A STUDY ON THE MECHANISM OF SENIOR HOUSING CUSTOMER VALUE PROPOSITION ON CUSTOMER PURCHASE INTENTION IN CHINA

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Abstract: *The aging of population, changes in family structure and other factors have resulted in the great demand for the Senior Housing market in China. The elderly-oriented industry is increasingly industrialized and socialized and the development of Senior Housing has become an inevitable trend. This study is based on the logic of "behavior-perception-purchase intention" and intends to address the influence and mechanism of Senior Housing customer value proposition (CVP) on the customer perceived value (CPV), customer perceived risks (CPR) and customer purchase intention (CPI) in the Chinese conditions, and has proposed theoretical hypotheses and established hypothetical models accordingly. Then we conducted surveys through questionnaires and collected 386 valid questionnaires. We used statistics software spss22.0 and carried out empirical study with relevant mathematical statistics methods. The result shows that CVP has a significant positive impact on CPI. CVP helps promote CPV, which in turn helps enhance CPI. CPV has a significant mediating effect between CVP and CPI. At the same time, the Senior Housing has certain risks in China. CVP cannot reduce CPR, which has an insignificant mediating effect between CVP and CPI.*

Keywords: *Senior Housing in China, customer value proposition (CVP), customer purchase intention (CPI)*

Introduction

The change of number of children, aging of population and marriage since the implementation of the family planning policy in China since the 1980s and the housing system reform at the end of the 1990s etc have a significant impact on the Chinese family structure and changes (Wang and Lin, 2013), which have directly resulted in the rapid aging of population and weakening of family care in China, which has led to the great demand for the Senior Housing market in China. The elderly-oriented industry is increasingly industrialized and socialized and the development of Senior Housing has become an inevitable trend. However, the Senior Housing, in particular the urban high end Senior Housing is in the initial stage of the industry development in China. The previous relevant studies mainly focused on the social conditions and policy environment of the Senior Housing (Gao, 2013), the influence of cultural and political system on the Senior Housing commercial modes (Tetlow, 2011; Nie, 2014), home-based care for the elderly people purchase intention (Li, 2014) etc. The impact factors of purchase intention mostly focused on the individual characteristics, marriage and family conditions, elderly support mode, income, and number of children of the elderly population. The mechanism of Senior Housing purchase intention is rarely involved. Less concern is given to the study of CVP in the Senior Housing. Therefore, as the integrator of the real estate developers and old-age service providers, the mechanism of CVP on CPI has become the subject of the study. This paper will be based on the logic of "behavior-perception-purchase intention" (Lai, Rui, & Liang,

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2016; Xue, 2016), address the influence and mechanism of Senior Housing value proposition on CVP, CRP and CPI in the Chinese conditions, propose appropriate theoretical hypotheses and establish appropriate theoretical models. Then questionnaires will be used to collect the relevant data and mathematical statistics method will be used to conduct empirical study and obtain appropriate conclusions.

Purpose

The purpose of the study is to address the function route and mechanism of urban high end Senior Housing CVP on CPI. The specific objectives are as follows:

1. Establish the Senior Housing CVP measurement schedule;

2. Check whether the perceived value has a mediating effect between CVP and CPI;

3. Check whether the perceived risk has a mediating effect between CVP and CPI;

Literature review and theoretical hypotheses

Senior Housing customer value proposition (CVP)

Customer value proposition (hereinafter referred to as CVP) has been widely used in different disciplines and fields since it was raised (Hassan, 2012). But so far a uniform definition is not available. Lanning (1998) believes that CVP is a series of perceivable experience of "superior choice exceeding others", including economic value which the organization provided for the customers. Anderson, Narus, & Van (2006) have divided CVP into three types, i.e. All Benefits, Favorable Points of Difference and Resonating Focus. Buttle (2009) believes that CVP is a clear commitment to the customers raised by the enterprises concerning a series of values or benefits for the customers. Feng, Dong, & Song (2015) have clarified the concept of CVP from product positioning, customer relationship and strategic orientation.

Senior Housing is the elderly-oriented housing products launched by the real estate developers or relevant social institutions suitable for the living of the elderly people, complying with their physical and psychological characteristics, meeting the demand of their social activities and providing satisfactory facilities for their health. The combination of real estate development and creation of elderly consumer living style is a part of the elderly service system and is also a new breakthrough in the real estate development mode.

