

Influence of Service Quality and Customer Perceived Value on Loyalty: The Mediating Role of Customer Satisfaction in China's Private Elderly Care Services

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Abstract. This study investigates the relationships among service quality, perceived customer value, satisfaction, and loyalty in China's private eldercare industry. The research specifically analyzes both direct and indirect impacts of service quality on loyalty while investigating potential mediation pathways. Researchers collected survey data from 520 senior residents across private care facilities in Harbin, China, achieving an 87% valid response rate. Psychometric evaluation confirmed measurement reliability (Cronbach's α ranging 0.746-0.913) through confirmatory factor analysis, which validated the five-dimensional service quality construct. The analysis employed structural equation model (SEM) to evaluate hypothesized relationships, supplemented by bootstrap mediation testing. The results reveal significant direct effects of service quality on satisfaction ($\beta=0.632$), perceived value ($\beta=0.433$), and loyalty ($\beta=0.628$). Service quality influences loyalty indirectly through perceived value ($\beta = 0.117$, 95% CI [0.074, 0.170]) and satisfaction ($\beta = 0.189$, 95% CI [0.132, 0.251]), confirming their mediating roles. This study offers fresh perspectives on the relationships between loyalty and service quality in the setting of private senior care facilities in China. It emphasizes how crucial satisfaction and perceived worth are as mediators and suggests tailored improvement strategies for enhancing loyalty, particularly among older residents.

Keywords: Customer Perceived Value, Customer Satisfaction, Loyalty, Mediating Role, Service Quality, Private Elderly Care Institutions

1. Introduction

1.1. Problem Description and Study Significance

China's fast-growing elderly population has fundamentally transformed the traditional family-centered elder care model. Wu et al. (2005) documented the emergence of Community-integrated care services for the elderly in urban China, while Feng et al. (2012) highlighted the governance challenges of building a viable long-term care infrastructure for China's fast-growing elderly population. The systemic reform of elderly support services has been particularly pronounced in urban areas, where Cheng et al. (2012) found significant variations in accessibility to residential care resources. Zhu and Österle (2019) and Li et al. (2013) revealed substantial long-term care gaps between rural and urban areas, emphasizing the need for quality improvement in institutional services. Liu (2015) further emphasized the unprecedented challenges facing the aged care system in China as it serves the world's largest aging population. The experiences of elderly residents in institutional care settings, as studied by Tsai and Tsai (2008) in Taiwan and Lee (1997) in Hong Kong, provide valuable insights into service quality expectations in Chinese cultural contexts.

In this evolving context, Service quality and satisfaction are now important considerations for the sustainable development of elderly care institutions. The intricate connections between perceived value, loyalty, satisfaction, and service quality require systematic investigation under China's unique institutional care environment.

1.2. Objectives of the study

(1) To research how customer loyalty is affected by perceived value and service quality in China's private elder care services.

(2) To research how customer satisfaction acts as a mediator between perceived value and loyalty and service quality.

(3) To propose recommendations for service improvement in private eldercare facilities.

1.3. Benefits of the Study

The research will help us understand the connection between customer satisfaction, perceived value, and service quality, and helps establish stronger brand loyalty. In addition, study will offer theoretical support and practical consultation for enhancing service quality in elderly care institutions. Study will enable them to adjust and improve their service strategies to meet evolving market conditions and specific requirements. The result of research will expand understanding of service quality within the elderly care industry and contribute valuable insights to inform future research. Thus, study will explore the correlation between care service quality and loyalty in China's private eldercare sector, providing a theoretical reference for related research.

2. Literature Review

2.1. Service quality of elderly care

Service quality represents a cornerstone concept in understanding customer behavior in service-oriented organizations. In elderly care contexts, service quality takes on multidimensional characteristics that extend beyond traditional service settings. Drawing on Parasuraman et al.'s (1988) seminal SERVQUAL framework, this study conceptualizes service quality through five key dimensions: tangibles, assurance, reliability, responsiveness and empathy.

