elderly. Secondly, in terms of functionality, the operation mode required by physical exertion should be reduced as far as possible, while the control form of sensation and perception should be increased. Combined with the Internet big data analysis ability, it can match the usage habits of the elderly, and finally provide corresponding services. Finally, aesthetic design, even in the old age of the elderly, formal beauty should not be ignored.

5.1. Research on the application of ergonomic principles

Ergonomically, all senses must essentially receive stimuli and convert them into nerve signals that are transmitted to the brain. In fact, all human behaviors or the whole process of receiving, processing and output of information are controlled and regulated by the nervous system.

According to the sensory and perceptual characteristics of the elderly, it can be understood that the design and use of intelligent entertainment facilities should meet the following conditions as far as possible:

First of all, it is the simplicity of the control terminal system. The design of the visual icon should be in accordance with the characteristics of the general decline of the visual ability of the elderly, and the design form of large size and unified color should be adopted as far as possible. In the operation link, to reduce the operation steps and processes, such as intelligent music singing equipment, singing system is not easy and complex.

Secondly, according to the way of human participation, man-machine system can be divided into three categories: manual man-machine system, mechanical man-machine system and automatic control system. In the above three control methods and intelligent voice control methods, try to use the form of voice control, reduce the physical operation of the elderly, especially the elderly with mobility difficulties, voice control method is more efficient, and more convenient.

Finally, it is the safety of intelligent entertainment facilities, which is the most core design

element of intelligent products for the elderly. In strict accordance with the size requirements of the elderly in ergonomics, it is necessary to avoid "hidden" dangers in the operation process of the elderly, such as the use of large power facilities and equipment, there should be power protection and relevant monitoring measures.

5.2. Systematic research on intelligent entertainment facilities

According to the characteristics of the elderly population in Liaoning, intelligent entertainment facilities can be divided into two parts: indoor and outdoor. The indoor part generally refers to the community activity room for the elderly. The size of the activity room varies from each other. When it is used, functional zoning and systematic design research should be carried out in accordance with the integrity, and basic design elements such as room temperature and ventilation should be fully considered, as well as the characteristics of indoor activities for the elderly. The outdoor part is mainly about basic equipment and other related content. Due to the influence of climate, rain and snow often occur in winter, and the elderly are not suitable for outdoor activities for a long time, so try to avoid the use of large, high power consumption of entertainment equipment. Under the premise of not interfering with the surrounding living environment, intelligent devices used outdoors take sound, light and electricity as design elements to take care of the elderly's summer night activity environment.

6. Conclusion

According to the current development trend of the elderly society, it is feasible to combine 5G communication technology to apply intelligent entertainment facilities to elderly activities in reality. Especially in Liaoning, where the pension model is gradually changing, it is particularly important to develop the elderly economy. The research of intelligent entertainment facilities and equipment in the elderly community is conducive to providing better social services for the elderly, enriching their later life, and reflecting the socialist humanistic care in both physical and mental aspects. At the same time, under the economic model of the national comprehensive adjustment of internal circulation and the common development of external circulation, the economic, social and service problems existing in the elderly society can be fully solved through research, so as to explore a complete design system to increase investment in the economy of the elderly, which will not only contribute to the economic structural reform of Liaoning in the future. It is also a powerful embodiment of socialist core values.

Based on the systematic research on the intelligent entertainment equipment for the elderly in Liaoning, this paper hopes to improve or transform the entertainment environment and related conditions of the current community for the elderly, take intelligent entertainment facilities as the design background, and provide reference for the design practice of the economic service for the elderly and the "pension" model in the future. With Liaoning as the center, it can be promoted to the northeast region. So as to provide a theoretical basis for the construction of high-quality elderly services under socialism with Chinese characteristics.

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