In the Chinese market, the Senior Housing CVP is the high quality elderly-oriented housing and elderly service provided for the high and medium income population in terms of product orientation. In terms of the customer relationship, the Senior Housing CVP is the commitment to the elderly-oriented housing products and associated service provided for the high and medium income population. It is a process of high quality elderly-oriented value creation, transfer and realization focusing on the demand for high quality elderly service. In the strategic perspective, the Senior Housing CVP is the integrated solution to provide high quality elderly service for the high and medium income population. Therefore, we believe that the Senior Housing CVP is the integrated solution of the elderly support institutions or enterprises based on the housing products to pursue the happiness of elderly life, create, transfer and realize high quality elderly service for high and medium income population, and meet the demand for high quality elderly service.

Customer purchase intention (CPI)

CPI is the subjective tendency and possibility of the customer to decide to purchase a certain product independently (Grewal, Monroe, & Krishnan,1998), or the probability of the consumer intends to purchase (Dodds and Monroe, 1991). It is also the degree of the consumer's psychological commitment to purchase products or services (Saleh and Ryan, 1991), i.e. the planning or intention degree of the individuals to purchase products and services.

At present, the study of CPI influence is mainly based on four perspectives, i.e. the reasonable behavior theory, planned behavior theory, perceived value and perceived risks. The reasonable behavior theory highlights the influence of other people's opinion on a person's behavior and intention and is often used in the consumer decision-making behavior (Fishbein, 1967). The planned behavior theory is based on the reasonable behavior theory and extended with the perception behavior control (Ajzen, 1991). The perception behavior control refers to the difficulty degree to perceive the implementation of a certain behavior, which indicates that the consumer needs to make judgment based on his or her perception to the outside world before making a decision. Similar to the influence of perceived value (Iskandar, Nurmalina, & Riani, 2015) and perceived risks (Zeithaml, 1988; Kim and Lennon, 2013) on the purchase intention, it is the customer's subjective tendency and possibility after his or her perception of a certain behavior or status. So these theories have formed the theoretical basis of the "behavior-perception-purchase intention" framework mode.

Analysis of the influence of CVP on CPI

At present, the representative high end Senior Housing projects in China have shown that they would raise their value propositions on the elegant environment, all-round care functions, diversified leisure and recreation culture, how to realize the social value of elderly population, associated sound functions of the projects, as well as their unique elderly support concepts etc, and consistently focus on the happy elderly life experience of the elderly population when they advertize the characteristics of their projects and services.

In the perspective of theoretical study, CVP is the value created and provided for the customers in competitive status and is the expectation of the use value designed for the customers (Carlson, 2006). It is also to solve customers' problems and meet their demand through value proposition (Osterwalder and Pigneur, 2011) and is the enterprises' essential commitment to meet the customers' demand and attract the customers (Ballantyne, Frow, Varey, & Payne, 2011), which are reflected in the whole process of meeting the customers' demand. In the perspective of CVP marketing function, it is to meet the commitment to a certain segment customer group and is a description of how to ask the customers to accept the enterprises' products and services (Kotler and Keller, 2012), which enable the customers to meet their demand for happy elderly life. The nature is to enable the customers to generate purchase intention by meeting their demand and finally generate purchase behavior. So the following hypotheses are raised in this paper:

H1: CVP helps promote CPI. The better the CVP, the more positive CPI toward the Senior Housing.

Function of CPV between CVP and CPI

The public would conduct assessment and raise their CVP when they are facing the product or service providers based on their experience, knowledge or demand, even compare based on the monetary and non-monetary costs they would pay, i.e. generate the judgment of CPV. Normally, developers would start advertisement and sale for most Senior Housing projects before they are completed. In addition, service-oriented products are inseparable in terms of time so they would be sold before use and experience. At this time, CVP is the clue and basis with which they conduct assessment on the value of the project product and service. CVP of the Senior Housing projects is also the demonstration of their brand image, product and service quality, function, utility and values. These factors would help generate the CPV based on the previous study of CPV in terms of the brand image, quality, function and interest. (Liu, 2015; Yang, 2015).

The previous study shows that CPV has a positive impact on CPI (Grewa et al.,, 1998; Li, Yang, & Zhou, 2007; Chen, 2012; He and Pan, 2015 etc). Meanwhile, according to Liu and Zhou(2016), CPV has a mediating effect on the enterprise social responsibility reputation and CPI. In this paper, we believe that the customers would conduct assessment and generate CPV after the enterprises raise their CVP for the Senior Housing and service. It would promote the customers to generate purchase intention if they think that CPV can meet their demand.

Therefore the following hypotheses are raised in this paper based on the analysis above:

H2: CPV would generate a mediating effect between CVP and CPI.

H2a: CVP helps promote CPV. The better the CVP, the more positive CPV toward the Senior Housing.

