Service Perception and Adoption of Domestic Services: An Empirical Analysis Based on Beijing's Young and Middle-Aged Consumer Market

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Abstract. Against the backdrop of surging domestic service demand in Beijing and stratified consumption among middle-aged and young groups, this study identifies a core paradox: improved economic status has not translated into greater willingness to adopt such services, rooted in the combined issues of insufficient service cognition and industry trust deficits. Empirical analysis of 6,100 valid questionnaires reveals structural industry pain points: 62.3% of users refuse contract renewals due to uncontrollable service quality; formal contract rates stand below 60%; and only 42% of practitioners hold certifications, all indicating inadequate standardization. Regression analyses confirm that service quality value, training and certification standards, and effective platform feedback significantly positively influence perceived value. Notably, perceived value shows no significant correlation with satisfaction, suggesting interference from unobserved variables. Theoretically, this study transcends behavioral economics by constructing a "cognition-emotion-behavior" tripartite mediating model integrating the Theory of Planned Behavior (TPB) and social exchange theory. Practically, it proposes an AI-driven dynamic matching system for stratified markets, blockchain-based certification to enhance regulatory transparency, and a dual-track qualification scheme, providing data support for Beijing's policies on high-quality domestic service development.

Keywords: service perception, domestic service adoption, mediating effect, standardization, young and middle-aged consumers

1. Introduction

In the context of surging demand for domestic services in Beijing, a counterintuitive paradox emerges: improved economic conditions do not proportionally increase service adoption willingness, primarily due to deficient service cognition. Practical contradictions manifest as cognitive gaps regarding service types and professionalization among young and middle-aged groups, causing supply-demand mismatches and trust crises—only 46.8% of consumers accept corporate discounts, while 62.3% refuse rehiring due to unpredictable service quality [1]. This exposes limitations in existing theories: literature predominantly focuses on macro-policy interventions while neglecting psychological constructs of individual cognition, failing to explain

the paradox of "high demand yet low adoption" [2]. Thus, deepening research on service cognition is key to resolving standardization deficits.

As a direct indicator of consumer behavior, domestic service adoption intention becomes increasingly significant under multiple social pressures. However, when facing dual pressures from work and family roles, young and middle-aged groups exhibit "pyramidal differentiation" in adoption willingness: high-income groups show 2.3 times higher payment willingness than average groups, while low scores in privacy security (3.82/5) and service response efficiency (3.79/5), coupled with contract signing rates below 60%, highlight behavioral instability [3]. More critically, average satisfaction with domestic services is only 2.633, significantly lower than other dimensions. Existing studies address demand evolution but lack behavioral economics perspectives, unable to explain the alienation phenomenon of "increased pressure yet service avoidance" [4]. This necessitates revealing decision-making motivations through micro-level intention analysis.

Theoretical innovation lies in integrating Planned Behavior Theory and Social Exchange Theory to propose a "cognition-affection-norm" tripartite mediation model; practical implications include AI dynamic adaptation for market stratification (high-end services in urban districts/training outputs in suburbs), blockchain certification to enhance regulatory transparency (+23.8% consumption intention), and policy support for Beijing's domestic service policies [5].

2. Mechanism analysis and research hypotheses

To reveal the internal mechanism influencing the consumption willingness of domestic services among the young and middle-aged groups, this paper identifies the relationships between the core explanatory variable X (various qualities of domestic services), the mediating variable M (perceived value of domestic services), and the dependent variable Y (satisfaction with domestic services). On this basis, it constructs theoretical transmission and regulatory paths.

As young and middle-aged groups are under dual pressure from their roles in the workplace and family, their adoption of domestic services is often affected by the interplay of multiple factors such as psychological cognition, emotional attitudes, and social influences. The perceived value of services, as a key antecedent variable driving behavioral transformation, can not only directly affect individuals' acceptance of services but also may play an indirect role as a mediating mechanism [6]. To identify the factors influencing the perceived value of domestic services, through questionnaire surveys, actual interviews, literature reviews, and policy interpretations, we found that, on the one hand, against the background of an accelerated work rhythm and increased family responsibilities, the sense of life burden among young and middle-aged groups has significantly intensified. At this time, improving the cognition of domestic services helps to understand them as alternative tools for family affairs, thereby alleviating the perception of pressure and enhancing the psychological willingness to adopt such services [7]. On the other hand, due to factors such as large differences in service quality and asymmetric market information in the domestic service industry, there have long been trust barriers. Enhancing service cognition and perceiving its value helps to eliminate prejudices, reconstruct the trust mechanism in service platforms and practitioners, and thus promote the improvement of service acceptance [2]. In addition, social norms are also an important dimension affecting individuals' adoption behavior. When domestic services gradually become normalized in social communication networks, individuals are more likely to include them in the scope of reasonable consumption and exhibit strong convergent behaviors. Based on this, this paper puts forward the following hypotheses for path research:
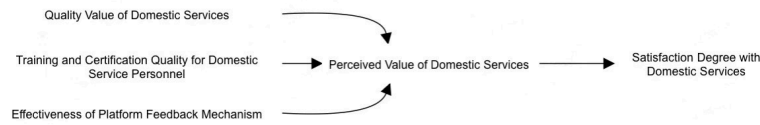
Figure 1. Hypotheses on the path of influence mechanism of domestic services

