

Study on Influencing Factors of Purchase Intention of Pension Real Estate Based on Structural Equation Model

Li-jun WAN and Ping ZHENG*

School of management, Harbin Normal University, Harbin, Heilongjiang, China, 150000

Keywords: Aged real estate, Purchase intention, Influencing factors, SEM.

Abstract. With the rapid increase of the elderly population, the Aged Real Estate came into being. Based on the current situation of the development of the Aged Real Estate and the survey data of urban and rural residents' willingness to purchase the Aged Real Estate, this paper introduces 4 kinds of latent variables and 21 kinds of observation variables. Through building SEM, we use SPSS and AMOS software to analyze the influencing factors of purchase intention of the Aged Real Estate. The research shows that: the price of the Aged Real Estate, the understanding of the Aged Real Estate, the planning and design of the Aged Real Estate have a significant impact on the purchase intention of the Aged Real Estate. On the basis of this, the measures and suggestions to promote the development and construction of the Aged Real Estate are put forward.

Introduction

Research Background

The definition for the aging society is: if the total population over the age of 60 in a country or region accounted for more than ten percent of the total population or the total population over the age of 65 accounted for more than seven percent, it has entered the aging society^[1]. In china, after 1999, the total population of 60 years and above accounts for more than ten percent of the population of the country, which marks the beginning of our country's aging society. The sixth national census in 2011 showed that the total population of 60 years old and above has exceeded 160 million, accounting for 13.3 percent of the total population of the country. It is expected that by 2050, the number of China's elderly population will reach the peak, then every three people have an old man^[2]. Since the implementation of family planning in 1980s, great changes have taken place in the family structure in China. The family structure of "421" has become a normal form. This increases the burden of their children to some extent, making the traditional family pension no longer adapt to the reality of our country. The rapid increase of the elderly population, the disadvantages of the traditional way of providing for the aged and the rapid growth of China's economy make the demand for the aged in our country expand rapidly, but the number of existing pension institutions and beds in our country is still far from meeting the needs of the elderly.

It is under such a special background that pension real estate arises at the historic moment. The old estate is an old residential product, which is suitable for the elderly to live, meet the psychological and physiological characteristics of the elderly, meet the needs of the social activities of the elderly, and provide a good infrastructure guarantee for the health of the elderly^[3]. Compared with the ordinary residence, the biggest feature of the old estate is to integrate the housing with the supporting facilities such as pension, catering, health care, health care, health management, nursing, education and recreational and recreational facilities, and form a complete industrial chain to provide "one dragon" service for the elderly, so as to meet the needs of three aspects of the elderly's economic supply, life care and spiritual comfort.

Journals Reviewed

In the study of the factors affecting the residents' willingness to buy old estate, Kang Qixue and Zhang Hengming (2013) analyzed the willingness of the urban and rural residents to buy the old estate in Hangzhou by using the Logistic regression model and the influencing factors. It is believed that among the many factors affecting the purchase intention of the old estate, the urban household

registration is the most important, and the second is the occupation, income, educational background and the old-age model. Based on this research conclusion, the corresponding suggestions are put forward. Su Yaqin, Yu Yao and Xu Zhu (2016) have studied the influencing factors of the purchasing willingness of urban and rural residents in Hunan province by establishing the model of the urban and rural residents in Hunan Province, and draw a conclusion that different factors have positive and negative effects on the purchase intention of the aged real estate, and put forward some suggestions to promote the development of the old-age land. Wang Liqing and Luo Fu Zhou (2013) through the construction of structural equation model, studied the influence factors of the Xi'an residents' willingness to purchase the old-age house, and found that perceived risk was greater than the perceived quality of the elderly housing purchase intention. At the same time, six exogenous latent variables, such as product knowledge and perceived price, could affect the perceived quality and perceived risk and then indirectly affect the purchase intention. Based on this conclusion, the development suggestion for the elderly housing is put forward. Sha Guohua (2015) is based on the Probit model to analyze the market demand of old people in Suzhou city. It is found that the demand of old people on the old estate will be influenced by age, physical condition, occupation and income, but it is basically in the stage of potential demand, and a series of measures are put forward to release the potential demand of old people to the old estate. Long Shuqin and Feng Xiao Tian (2007) through the analysis of the elderly's willingness to provide for the aged in four cities in Jiangsu and the influencing factors, the old people's willingness to provide for the aged is divided into three aspects: the responsibility and attitude of the elderly, their own willingness to provide for the aged and the willingness to live, and through the establishment of the Logistic model, the age, sex and cultural degree will have a significant impact on their willingness to provide for the aged.