H2b: CPV helps promote CPI. The better the CPV, the more positive CPI toward the Senior Housing.

Effect of CPR between CVP and CPI

Comparing with the positive perceived product or service value, the potential customer groups would also generate perceived risks for the products and services in uncertain conditions. In particular, they would also face greater uncertainty when they make decisions for future consumption, both the uncertainty of the decision-making itself and the risks due to wrong decision-making (Zhang and Hu, 2014). The impact factors of CPR indicate that the product species (Peter and Ryan, 1976), purchase scenario, consumer individuals and enterprises (Liu and Chen, 2008) etc would have an impact on CPR. The enterprise size, brand reputation, product standardization degree, product quality, service quality, relationship commitment, reputation effect etc would have a negative impact on CPR (Peter and Ryan, 1976; Nysveen and Pedersen, 2005). Dowling and Staelin (1994) etc pointed out that CPR would have a negative impact on CPI. Wangenhelm (2005) proved that a higher CPR would reduce the customer satisfaction. Wang and Luo (2013) pointed out that the elderly people's perceived risks of the elderly-oriented housing are negatively related to CPI.

The Senior Housing and service products have higher value and larger amount, normally at least RMB1million, for the Senior Housing in China. The customers have a higher participation. Most customers expect that they would enjoy high quality elderly service once they move in. The real estate developers would mention their brand value, enterprise

reputation, enterprise and project size, product and service quality etc in their value proposition to reduce CPR. But previously these products had shown higher risks in China, which would reduce the CPI for these products and services.

Therefore, the following hypotheses are raised in this paper based on the analysis above:

H3: CPR has a mediating effect between CVP and CPI.

H3a: CVP has a negative impact on CPR, i.e. the higher CVP acceptability, the lower the CPR toward the Senior Housing.

H3b: CPR has a negative impact on CPI, i.e. the higher CPR acceptability, the lower the CPI toward the Senior Housing.

In summary, appropriate hypotheses are raised based on the relevant consumer behavior theory and the previous study of CVP, CPV, CPR and CPI considering the characteristics of the Senior Housing projects and services. The mediating effect model of CVP on CPI is shown in Fig. 1-1.

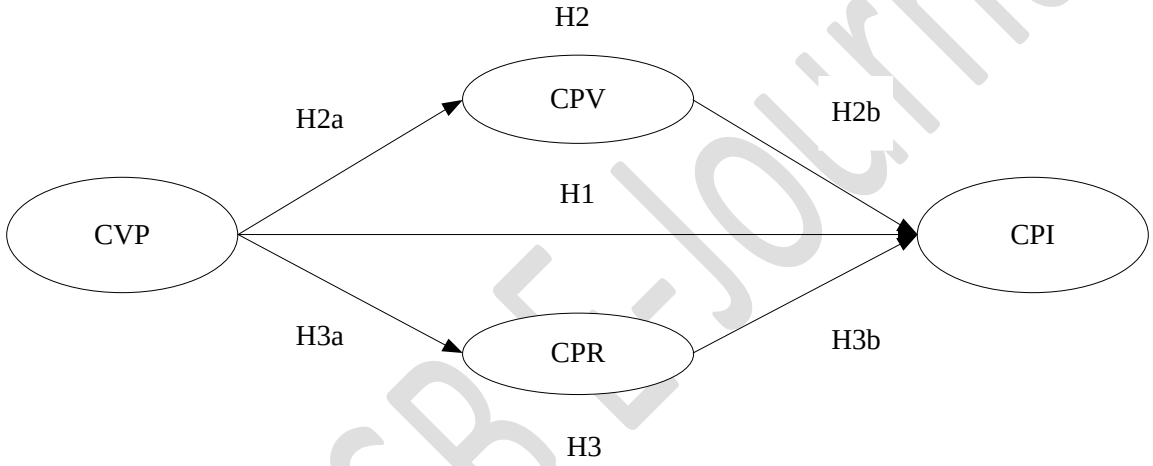

Fig. 1-1 The mediating effect model of CVP on elderly-oriented real estate CPI in China