Brady and Cronin (2001) advanced service quality theory through their hierarchical approach, which has particular relevance for elderly care services as it encompasses both technical quality (the outcome) and functional quality (the process). The technical dimension reflects the physical environment and staff expertise, while the functional dimension captures the interpersonal aspects of care delivery. Sumaedi et al. (2016) further validated this multidimensional structure in healthcare

contexts, emphasizing that elderly care quality assessment must consider both medical and non-medical aspects of service provision.

The Chinese context introduces unique cultural dimensions to service quality perceptions. Wong et al. (2020) identified filial piety and family harmony as significant cultural influences on service expectations in Chinese elderly care institutions. These cultural values shape how elderly residents evaluate care quality and form satisfaction judgments.

2.2. SQ-CPV Relationship: Service Quality and Customer Perceived Value

A cognitive trade-off between perceived benefits and service represented by customer perceived value (Zeithaml, 1988). In elderly care contexts, value perceptions extend beyond purely economic considerations to include social, emotional, and functional aspects (Sweeney and Soutar, 2001). The correlation between perceived value and service quality has been widely documented in service contexts (Gallarza et al., 2020), with quality serving as a crucial precondition for value assessments.

In elderly care settings, this relationship takes on additional complexity due to the long-term and highly personal nature of care services. Kuo et al. (2013) demonstrated that medical service quality significantly influenced perceived value assessments among elderly patients. Similarly, Chen and Hu (2010) found that relational benefits derived from service quality enhanced value perceptions in service environments.

2.3. SQ-LO Relationship: Service Quality and Loyalty

According to Oliver (2014), loyalty is the steadfast will to continuously use or repurchase a favored service in spite of external factors or promotional campaigns that could lead to switching behavior. In elderly care contexts, loyalty manifests through continued residency, favorable word-of-mouth and referrals to prospective residents.

The service quality-loyalty correlation has been extensively documented across service industries (Zeithaml et al., 1996), with quality serving as both a direct and indirect predictor of loyalty. Choi et al. (2004) demonstrated this relationship in healthcare settings, while more recent studies by Kim and Kim (2023) confirmed the quality-loyalty link in senior care facilities. In the Chinese context, Liu and Wang (2022) found that service quality dimensions, particularly reliability and empathy, significantly influenced elderly residents' loyalty intentions.

2.4. CPV-CS-LO Relationship: Customer Perceived Value, Satisfaction and Loyalty

The connections between perceived value, loyalty, and satisfaction form a critical chain in service contexts. There is proof that perceived value precedes satisfaction, reflecting the cognitive evaluation that precedes affective responses (Gallarza et al., 2020). In elderly care settings, where service relationships are characterized by continuous engagement over extended periods, value perceptions significantly shape satisfaction judgments and subsequent loyalty behaviors.

According to Lai et al. (2012), loyalty and satisfaction with healthcare services were directly impacted by perceived value, in contrast, Kuo et al. (2013) found that the perceived value-loyalty link was mediated by satisfaction. These findings suggest a complex interplay among these constructs, with both direct and indirect pathways connecting perceived value to loyalty outcomes.

2.5. CS-LO Relationship: Customer Satisfaction and Loyalty

One of the most well-established relationships in the literature on service marketing is that between loyalty and satisfaction. Oliver's (2014) framework suggests that satisfaction, while not equivalent to loyalty, serves as a critical step in loyalty formation. In elderly care contexts, satisfaction has been shown to significantly influence residents' intentions to remain in care facilities and recommend them to others (Sumaedi et al., 2016).

The unique nature of elderly care services—characterized by high involvement, emotional

significance, and extended service relationships—amplifies the importance of satisfaction in building loyalty. As Wu et al. (2021) demonstrated in their study of Chinese elderly care institutions, satisfaction serves as an essential intermediary in converting customer service encounters into loyalty practices.