In general, from the existing research, there are two main shortcomings: first, there are few studies on the old-age real estate from the demand side, and most of the studies are concentrated on the perspective of the real estate developers. The two is in the existing research on the influencing factors of the willingness to purchase the aged real estate, most of which are concentrated on the potential purchase. The basic characteristics of buyers' age, income, household registration and education are seldom analyzed from the perspective of pension real estate itself. Therefore, this paper focuses on the demand side of the old-age real estate, starting from the influence factors of the residents' willingness to buy the old estate, especially the old estate itself. On the basis of a large number of reading documents, based on the one hand survey data of urban and rural residents, 4 kinds of potential variables and 21 observation variables are introduced to construct the structural equation model. Through the empirical analysis of the model, the key path of the influencing factors of the purchase intention of the old estate is clarified, and the pertinent suggestions are put forward on the basis of the development of the old estate.

Model Construction and Selection of Variables

Structural Equation Model

The greatest advantage of SEM (structural equation model) is that it can deal with the relationship between multiple variables, especially for dealing with multiple potential variables and observation variables, and allowing the existence of measurement errors. At the same time, the structural relationship between the estimated factors and the degree of fitting of the whole model has an unparalleled advantage. This paper is based on multiple latent variables and observed variables, so the structural equation model is the best choice.

Model Building

According to the previous research results and the status of the development of old estate, the index system of influencing factors of the purchase intention of pension real estate is formed in Table 1, and the H1~H4 hypothesis is put forward accordingly.

(1) The value of pension real estate: when the price of the old estate is matched with the income of the elderly, that is to say, when the income of the elderly can afford to buy the old estate, the willingness to purchase will be stronger. Based on the study of the perceived quality of Wang Liqing and Dan Wenjun on the perceived quality of old estate, this paper forms the values of real estate from six aspects: consumption scenario (Q2), advertising awareness (Q3), popularity (Q4), reputation (Q5), and reference group acceptance (Q6)^[4-5].

H1: pension real estate value has a direct positive impact on pension real estate purchase intention.

(2) On the basis of Su Yaqin and others' research on the willingness to purchase for the aged real estate, this paper has formed five observation variables: old age concept(Q8), consumption attitude(Q9), degree of understanding(Q10), the satisfaction of the existing pension system (Q11), the ability to accept new things (Q12)^[6].

H2: pension real estate cognition has a significant positive impact on pension real estate purchase intention.

(3) Pension real estate incentive policy: on the basis of Liu Qunhong's study on Liu Qunhong's demand and Countermeasures for the old estate market, this paper forms a measure item from three aspects of tax preferential policy (Q13), financial subsidy (Q14) and loan interest preferential policy (Q15)^[7].

H3: pension real estate incentive policy has a direct positive impact on pension real estate purchase intention.

(4) Pension real estate environment: Based on the study of Liu Xiuyan and Li Suhong and others on the planning and development of old estate, this paper has formed six measurement projects, including area (Q16), location (Q17), distance from children (Q18), service and supporting facilities (Q19), the number of peers (Q20), and adaptation design (Q21)^[8].

H4: pension real estate environment has a significant positive impact on pension real estate purchase intention.

Table 1. Factors affecting the purchase intention of old estate.

| Potential variable | Observation variable |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Value of real estate for the aged | Price Q1 Consumption situation Q2 Advertising awareness Q3 Popularity Q4 Reputation Q5 Reference group approval degree Q6 Future expectation Q7 |
| Cognition of old-age real estate | Old age concept Q8 Consumption attitude Q9 Degree of understanding Q10 The satisfaction of the existing pension system Q11 The ability to accept new things Q12 |
| Old-age real estate incentive policy | Preferential tax policy Q13 Financial subsidies Q14 Loan interest preferential policy Q15 |
| Old-age real estate environment | The measure of area Q16 Location Q17 Distance from the children Q18 Service and supporting facilities Q19 The number of peers Q20 Aging design Q21 |

The corresponding questionnaire was designed according to the above influencing factors scale of pension real estate purchase. The questionnaire was five levels of Likert. Through the combination of questionnaire survey platform and field visits, the scale of the impact of each index on the purchase intention of the aged real estate was graded. The location of the survey is the old people's parks, residential quarters, elderly activity centers, etc. A total of 250 questionnaires were issued in this survey, and 238 effective questionnaires were obtained, and the effective recovery rate was 95%.