Methodology

Variable measurement and questionnaire design

The measurement of Senior Housing CVP: Feng et al.(2015) conducted an in-depth study on CVP in the enterprise commercial mode innovation and created the CVP measurement model and measured the four aspects of CVP, i.e. uniqueness, customer perception, cooperation and win-win solution, and professionalism based on the exploratory study of Hualu Group. They compared and summarized with the previous literature and finally formed the CVP measurement dimensions and items through reliability and validity test. The measurement dimensions include: subversive, resonant, multilateral, professional. Wang, Li, & Hou(2015) carried out measurement from three dimensions, i.e. target market, customer interest and solution characteristics. Hassan (2012) believes that CVP includes six dimensions, i.e. innovation, brand, price advantage, process optimization, technical professionalism, and customer relationship when he studies the value proposition in marketing. At present, in terms of the measurement dimensions above, the rare measurements of CVP include: specialized products or services, customer interest realization, overall solution, new products or technologies. In fact, these have been

reflected properly in the measurement schedule dimensions prepared by Feng et al.(2015) and have been verified based on the consumption environment in the Chinese scenario with satisfactory reliability and validity. Therefore, the measurement schedule prepared by Feng et al. (2015) is used for the Senior Housing CVP in this study and is measured in the subversion of traditional elderly support concept or mode, resonance of elderly service experience, multiple elderly support resources, and professional elderly service.

Measurement of CPV: Previously, it was measured from function, society, emotion, perception, environment, advantages and disadvantages etc (Zeithaml, 1988; Eladly and Eid, 2015). For housing category products, normally it is measured from perceived interest, perceived cost, and investment value (Fu, 2005). Zhang and Wu (2015) have divided the housing consumer perceived value into two aspects: community perceived value and apartment perceived value. In this study, we believe that Senior Housing projects are significantly different from the conventional products and ordinary housing category products. The Senior Housing projects are focusing on the elderly service and meeting the demand for elderly support, while the conditions of each city or each Senior Housing project are different. Therefore, overall perceived value measurement method is used to measure the overall value, demand satisfaction and expectation according to the value definition of Zeithmal (1988) and Zhao (2008).

Measurement of CPR: Quite similar. Previously, the relevant measurements are mainly reflected in five aspects, i.e. financial risks, location risks, functional risks, social risks and mental risks (Wu and Shen, 2014). The perceived risks classification methods of Chaudhuri (1998), Mitehell (1996), Zhao (2008) are used to measure the risks, including financial risks, project products, opportunity cost, social psychology, and associated risks according to the actual conditions of Senior Housing projects considering the characteristics of the housing products.

Measurement of CPI: At present, direct measurement (Yes/No) can be used for the measurement of Senior Housing purchase intention (Kang and Zhang, 2013). It can also be measured from three measurement questions "purchase intention", "purchase possibility" and "consider to purchase or not" (Chen, 2011). Obviously, it is hard to answer the question with Yes/No. It even takes a long time to consider and discuss as a large amount and family support are involved in the consumption of Senior Housing. Therefore, it is measured from three aspects, i.e. "purchase intention", "purchase possibility" and "recommend to purchase" considering the previous studies and the comments of relevant experts and the relevant study of Zhang (2015).

Appropriate questionnaires are prepared based on the variable measurement schedules above considering the Chinese reading and expression habits. 5-point Likert schedule expression is used in the market questionnaire this time to facilitate the respondent completion and subsequent data processing, i.e. "Disagree very much=1", "Disagree=2", "Neutral=3", "Agree" and "Agree very much" are used to show the acceptability of the statement. Finally, the questionnaire includes three sections, i.e. questionnaire notes, questions and respondent basic information.

Study methodology

Literature method: xueshu.baidu.com, CNKI Chinese Journal Full-text Database etc are used to check the literature related to the Senior Housing, CVP, CPV, CPR, CPI etc and learn the current state and frontier theory on this subject.

Questionnaire method: The measurement schedule and questionnaire are developed in this study through literature collation based on the previous relevant studies. Surveys are conducted on the Senior Housing purchase intention through questionnaires among the urban high and medium end income population in China to obtain the appropriate data.

Statistical analysis method: Statistics analysis software SPSS22.0 is used for the description statistics and analysis and common deviation analysis. Cronbach α coefficient is used for the reliability and validity analysis. Factor analysis is used for the validity analysis. Hierarchical regression method is used for the mediating test (Baron and Kenny ,1986; Wen, Hau, &Chang, 2004). The test steps are as follows:

First of all, three regression models related to the independent variable (X), mediating variable (M), control variable (age, education, income, and number of children) and dependent variable (Y) are established as follows:

$$Y = c_1 X + k_1 age + k_2 edu + k_3 inc + k_4 chi + \varepsilon_1 \quad ①$$

$$M = aX + \mu_1 age + \mu_2 edu + \mu_3 inc + \mu_4 chi + \varepsilon_2 \quad ②$$

$$Y = c_2 X + bM + \beta_1 age + \beta_2 edu + \beta_3 inc + \beta_4 chi + \varepsilon_3 \quad ③$$