2.6. Mediating Mechanisms

The connections between perceived value, loyalty, satisfaction, and service quality suggest important mediating mechanisms that explain how quality translates into loyalty outcomes. Service quality theory suggests that quality influences loyalty both directly and indirectly by way of enjoyment and perceived value (Zeithaml et al., 1996).

Kuo et al. (2013) demonstrated that in hospital contexts, the association between service quality and loyalty intentions was mediated by satisfaction. Similarly, Lai et al. (2012) identified a sequential mediation path from quality through value and satisfaction to loyalty. These results imply that service quality influences loyalty through multiple mechanisms, including enhanced value perceptions and heightened satisfaction.

2.7 Research Hypothesis & Conceptual Framework

The following hypothesis and conceptual framework are put out in light of the literature:

(1) H1: Customer satisfaction is positively impacted by service quality in Chinese elderly care institutions.

(2) H2: Loyalty is positively impacted by service quality in Chinese elderly care institutions.

(3) H3: Loyalty is positively impacted by customer satisfaction in Chinese elderly care institutions.

(4) H4: Customer Perceived Value is positively impacted by service quality in Chinese elderly care institutions.

(5) Customer perceived value is positively impacted by customer satisfaction in Chinese elderly care institutions.

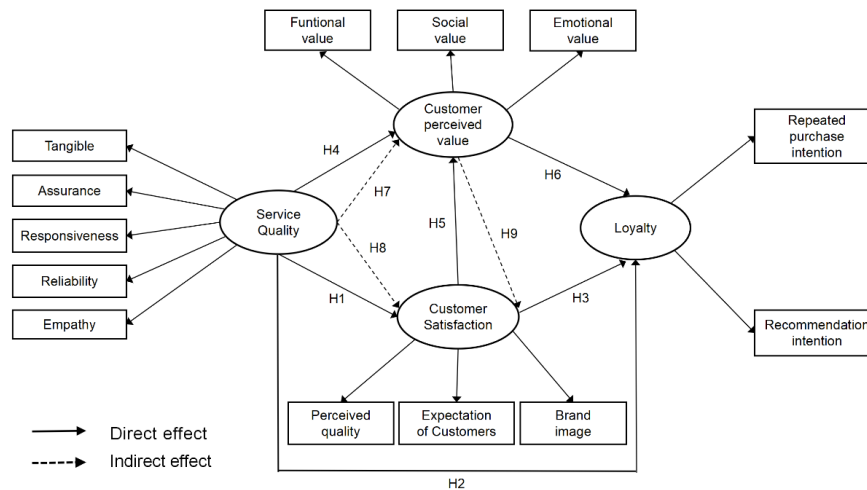
(6) Loyalty is positively impacted by customer perceived value in Chinese elderly care institutions.

(7) H7: The relationship between service quality and loyalty is mediated by customer perceived value in Chinese elderly care institutions.

(8) H8: The relationship between service quality and loyalty is mediated by customer satisfaction in Chinese elderly care institutions.

(9) H9: The relationship between service quality and loyalty is sequentially mediated by customer satisfaction and perceived value in Chinese elderly care institutions.

The conceptual framework, as depicted in Figure 1, integrates dimensions of service quality with customer value and loyalty constructs. Service quality is conceptualized utilizing five essential dimensions: tangibles, reliability, assurance, responsiveness, and empathy, which are particularly relevant to elderly care services. This integrated framework provides a comprehensive lens for recognizing the intricate connections between loyalty and service quality in senior care facilities.



Source: Construction of this study

Fig.1: Conceptual Framework

3. Methodology

The links between service quality, customer satisfaction, customer perceived value, and loyalty in private senior care facilities are investigated in this study using a questionnaire approach. There are three sections to the questionnaire: Part one gathers demographic data in order to determine the respondents' basic traits and background, such as gender, age, marital status, educational attainment, and monthly income. Part two gathers institutional information regarding elderly care facilities, including the number of employees, years of operation, and government support status. Part three incorporates specific measures evaluating consumer contentment, loyalty, perceived value, and service quality. Respondents' opinions of the value and services offered by the care facilities are assessed using a five-point Likert scale, along with their degrees of satisfaction and loyalty.