3. Research design and data processing

This study focuses on the young and middle-aged population aged 18-59 in Beijing, and adopts a multi-stage mixed sampling method to ensure the representativeness of the sample. Firstly, sampling units are divided into three categories—six central urban districts, surrounding districts, and outlying suburban districts—based on regional economic levels and population density. The research methods combine structured questionnaires, which cover core dimensions such as demographic characteristics, service usage behavior, and price sensitivity; in-depth interviews with 20 typical users to supplement information on their decision-making motivations and service experiences; and intercept surveys in crowded areas to enhance sample diversity. To address the mobility characteristics of the target group, respondent-driven sampling (RDS) is used for sample expansion and structural control. A total of 610 questionnaires were distributed, with 550 valid ones recovered, resulting in an effective rate of 90.1%. The sample structure was calibrated through three dimensions: age, gender, and region. The data were screened for logical consistency based on completion time to ensure reliability.

3.1. Basic indicator analysis

According to the frequency analysis, over 50% of the samples identified as "female" in the gender category, while the proportion of samples identifying as "male" was 43.93%. In the age survey, the proportion of respondents in the "19-29 years old" group was 30.49%. In the surveys on urban districts and occupations, the sample distribution was relatively scattered.

In the multi-faceted questionnaire survey, the key points of question design can be summarized into five basic indicators as shown in Table 1.

From the overall situation, it is not difficult to see that there are no outliers in the data. Among the average values, only the survey on "satisfaction with in-home services" shows a value significantly lower than the other four items. Based on this, we conducted hypothetical reasoning and constructed a regression analysis model [8].

Table 1. Analysis of basic survey indicators

name	Sample Size	Min	Max	Mean	Std. Dev.	Median
Satisfaction Degree with Domestic Services	610	1.000	5.000	2.633	1.136	3.000
Quality Value of Domestic Services	610	1.000	5.000	3.709	0.948	4.000
Perceived Value of Domestic Services	610	1.167	5.000	3.745	0.938	4.167
Training and Certification Quality for Domestic Service Personnel	610	1.400	5.000	3.681	1.005	4.200
Effectiveness of Platform Feedback Mechanisms	610	1.200	5.000	3.705	0.974	4.200

3.2. Reliability and validity testing

A pilot survey (n=50) showed Cronbach's α=0.960 (>0.7), KMO=0.915 (>0.8), p=0.000. Full-scale analysis (n=610) confirmed acceptable reliability (α=0.617>0.6) but CITC=-0.014 for satisfaction indicated weak correlation, leading to its deletion. KMO=0.770 confirmed structural validity.

Table 2. Cronbach's reliability analysis of the survey questionnaire

name	Corrected Item-Total Correlation (CITC)	Cronbach's Alpha if Item Deleted	Cronbach's Alpha Coefficient
Satisfaction Degree with Domestic Services	-0.014	0.763	
Quality Value of Domestic Services	0.471	0.514	
Perceived Value of Domestic Services	0.463	0.519	
Training and Certification Quality for Domestic Service Personnel	0.516	0.485	0.617
Effectiveness of Platform Feedback Mechanisms	0.558	0.465	

Note: Standardized Cronbach's α Coefficient = 0.641

Table 3. Validity analysis results of the survey questionnaire

name	Factor Loading Coefficients		Factor Loading Coefficients
	Factor 1	Factor 2	
Satisfaction Degree with Domestic Services	-0.018	0.999	0.998
Quality Value of Domestic Services	0.729	0.023	0.532
Perceived Value of Domestic Services	0.730	-0.013	0.533
Training and Certification Quality for Domestic Service Personnel	0.793	-0.045	0.630
Effectiveness of Platform Feedback Mechanisms	0.804	0.046	0.649
Eigenvalue (Pre-Rotation)	2.339	1.002	-
Variance Explained % (Pre-Rotation)	46.782%	20.045%	-
Cumulative Variance % (Pre-Rotation)	46.782%	66.827%	-
Eigenvalue (Post-Rotation)	2.339	1.002	-
Variance Explained % (Post-Rotation)	46.781%	20.046%	-
Cumulative Variance % (Post-Rotation)	46.781%	66.827%	-
KMO Measure	0.770		-
Bartlett's Test Statistic	577.451		-
df	10		-
p-value	0.000		-