Reliability Analysis and Validity Analysis

SPSS19.0 was used to test the reliability and validity of the questionnaire data. Generally, the reliability of Cronbach's α is better than 0.7, and the reliability of the questionnaire is 0.798, which shows that the result of the questionnaire is highly reliable. KMO and Bartlett can be used to test the validity. It is generally believed that the factor analysis among variables can be carried out when KMO is more than 0.5 and Bartlett is $0.000 < 0.001$. As shown in Table 2, the variables are suitable for factor analysis.

Table 2. KMO and Bartlett tests.

| | | |
|----------------------------------------------------------|--------------------------|---------|
| Kaiser-Meyer-Olkin measure of sampling sufficient degree | | .743 |
| The sphericity test of Bartlett | Approximatecartoon value | 510.125 |
| | df | 30 |
| | Sig | .000 |

SEM Empirical Analysis Results

Fitting Index

Using Amos24.0 to carry out confirmatory factor analysis on the data that has passed the reliability and validity test. After revising the model, the whole model fitting results, such as table 3 show that the SEM model of the influencing factors of the purchase intention of the aged real estate has a good fitness.

Table 3. Fitting results of structural equation model.

| Fitting index | Standard or critical value | The fitting value of this study | Fitting judgment |
|----------------------|----------------------------|---------------------------------|------------------|
| RMSEA | <0.08 | 0.038 | fitting |
| GFI | >0.9 | 0.934 | fitting |
| AGFI | >0.9 | 0.915 | fitting |
| NFI | >0.9 | 0.901 | fitting |
| X2 degree of freedom | <3 | 1.305 | fitting |

The Key Path Analysis of the Influencing Factors of the Purchase Intention

Through the operation of AMOS software, the path map of the influencing factors of the purchase intention of the old estate is obtained. For example, figure 1, the factor expressed with the rough line on the path map is the key path to affect the purchase intention. By improving these key points, the residents' willingness to buy the old estate is enhanced. Figure 1 shows:

(1) The value of pension real estate has an impact on purchase intention, the price and reputation have a greater impact.

(2) Compared with other variables, the impact of pension incentive policy on purchase intention is not significant.

(3) The cognition of pension real estate has a greater impact on purchase intention. The old-age concept has the greatest impact on the purchase intention of the old estate, the second is the understanding of the old estate and the consumer's ability to accept new things will also have a big impact on the purchase intention,

(4) The impact of pension environment on purchase intention is the biggest. The distance from the children has the greatest influence on the purchase intention, followed by the appropriate aging design and service and supporting facilities.