Structured questionnaire survey method to collect data from private senior care facilities in China's Harbin. Targeting eight significant private senior care institutions, the questionnaire was disseminated using a non-probability convenience sample technique. Following Bryman and Bell's (2018) recommendations for survey research, we conducted a preliminary pilot study to confirm the validity and reliability of the questionnaire prior to the official survey.

Approximately 93% of the 600 questionnaires that were sent were recovered, yielding 560 completed surveys. 520 valid questionnaires were kept after data cleaning, which involved eliminating 40 that were either missing information or had logical errors. This resulted in an effective response rate of almost 87%. There is sufficient data support from this sample size for further statistical analysis and hypothesis testing.

4. Results

This paper collected 560 valid samples. There were 45% more men than women among the participants. 25% of people in the 60–70 age range, 50% of people in the 70–80 age range, and 25% of people in the 80+ age range make up the age distribution. 10% were unmarried, 50 %were married, 15%were divorced, and 35% were widowed. Education levels show 30% at or below primary school, 35% at junior high school, 25% at senior high school, and 10% at university level or above. The monthly income distribution shows that 20% are below \$276, 40% are between \$276 and \$552, 25% are between \$552 and \$690, and 15% are above \$690. Self-care ability, complete self-care ability accounted for 60%, semi-self-care ability accounted for 30%, and no self-care ability accounted for 10%.

4.1. Descriptive Statistics

The mean and standard deviation are often used to determine each variable's index level in descriptive statistical analysis. The sample's average level to this index increases with the average value. In the data distribution, the degree of data dispersion is described by the discrete trend. A higher score indicates a greater level of agreement. As the table1 illustrates, most of the greater scores indicate that the subject is more recognized.

Table 1: Demographic Overview

Dimensions	MIN	MAX	MEAN	STD	SK	KU
Tangible	1.8	5	3.509	0.635	-0.504	0.041
Assurance	1	5	3.597	0.789	-0.731	0.574
Responsiveness	1.4	5	3.714	0.716	-1.185	1.406
Reliability	1.25	5	3.750	0.813	-1.003	1.109
Empathy	1.25	5	3.596	0.877	-0.814	0.338
Functional value	1	5	3.582	1.069	-0.691	-0.105
Social value	1	5	3.402	0.870	-0.594	0.054
Emotional value	1	5	3.531	1.025	-0.589	-0.23
Expectation	1	5	3.547	0.762	-0.646	0.685
Perceived quality	1	5	3.527	0.864	-0.342	-0.553
Brand image	1	5	3.431	1.077	-0.197	-0.909
Repeated	1	5	3.582	1.081	-0.296	-0.887
Recommend	1	5	3.500	1.029	-0.632	-0.253

4.2. Analysis of Validity and Reliability

The measuring model was evaluated using validity and reliability analysis using both SPSS21 and AMOS21. As shown in Table 2, all constructs demonstrated satisfactory reliability with Cronbach's alpha values that are higher than the suggested cut off of 0.7 fall between 0.746 and 0.913. According to the significant Bartlett's test ($p < 0.001$) and the KMO value of 0.815, the sampling adequacy for factor analysis was sufficient.