3.3. Regression analysis

Based on the model construction, the regression analysis is divided into two steps. In Regression Analysis 1, as shown in Figure 2, it demonstrates that three aspects of domestic services have an impact on customers' psychological perception. Each question is divided into 5-6 sub-questions, and the evaluation of perceived value is also divided into 5 dimensions.

A linear regression analysis was conducted with the quality value of domestic services, the quality of personnel training and certification in domestic service companies, and the effectiveness of platform feedback mechanisms as independent variables, and the perceived value of domestic services as the dependent variable, as shown in the above table. It can be observed that the model formula is: Perceived Value of Domestic Services = $1.461 + 0.148X1 + 0.182X2 + 0.287*X3$. The R² value of the model is 0.276, which means that X1-X3 can explain 27.6% of the variation in the perceived value of domestic services [6]. The F-test on the model revealed that the model passed the F-test ($F=77.182$, $p=0.000<0.05$), indicating that at least one of the three variables has an impact on the perceived value of domestic services. In addition, the test for multicollinearity of the model showed that the diagnostic index VIF<5, indicating the absence of multicollinearity. The D-W statistic is 1.831, which is close to 2, thus suggesting that there is no autocorrelation in the model and no correlation between sample data, making Model 1 relatively good. Finally, the regression coefficients are 0.148 ($t=3.743$, $p=0.000<0.01$), 0.182 ($t=4.588$, $p=0.000<0.01$), and 0.287 ($t=7.073$, $p=0.000<0.01$) in sequence, indicating that X1, X2, and X3 all have a significant positive impact on the perceived value of domestic services.

In Regression Analysis 2, as shown in Figure 3, the respondents' satisfaction degree depicts the overall impression of nanny-style domestic services, and the 0-1 distribution roughly effectively reflects consumers' real consumption willingness [3].

It can be seen from Table 6 that a linear regression analysis was conducted with the perceived value of domestic services as the independent variable and the satisfaction degree with domestic services as the dependent variable. The model formula is: Satisfaction Degree with Domestic Services = $2.713 - 0.021*M$. The R value of the model is 0.000, indicating that perceived value has no significant impact on satisfaction degree and failed the F-test. The core contradiction is that the cognition of service value has not been transformed into experience satisfaction, implying the interference of unobserved variables such as privacy risks and lack of standardization [4].
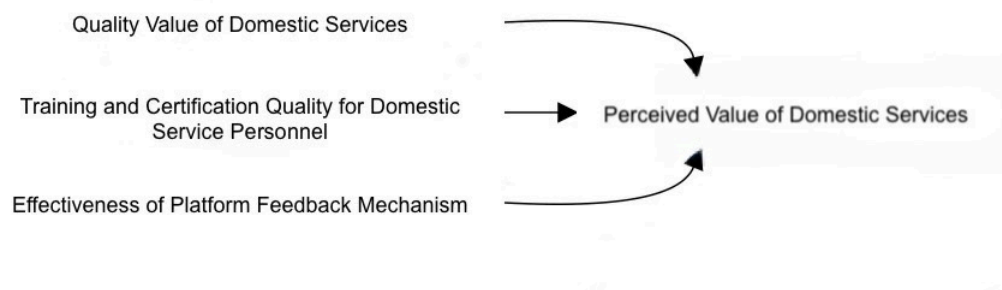

Figure 2. Regression Analysis 1

Perceived Value of Domestic Services ——————▶ Satisfaction Degree with Domestic Services