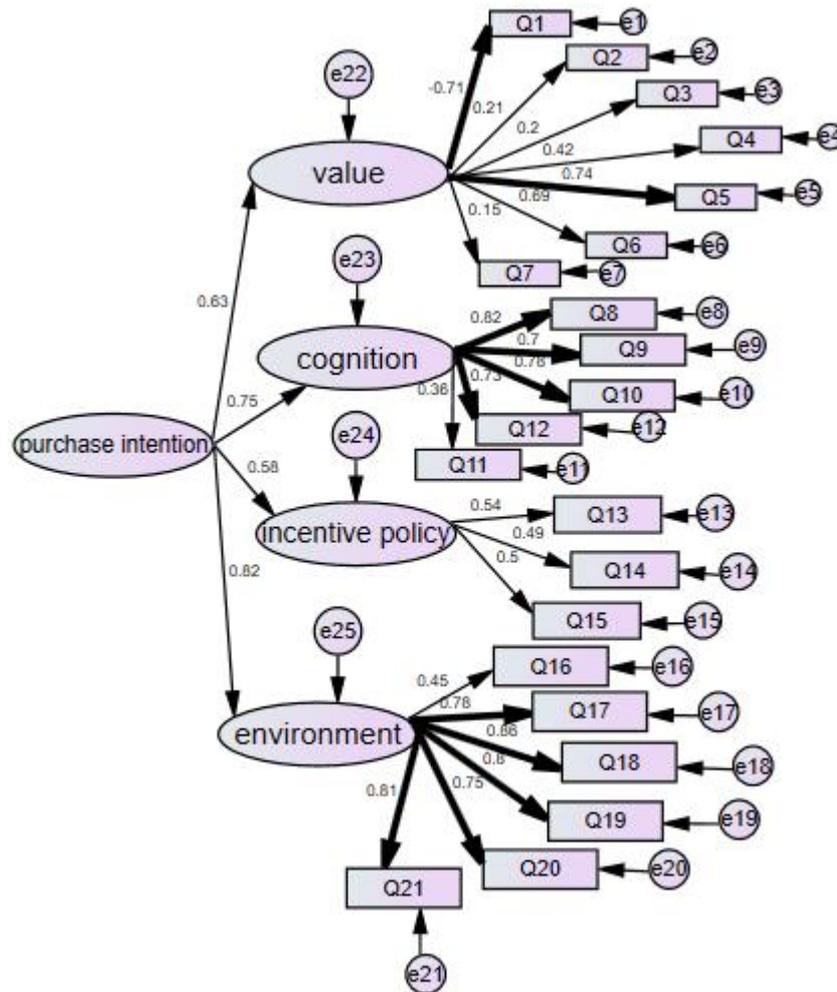


Figure 1. The impact path of the purchase intention of the old estate.

Countermeasures and Suggestions

In view of the conclusions of the above research, some suggestions are put forward to promote the development of the aged real estate, in order to enhance the consumer's purchase intention and maximize the potential demand to the actual demand.

(1) Optimize the pension real estate price and improve the purchasing power of the pension real estate. The government should give strong policy support, improve the social welfare and social security system.

(2) Adopt appropriate publicity and marketing strategies to enhance the recognition of pension real estate. Strengthen the publicity of the pension estate and improve the residents' understanding of the pension real estate. Enhance the publicity of social pension, enhance public awareness of social pension, and break the traditional old-age pension and consumption concept. At the same time, the appropriate marketing strategy is not only to publicize the existing residents, but also to the word of mouth effect in their children's generation, to adopt the "old belt new" strategy in the marketing means, to pay attention to the recognition degree of the reference group, and to enhance the influence of the existing residents to the potential buyers around them by ensuring the quality of the elderly housing^[9].

(3) Optimize the planning and design of pension estate, and improve the environment of pension real estate. The old-age real estate project should choose the outskirts of the city with convenient traffic, usually have good natural resources, fresh air and beautiful environment, and should consider the distance between the aged community and the aged children. According to the actual needs of the elderly, different types of family units should be developed to meet the different needs of the elderly. According to the physical condition of the elderly, various barrier free designs must

be increased^[10]. In the supporting design of the old-age community, the elderly are still eager to contact and communicate with the outside world, and for the mental health of the elderly, the old people's activity center should be built to enrich the amateur life of the elderly, to ensure their physical and mental health and to make them happy^[11]. It is more important to ensure the matching of the number and function of the housing and health care institutions, cultural and educational institutions and domestic service institutions in the planning of the residence of the elderly, so as to enhance the core competitiveness of the pension real estate project and improve the reputation of the old estate project.

Acknowledgements

Fund project: Research on shared governance mechanism of intelligent community care for the elderly (18BGL260)

Reference

- [1] Wang, Z.F. and Tang, X.L. Literature review on pension development at home and abroad [J]. Reform and Strategy, 2014 (5): 24.
- [2] Jiang, R. and Su, Z. Research on the development mode and strategy of China's pension real estate [J]. Modern Economic Discussion, 2012 (10): 38.
- [3] Susan, B, Garland. Risks and Rewards Of Moving to a CCRC[J].Kiplinger's Retirement Report, 2012, (11):2-5.
- [4] Wang, L.Q. and Luo, F.Z. Research on purchasing intention of Xi'an's old age housing based on SEM [J]. Consumption Economy, 2013, 10(5): 62.
- [5] Shan, W.J. Factors affecting consumers' purchase intention of tourism real estate [M]. Zhejiang University.2009:71-73.
- [6] Su, Y.Q. Yu, Y. and Xu, Z. Residents' willingness to purchase pension real estate research [J]. Research Report, 2016 (3): 26.
- [7] Liu, Q.H. and Zhou, W. Elderly property: market demand and Countermeasures [J]. Jiangxi Social Sciences, 2012 (5): 67.
- [8] Liu, X.Y. and Wang, L.X. Development mode of cross-border alliance of pension real estate based on multi agent collaborative innovation [J]. Modern Urban Studies, 2017, 2 (5):33.
- [9] Li, S.H. Fang, J. and Yuan, S. Suitability evaluation of urban endowment real estate development based on social network analysis [J]. Industrial Economy, 2017, 5 (6): 24.
- [10] Ma, Z.L. and He, T. A new financing mode of real estate REITs [J]. Commercial Bank, 2014 (5): 44.
- [11] Westerholm B. 2009. Population development and the need for housing for elderly people in Sweden[J].International Journal of Integrated Care, 9(5).