Table 2: Analysis of Reliability and Validity

Variable	Cronbach's α	Number of Items	CR	AVE	KMO	Bartlett's Test
Tangible	0.869	5	0.871	0.579	0.815	10576.825***
Assurance	0.833	4	0.835	0.559		
Responsiveness	0.874	5	0.886	0.611		
Reliability	0.873	4	0.875	0.637		
Empathy	0.913	4	0.917	0.734		
Functional Value	0.853	2	0.860	0.756		
Social Value	0.852	2	0.858	0.744		
Emotional Value	0.813	2	0.816	0.690		
Satisfaction	0.746	2	0.752	0.603		
Loyalty	0.908	2	0.911	0.836		

Note: *** $p < 0.001$; KMO = Kaiser-Meyer-Olkin; $df = 703$; CR = Composite Reliability; AVE = Average Variance Extracted

Considering Table 2, The Cronbach's alpha coefficient of the questionnaire as a whole and the measured variables exceeding 0.7, which implies that the survey data is regarded as trustworthy (DeVellis, 1991). Validity analysis results collectively confirm the data's appropriateness for factor analytic procedures.

4.3 Confirmation factor analysis

This research utilizes AMOS 21 software to perform confirmatory factor analysis on factors of customer satisfaction, perceived value, and service quality to examine the distinguishability of each variable. as displayed in Fig 2. The values of all indexes in the model are within the recommended value range, suggesting that the constructed factor measurement model is good and can be tested in the next step.

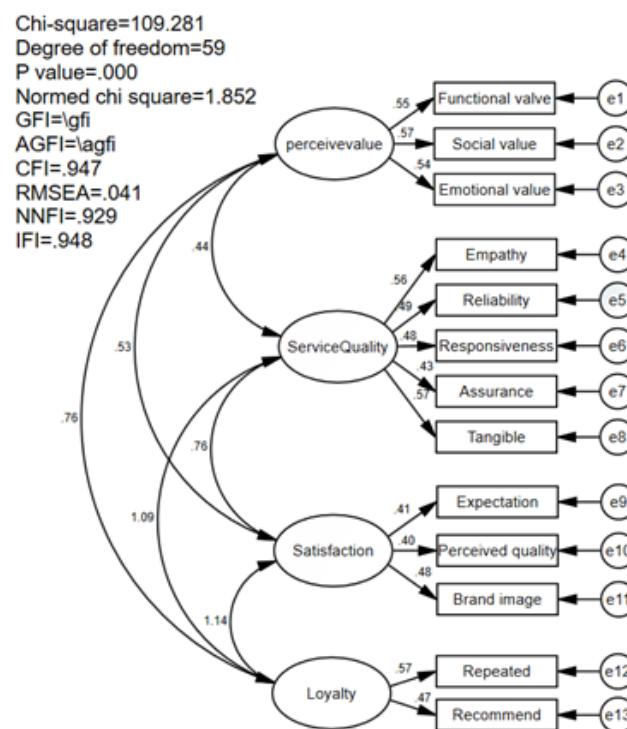


Fig. 2: CFA test model

4.4 Correlation Analysis

The statistical approach of studying correlation between random variables is correlation analysis, which examines if there is a dependency between phenomena and, depending on the particular reliance of the phenomenon, explores the direction and degree of connection. Table 3 showed the correlation analysis.

Table 3: Correlation Analysis

	SQ	CPV	CS	LO
SQ	1			
CPV	0.277**	1		
CS	0.399**	0.257**	1	
LO	0.657**	0.455**	0.559**	1

** The two-tailed significance level for correlation is 0.01.

Table 3 demonstrates that there is a substantial positive correlation between SQ, CPV, CS, and LO. Additionally, all of the variables' correlation coefficients are greater than 0.

5. Structural Equation Modeling

5.1. Model analysis

AMOS 21 was employed for calculations. The results is visually presented in the figure 3 depicted below.