Then the regression coefficient is analyzed according to the following procedure: First, coefficient c_1 is tested. Proceed with Step 2 if it is significant. Otherwise the test is over. Second, coefficients a and b are tested. If they are significant, it means that X influences Y at least partly through mediating variable M. Continue with Step 3. Conclusion cannot be made if at least one coefficient is insignificant. Continue with Step 4. Third, coefficient c_2 is tested. It shows that X has a mediating effect on Y if it is insignificant. It shows that X partly has a mediating effect on Y if it is significant. The test is over. Step 4, Sobel test is conducted. The test statistical quantity is $z = \hat{a}\hat{b} / S_{ab}$, where $S_{ab} = \sqrt{\hat{a}^2 s_b^2 + \hat{b}^2 s_a^2}$, where s_a and s_b are the standard errors of $\hat{a}$ and $\hat{b}$. It means that M has a significant mediating effect if the statistical quantity test is significant. The test is over.

Sample and data sources

The respondents were screened in this study before issuing the questionnaires to improve the questionnaire reliability and validity and ensure that the questionnaires are reasonable and representative. A high income group with certain economic strength is chosen based on the characteristics of the high end Senior Housing target customers. Mainly online survey is conducted in this study. Convenient sampling and snowball sampling methods are used. The respondents were confirmed by the surveyors before they completed the questionnaires to improve the validity of the questionnaires. Totally 23 cities, including first-tier cities Beijing, Shanghai, Shenzhen and Guangzhou, new first-tier cities Chengdu, Hangzhou, Nanjing etc and some provincial capital cities are covered in this survey. Totally 431 copies of questionnaires are completed. Incomplete questionnaires or questionnaire carelessly completed, families with income below RMB300,000, questionnaires from non-first-tier and second-tier cities are

eliminated through verification. Finally 386 copies of questionnaires are obtained for data processing and analysis. The questionnaire validity rate is 89.56%.

Data processing and analysis

Sample description, statistics and analysis

The analysis of the characteristic information of the valid samples in this survey, including sex, education, occupation, age, number of children, and family income, is shown in Table 1.1.

Table 1.1 Sample description and statistics

Statistical variable		Sample quantity (N)	Percentage (%)
Sex	Female	169	43.78
	Male	217	56.22
Education	Polytechnic school or high school and below	70	18.13
	Junior college	70	18.13
	Bachelor	186	48.19
	Postgraduate and above	60	15.55
Occupation	Persons in charge of state organs, party and group organizations, enterprises and institutions	49	12.69
	High & medium level management of state organs, party and group organizations, enterprises and institutions	65	16.84
	Owners and shareholders of non-state-owned enterprises	61	15.80
	High & medium management of non-state-owned enterprises	44	11.40
	Professional technical personnel and professionals	56	14.51
	Freelancer	11	2.85
	Employees and relevant personnel of manufacturing, business and service industry	10	2.59
	Servicemen	2	0.52
	Other employees not classified	88	22.80
Age	30 and below	56	14.51
	30-39	88	22.80
	40-49	155	40.16
	50-59	76	19.69
	60 and above	11	2.84
Number of children	None at present	88	22.80
	1	210	54.40

	2	84	21.76
	3	4	1.04
Family income(Annual)	RMB300,000-490,000	178	46.11
	RMB500,000-990,000	155	40.16
	RMB1,000,000 and above	53	13.73

In general, the samples are widely distributed in this survey, including the first-tier cities, new first-tier cities and some provincial capital cities. In terms of income, the respondents of the questionnaire used for data processing have a family annual income of RMB300,000 and above. In terms of number of children, most families are one-child families, which comply with the sample characteristics required by the study subject, so further analysis can be conducted.

Common method deviation analysis

The data of the four variables in this study i.e. CVP, CPV, CPR and CPI is completed by the same respondent. The sex, education, age, occupation and number of children of the respondents are different. Understanding of the same item can be different. Efforts are made in the procedure and statistical technology of the study to avoid Common Method Bias (CMB). Procedure control methods mainly include respondent anonymity and setting multiple questions etc. Harman's Single Factor Test is mainly used as the statistics technology to verify the influence of CMB (Podsakoff , MacKenzie, & Lee, 2003). The test result indicates that 4 factors have characteristic values greater than 1. The maximum variance interpretation rate of a single factor is 33.384%, below 40%. So the data CMB in this study is insignificant and further analysis can be conducted.