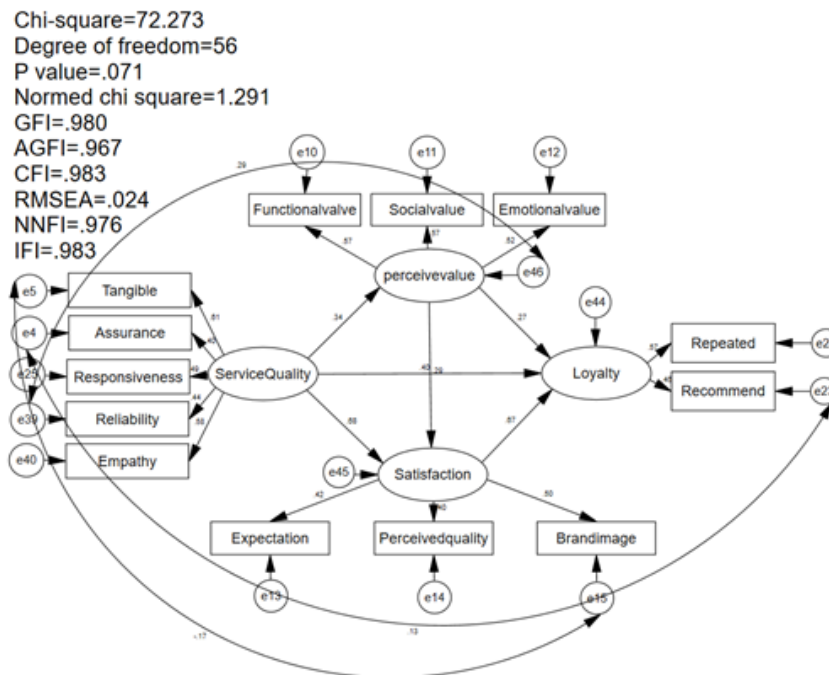


Fig.3: Structural Equation Modeling

5.2. Model fit

The table 4 reveals that structural equation model fit. According to table, the model fit is quite good, with chi-square value of 72.273, freedom degree of 56, chi-square GFI of 0.980, AGFI of 0.967, CFI of 0.983, IFI of 0.983, NNFI of 0.976, RMSEA of 0.024, and to degrees of freedom ratio of 1.291. All indicators are within the standards specified by SEM (Jackson, 2009). Therefore, the structural model of this study fits well.

Table 4: Model fit for structural equations

Index	χ^2/df	RMSEA	NFI	GFI	TLI	IFI	CFI
Judgment Standard	<3	<0.08	>0.9	>0.8	>0.9	>0.9	>0.9
Value	1.291	0.024	0.967	0.980	0.927	0.983	0.983

5.3. Path analysis

The linear relationship between several independent variables and dependent variables can be examined using path analysis. It can handle more complicated variable relations and is an extension of regression analysis. Table 5 showed path analysis.

Table 5: Path analysis

X	Y	Standard Estimate	Unstandard Estimate	S.E.	C.R.	P
SQ	CPV	.433	.735	.150	4.888	***
SQ	CS	.632	.579	.116	4.975	***
CPV	CS	.253	.137	.056	2.429	.015
SQ	Lo	.628	.932	.260	3.588	***
CPV	Lo	.288	.251	.087	2.892	.004
CS	Lo	.659	1.067	.366	2.911	.004

The standardized path coefficient of service equality for perceived value was 0.433, $p < .05$, indicating a noteworthy positive relationship. There is a significant positive correlation between service equity and satisfaction, as indicated by the standardized path coefficient of 0.632 and the P value being smaller than .05. A strongly positive association was indicated by the standardized path coefficient of perceived value to satisfaction, which was 0.253, and the P value, which was less than 0.05. The coefficient of service equality for the standardized path for loyalty is 0.628, $p < .05$, which demonstrates a strong positive correlation. The standardized path coefficient of perceived value for loyalty was 0.288, $p < .05$, indicating a significantly positive relationship. The standardized path coefficient of satisfaction for loyalty is less than 0.05 and the P value is 0.659, indicating a strong positive correlation.

5.4. Mediation Analysis

The bootstrap test method is a statistical methodology that involves repeatedly resampling the original data sample in order to evaluate the variability and other aspects of a statistic. This method was proposed by Efron (1979) and has been widely applied in statistical practice. Table 6 showed mediation analysis.