Reliability and validity analysis

Normally, Cronbach's α is used for the reliability analysis and test. The reliability of the variables in this study is analyzed. The general reliability value of the questionnaires is 0.919, greater than 0.9, which shows that the reliability is satisfactory and the general schedule is reliable.

The test results of the variable measurement schedules are shown in Table 1.2. CVP includes 11 items. Its Cronbach's α value is 0.946, greater than 0.9. PV includes 3 items. Its Cronbach's α value is 0.857. PR includes 7 items. Its Cronbach's α value is 0.857. PI includes 3 items. Its Cronbach's α value is 0.883. All values are between 0.8 and 0.9, which indicates that the schedule has a satisfactory reliability.

Two professors and two doctor candidates were invited to discuss the variable measurement items during the preparation of the schedule in terms of the reliability and ensure that each item can express the test contents and each item is highly representative.

Factor analysis is used for the validity test. First of all, KMO and Bartlett's Test of Sphericity are conducted. The sample data KMO value is 0.903 in this study. Approx. Chi-Square value is 7140.384, df=276, sig. is less than 0.001. The maximum variance method is used for orthogonal rotation. Four factors are obtained with characteristic root greater than 1. The accumulative variance

interpretation rate is 68.351%, greater than 50%. The factor load coefficient rotation matrix is shown in Table 1.2. All items are distinguished properly except that one item in PV is concentrated on PI factor. So, the sample measurement in this study has a higher validity.

In summary, the measurement schedule reliability and validity are satisfactory in this study and the mediating effect test can be further conducted.

Table 1.2 Sample reliability and validity test

Variable description	Item	Reliability coefficient	Factor 1	Factor 2	Factor 3	Factor 4
Customer value Proposition(VP)	This project can provide unconventional elderly-oriented products and services for the customers comparing with the traditional family-based elderly support	0.946	**.689**	.279	-.067	.185
	This project can provide personalized elderly-oriented products and services for the customers		**.826**	.190	-.076	.252
	This project can provide customized elderly-oriented products and services for high end customers		**.746**	-.168	.004	.126
	This project has given special concern to the elements cherished by the elderly customers		**.829**	.136	-.149	.119
	The information shared with the customers can ensure that the products or services provided can meet the customers demand for elderly support		**.790**	.317	.009	.128
	Customers' feeling and experience have been considered in the products and services provided by this project		**.785**	.264	.040	.105
	This project can provide complementary elderly-oriented products and services to the customers by establishing multiple ecological resource system including medical health, culture and recreation, financial consultation etc		**.791**	.270	.070	-.018
	This project crossed the borders of medical, cultural, financial and other industries		**.686**	.381	.133	-.170
	This project can articulate the products and services provided to the customers		**.815**	.278	.018	.071
	This project can improve the efficiency of elderly service through specialized projects and services		**.783**	.353	.036	.034
	This project can reflect the pursuit of perfect elderly-oriented products or services		**.691**	.378	.140	-.107
Perceived value (PV)	In general, the value of the project products and services is too high comparing with my payment	0.857	.125	.521	.057	**.639**

	The project products and services can meet my demand properly comparing with my payment		.036	.473	.042	**.683**
	The value I received exceeds my expectation comparing with my payment		.483	-.146	.135	**.700**
Perceived risk (PR)	The elderly-oriented housing product and service are not cost-effective	0.807	.073	-.040	**.675**	-.127
	This elderly-oriented housing product and service do not have the effects described in many aspects		.172	.010	**.818**	.124
	My living cost will increase after I move into this apartment		.222	.042	**.546**	.480
	This elderly-oriented housing product may depreciate in the future		-.038	-.124	**.640**	.225
	May find other better Senior Housing project products and services after purchase		.145	.216	**.552**	.458
	Purchase of the apartment cannot be accepted by the relatives and friends		-.053	.006	**.780**	.111
	The elderly-oriented housing product and service are not trust-worthy and are very likely to have problems in the future		-.140	.100	**.773**	.212
Purchase intention (PI)	I would like to purchase the products and services similar to this projects	0.883	.305	**.790**	-.063	.152
	It is highly possible that I purchase items similar to this project		.348	**.803**	-.089	.119
	I will recommend products and services similar to this project to my relatives and friends		.264	**.807**	-.076	.144

Source: Collated based on the author's data processing results

Correlation test

The correlation analysis of the variables is the basis of regression analysis. After centralization, the correlation analysis of customer value proposition (x), perceived value (mpv), perceived risks (mpr), purchase intention (y), age (age), education (edu), income (inc), number of children (chi) in this study is shown in Table 1.3.

Table 1.3 Correlation of the variables

	x	mpv	mpr	y	edu	age	chi	inc
x	1	.812**	.131**	.601**	.126*	.084	.005	.024
mpv	.812**	1	.154**	.741**	.188**	.020	-.055	-.039
mpr	.131**	.154**	1	.050	.089	-.125*	-.001	-.067
y	.601**	.741**	.050	1	.191**	.064	-.085	-.020
edu	.126*	.188**	.089	.191**	1	-.026	-.134**	.106*
age	.084	.020	-.125*	.064	-.026	1	.442**	.219**
chi	.005	-.055	-.001	-.085	-.134**	.442**	1	.134**
inc	.024	-.039	-.067	-.020	.106*	.219**	.134**	1

**. Significantly correlated at .01 level (both sides); *. Significantly correlated at 0.05 level (both sides).

The table indicates that all the explanatory and explained variables in the theoretical model are significantly correlated and can be used for regression analysis except PR and PI. Age is significantly negatively correlated to PR in the control variables, which shows that older age groups are more eager to enjoy good elderly service and have lower PR. It takes longer time for the younger age groups to enjoy elderly service, so they feel higher uncertainty and have higher PR. Age is significantly positively correlated to number of children and income, which complies with the common situation at the moment. Education is significantly positively correlated to CVP, PV, PI and income and is significantly negatively correlated to number of children, which complies with the social situation at the moment, i.e. it is easier for people with higher education to change their concept. They tend to accept Senior Housing with higher income and fewer children. Number of children is significantly positively correlated to income, which reflects the current one-child policy in China. Most people from working class have only one child due to the medical care, education and housing pressure. Only some high income groups can achieve their goal of more children. In addition, the Chinese birth rate has declined in recent years after the two-child policy is introduced, which shows that most people from working class are reluctant to have more children. The explanatory and explained variables and control variables are only significantly positively correlated to education, which indicates that it is easier for people with higher education to change their concept and they tend to accept Senior Housing. They have no significant correlation with age, income and number of children, which indicates that the elderly support has become a common issue faced by all classes, ages and family types in the current social condition in China and cannot be changed due to the family conditions. Age, income, education and number of children are used as control variables to test the hypotheses in this study as per the method in the study design to control the influence of age, income, education and number of children on PI of Senior Housing.

Hypothesis test

Hierarchical regression is used to test the mediating effect according to the method introduced by Baron and Kenny (1986), Wen et al. (2004). The variables are centralized to improve the validity of this study. First, PI is used as dependent variable and CVP is used as independent variable, which are incorporated into the regression equation. Second, PV and PR are used as dependent variables and CVP is used as independent variable, which are incorporated into the regression equation. Finally, PI is used as dependent variable and PV and PR are used as mediating variables and CVP is used as independent variable, which are incorporated into the regression equation to test the mediating effect. The test steps and results are shown in Table 1.4.

Table 1.4 PV and PR mediating effect test

Test step	Variable	Model 1	Model 2	Model 3	Variable	Model 4	Model 5
Step 1	CVP	0.711***					
Step 2	CVP		0.907***		CVP	0.130**	
Step 3	CVP			-0.002	CVP		0.716***
	PV			0.786***	PR		-0.041
	Age	0.064	-0.015	0.076*	Age	-0.114**	0.059

	Education	0.106**	0.078**	0.044	Education	0.065	0.109**
	Income	-0.063	-0.071	-0.007	Income	-0.057	-0.065
	Number of children	-0.128*	-0.038	-0.098	Number of children	0.0915	-0.124*
	R^2	0.386	0.673	0.558	R^2	0.049	0.387
	Adjusted R^2	0.378	0.669	0.551	Adjusted R^2	0.037	0.377
	F	41.717	156.756	79.862	F	3.94	39.824

Notes: ***. Significantly correlated at .001 level (both sides); **. Significantly correlated at .01 level (both sides). * Significantly correlated at .05 level (both sides). The data comes from the processing output results and is collated by the author.

Study of the mediating effect of PV: The model treatment results are shown in the table. In Step 1, CPI is taken as dependent variable and CVP is taken as independent variable. The regression results show that the regression coefficient is significant c_1=0.711(p =0.000＜0.001). On the one hand, it shows that CVP helps promote the Senior Housing CPI, i.e. hypothesis H1 is true. On the other hand, the mediating effect test in Step 2 can be conducted. In Step 2, a =0.907 (p =0.000 ＜0.001), b =0.786 (p =0.000＜0.001). It shows that the regression coefficients a and b are significant, i.e. it can verify that H2a and H2b are true, i.e. CVP helps promote CPV and CPV helps promote CPI. But at present the significance of c_2 should be verified for further judgment of the mediating effect. The test in Step 3 shows that c_2 =-0.002 (p =0.977＞0.05), i.e. it is insignificant at 0.05. So it indicates that the mediating effect of CPV between CVP and CPI is significant according to the method and viewpoint of Wen et al. (2004) in the mediating effect test, i.e. Senior Housing CVP generates CPI through CPV. Hypothesis H2 is true.