Table 6: mediation analysis

Parameter	Effect Type	Standardized Effects	Lower	Upper	p
SQ-LO	Direct Effect	0.628	0.199	0.987	0.000
SQ-CPV-LO	Indirect Effect	0.124	0.013	0.257	0.038
SQ-CS-LO	Indirect Effect	0.416	0.165	1.244	0.006
SQ-CPV-CS-LO	Indirect Effect	0.072	0.018	0.278	0.012
	Total Effect	1.241	1.099	1.441	0.001

As shown in Table 6, Since zero is not included in the total impact's confidence interval range, the total effect is significant; Since 0 is not included in the indirect effects' confidence interval range, indirect effects are considered significant; There is a significant direct effect, as indicated by the direct effect's considerable confidence interval range. Due to the significant indirect and direct impacts, this indicates that service satisfaction plays a mediating role throughout the entire model. In other words, service satisfaction can directly affect brand loyalty.

As shown in Table 7, it identified significant mediating effects across multiple paths of service quality's influence on loyalty.

Table 7: Bootstrap analysis of mediation effects

Path	Effect	Boot SE	Boot LLCI	Boot ULCI
SQ-CPV-LO	0.117	0.025	0.074	0.170
SQ-CS-LO	0.189	0.030	0.132	0.251
SQ-CPV-CS-LO	0.023	0.007	0.011	0.038

The mediation analysis revealed significant effects across multiple pathways. The indirect effect through customer satisfaction (SQ-CS-LO: $\beta = 0.189$, 95% CI: [0.132, 0.251]) was stronger than the customer perceived value pathway (SQ-CPV-LO: $\beta = 0.117$, 95% CI: [0.074, 0.170]). A smaller but significant serial mediation effect emerged through both perceived value and satisfaction (SQ-CPV-CS-LO: $\beta = 0.023$, 95% CI: [0.011, 0.038]).

All mediation paths showed significant indirect effects, with confidence intervals excluding zero. The total effect confidence interval [1.099, 1.441] confirmed overall significance. Customer pleasure was found to be a significant mediating element, both directly affecting loyalty and mediating the service quality-loyalty relationship. These findings emphasize the dual importance of enhancements in customer satisfaction and service quality are key to fostering loyalty in facilities that provide senior care.

6. Conclusion and Discussion

The following is a presentation of the research findings:

H1: Empirical evidence support hypothesis, indicating that service quality has a favorable impact on customer satisfaction in Chinese elderly care institutions.

H2: Empirical evidence support hypothesis, demonstrating that service quality has a beneficial impact on loyalty in Chinese elderly care institutions.

H3: Empirical evidence support hypothesis, demonstrating that customer satisfaction promotes loyalty in a favorable way in Chinese elderly care institutions.

H4: Empirical evidence support hypothesis, indicating that customer perceived value is positively impacted by service quality in Chinese elderly care institutions.

H5: Empirical evidence support hypothesis, indicating that consumer perceived value is positively impacted by consumer satisfaction in Chinese elderly care institutions.

H6: Empirical evidence support hypothesis, indicating that loyalty is positively impacted by customer perceived value in Chinese elderly care institutions.

H7: Empirical evidence support hypothesis, demonstrating that consumer loyalty and service quality are mediated by consumer perceived value in Chinese elderly care institutions.

H8: Empirical evidence support hypothesis, demonstrating that customer satisfaction mediates the link between loyalty and service quality in Chinese elderly care institutions.

H9: Empirical evidence support hypothesis, indicating that the relationship between service quality and loyalty is successively mediated by customer satisfaction and customer perceived value in Chinese elderly care institutions.