Study of the mediating effect of PR: Step 1 c_1 significance is verified. The table indicates that in Step 2 test, a =0.130 (p =0.008＜0.01), b =-0.041 (p =0.437＞ 0.05). It shows that the regression coefficient a is significant. But it is inconsistent with hypothesis H3a that CVP has a negative impact on CPR, i.e. hypothesis H3a is false. Regression coefficient b is insignificant. Hypothesis H3b is false. Step 4 Sobel test should be conducted as one of a and b is insignificant. The test statistical quantity is $z = \hat{a}\hat{b} / S_{ab}$, where $S_{ab} = \sqrt{\hat{a}^2 s_b^2 + \hat{b}^2 s_a^2}$, where s_a and s_b are standard errors of $\hat{a}$ and $\hat{b}$. Where $\hat{a}$ =0.130, $\hat{b}$ =-0.041, s_a =0.049, s_b =0.052, hence $z = \hat{a}\hat{b} / S_{ab}$ =0.7558,accordingly p =0.6927＞0.05, which is insignificant. So the mediating effect of CPR between CVP and CPI is insignificant according to the method and viewpoint of Wen et al. (2004) in the mediating effect test. Hypothesis H3 is false.

Summary and discussion

We can conclude through the discussions in the sections above considering the tests. CVP has a significant positive impact on CPI, which is similar to the previous studies. On the theoretical study aspect, CVP is the value which can be created and provided in competitive state and the customer's expectation set for the use value (Carlson and Wilmot, 2006). It is also to solve the customers' problems and meet their demand through value

proposition (Osterwalder and Pigneur, 2011) and makes it possible for the customers to accept Senior Housing and promotes the generation of PI (Kotler and Keller, 2012). For the Senior Housing, the representative projects launched in China have shown that the real estate developers and service providers would highlight the characteristics of their projects and services, enable the elderly customers to experience the happy elderly life, solve the current social problems, weakening of the home-based elderly support and meet the individuals' material, mental and cultural needs.

Study of the mediating effect of PV and PR:

(1) In terms of the effect of CPV, the study results indicate that CVP helps promote CPV and CPV helps promote CPI. CPV has a significant mediating effect between CVP and CPI. In fact, it reflects the nature and connotation of the Senior Housing CVP, i.e. actually CVP is to realize the customer value or is the content of customer value and is the process of value creation, transfer, realization and communication (Abdelkafi, Makhotin, & Posselt, 2013). The customers will not generate purchase intention unless they perceive the actual value provided by the Senior Housing and service providers. Therefore the developers must provide the value to meet the customers' demand and let them experience the appropriate perceived value in the marketing process in the future.

(2) In terms of the effect of CPR, the study results indicate that the hypothesis that CVP has a negative impact on CPR and CPR has a negative impact on CPI is false. CVP and CPR are significantly positively correlated when they exist at the same time. The visit of some respondents indicates that the operation of Senior Housing is not long in China and there are not many successful projects. At present it is hard for the public to trust the performance of the real estate developers in China. In addition, you will enjoy the products and services in the future if you purchase the Senior Housing. The potential customers would feel the presence of risks no matter how the Senior Housing developers and service providers advertize their products and services and promise their value proposition. Moreover, the previous real estate projects have shown that the more the developers exaggerate their projects, the higher the risks. So the risks will not be reduced due to the customers' high acceptability of the value proposition. The negative impact of CPR on CPI is not significant, which is inconsistent with the conclusion of Wang and Luo (2013) and Wang, Gao, & Pan (2017). After discussion, it is possible that this really reflects the market situation in China, i.e. Senior Housing and service is special. It is not simply a kind of consumer goods. It also has the nature of investment and consumption, just like the current real estate market in China, which remain soaring despite criticism on the significant market bubbles. This also reflects the complexity of PR and PI. Perhaps other impact factors are present, which provides the basis and opportunity for subsequent studies.

In summary, the Senior Housing and service providers have raised and advocated CVP. They should keep their promises properly and provide the value really needed by the customers. Only in this way can they promote the customers to generate purchase intention and reduce the risks and the customers can be assured to buy.

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