This study thoroughly examined the connections among customer satisfaction, loyalty, customer perceived value, and service quality in Chinese senior feeding facilities. The results, which were

obtained by analyzing 520 questionnaire responses using structural equation modeling (SEM), clarify the mediating function of customer perceived value and bolster the beneficial relationship between customer satisfaction and service quality. The notion of service quality influence is strengthened by this study, which also offers private senior care facilities tactical suggestions to improve loyalty and service quality. The findings show that customer perceived value and satisfaction are much enhanced by all aspects of service quality, which in turn greatly increases customer loyalty. Specifically, customer satisfaction functions as a mediator, increasing the impact of service quality on loyalty, in addition to being a powerful predictor with a direct positive influence on loyalty.

The standardized path coefficient of perceived value on satisfaction was 0.253, $p < .05$, indicating a meaningfully favorable association. The standardized path coefficient of service quality on loyalty was 0.628, $p < .05$, demonstrating a significant positive relationship. Similarly, the uniform path coefficient of perceived value on loyalty was 0.288, $p < .05$, indicating a significant positive relationship. Additionally, the standardized path coefficient of satisfaction on loyalty was 0.659, $p < .05$, further supporting a meaningfully favorable association. These research results support the hypotheses (Chin, 1998) and align with previous research (Hair et al., 2014), while extending our understanding of the multifaceted impact of service quality in the context of senior care.

The analysis demonstrates significant mediating effects through both customer perceived value and satisfaction pathways. The indirect effect through customer satisfaction ($\beta = 0.189$, 95% CI [0.132, 0.251]) was stronger than the perceived value pathway ($\beta = 0.117$, 95% CI [0.074, 0.170]), suggesting that satisfaction plays a more crucial role in translating service quality into loyalty (Aburayya et al., 2020). Moreover, the serial mediation effect through both perceived value and satisfaction ($\beta = 0.023$, 95% CI [0.011, 0.038]), although smaller, indicates the interconnected nature of these constructs in forming customer loyalty. In this study, after data analysis, significant statistical relationships between variables were tested for each hypothesis based on the results.

7. Recommendations

The aging population is a global phenomenon, particularly pronounced in countries like China. This demographic shift has heightened the need for superior senior care services, making the development of private senior care services a critical priority. Based on our research findings, we provide several key recommendations for improving elderly care services.

First, the goal of service providers should be to improve the quality of their offerings through systematic approaches. This includes implementing standardized service protocols, particularly in areas that showed reliability and responsiveness have the biggest effects on customer satisfaction. The regular professional training programs should be established to improve staff competency in both technical skills and emotional care delivery. The physical facilities and environment should be continuously upgraded based on elderly residents' specific needs and preferences.

Second, institutions should emphasize creating and delivering customer value. This involves developing personalized care programs that enhance functional value, strengthening social interaction opportunities among residents, and creating emotional bonds through regular family engagement activities. Transparent pricing strategies should be implemented to demonstrate value for money, while maintaining high-quality service standards.

Third, customer satisfaction management systems need to be strengthened. Institutions should establish regular feedback collection mechanisms and implement immediate response protocols for complaints. Periodic satisfaction surveys and resident committees could provide valuable insights for service improvement. The strong mediating effect of satisfaction found in our study suggests that maintaining high satisfaction levels is crucial for building long-term loyalty.

Fourth, loyalty-building strategies should be developed and implemented. These include creating long-term relationship programs with residents and their families, establishing reward systems for long-term residents, and maintaining continuous communication channels. The significant connection

between loyalty and service quality indicates that consistent service excellence is fundamental to maintaining customer relationships.

The theoretical contributions of study expand on the understanding of service quality in elderly care contexts. Our findings validate the importance of satisfaction and perceived value in building loyalty, while presenting actual data to support the connections between these concepts. Future research could explore these relationships in different cultural contexts or examine longitudinal changes in service quality perceptions.

This study has a number of limitations that should be mentioned. The geographic focus on Harbin, China may limit generalizability, and the cross-sectional nature of the data doesn't capture temporal changes. Future research could address these limitations through comparative studies across regions and longitudinal investigations. Additionally, examining the impact of emerging technologies in elderly care services and investigating cross-cultural variations in service expectations would provide valuable insights for the field.

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