Figure 3. Regression Analysis 2

Table 4. Definition and measurement of model-specific variables

Type	Variable Name	Symbol	Measure Method
Dependent Variable	Satisfaction Degree with Domestic Services	Y	"What is your overall impression of Beijing's nanny-style domestic services? Negative —— Positive"
Core Independent Variable 1	Quality Value of Domestic Services	X1	Rate the attractiveness factors for hiring service personnel on: cost-performance ratio, service attitude, service quality, personal needs matching, and brand reputation, then compute a composite score
Core Independent Variable 2	Perceived Value of Domestic Services	X2	Evaluate the training and certification mechanisms for domestic workers, including professional skills, mental health, emergency response, etiquette, and certification examinations, then compute a composite score
Core Independent Variable 3	Training and Certification Quality for Domestic Service Personnel	X3	Rate the importance of platform feedback mechanisms: online rating systems, anonymous feedback options, real-time response mechanisms, scheduled follow-up protocols, and improvement plan transparency, then compute a composite score
Mediating Variable	Perceived Value of Domestic Services	M	Rate the importance of company factors: price transparency, detailed service contracts, 24-hour customer service, staff credential verification, privacy protection, and positive reputation, then compute a composite score
Control Variables	Demographic Controls(including age, gender, income level, and residential region)	Controls	Categorical or continuous variables (e.g., age, gender, income, region) were included as control variables

Table 5. Linear regression analysis results for model 1 (n=610)

	Unstandardized Coefficients		Standardized Coefficients	t	p	Collinearity Diagnostics	
	B	Standard Error	Beta			VIF	Tolerance
Constant	1.461	0.157	-	9.322	0.000 **	-	-
Quality value of domestic services	0.148	0.040	0.150	3.743	0.000 **	1.346	0.743
Quality of personnel training and certification in domestic service companies	0.182	0.040	0.195	4.588	0.000 **	1.516	0.660
Effectiveness of platform feedback mechanism	0.287	0.041	0.298	7.073	0.000 **	1.489	0.672
R 2			0.276				
Adjusted R 2			0.273				
F			F (3,606)=77.182,p=0.000				
D-W statistic			1.831				

Note: Dependent variable = Perceived value of domestic services

* p<0.05 ** p<0.01

Table 6. Linear regression analysis results for model 2 (n=610)

Unstandardized Coefficients
Standard Error
0.190
0.049
0.000
-0.001
F (1,608)=0.189,p=0.664
2.045

Note: Dependent variable = Satisfaction with domestic services

* p<0.05 ** p<0.01

4. Conclusions and recommendations

Empirical research shows that domestic services in Beijing present a significant three-tier consumption structure: the willingness of high-income groups (aged 40-59) to pay for high-end services is 2.3 times that of ordinary groups (p<0.01), forming a stratified pattern of "high-end services in the six central urban districts - basic services in emerging districts - training and output in outlying suburban districts" [3]. Relying on the population agglomeration effect, the six central urban districts contribute 70.4% of the market share and have built a dual-track model of "high-end

demonstration + community network"; the outlying suburban districts realize targeted skill delivery through the "Hebei Fuso" bases, and the coverage rate of service outlets in old residential areas in emerging districts reaches 80.3%. This stratified structure highlights that the essence of the industry is competition in time and space efficiency, and there is an urgent need to develop a dynamic demand adaptation system to solve the problem of supply-demand mismatch such as labor fluctuations during the Spring Festival.

The study verifies that three value elements have a significant impact on perceived value: the regression coefficients of quality value (X1), training and certification (X2), and platform feedback mechanism (X3) are 0.148*/0.182*/0.287* respectively (R^2=0.276), confirming that professionalism and transparency are the core pillars of value cognition [6]. However, there is a disconnection in the transformation from perceived value to satisfaction (β=-0.021, p=0.664), exposing the interference effect of unobserved variables such as privacy risks (CSI=3.82/5) and lack of standardization (certification rate 42%) [9]. The industry pain points arising from the stratification of the domestic service market, focusing on trust and standardization, are initially derived from two data points: only 46.8% of consumers accept corporate preferential activities, and 62.3% refuse to renew contracts due to uncontrollable service quality [1]. In-depth interviews reveal three major sources of risks, namely concerns about home entry safety (41%), vague service standards (33%), and inefficient dispute resolution (26%) [7]. The structural equation model verifies that the effectiveness of government supervision is the key breakthrough point; each 1-standard-deviation increase in regulatory transparency can increase consumption willingness by 23.8% [10]. This indicates that trust building needs to focus on the dual track of standardization and technology-enhanced trust, such as electronic service certificates and full-process traceability.

In-depth interviews reveal three major sources of risks: home entry safety (41%), vague service standards (33%), and inefficient dispute resolution (26%). Quantitative data shows that 62.3% of users refuse to renew contracts due to uncontrollable quality, the contract signing rate is only 58.7%, and the penetration rate of blockchain deposit certification is 12.4%. The structural equation model confirms that regulatory effectiveness is the core breakthrough point (path coefficient 0.695**), and each 1-standard-deviation increase in regulatory transparency can increase consumption willingness by 23.8% (p<0.01).

Based on market characteristics, a three-tier response strategy is proposed: deploy AI intelligent matching systems in the six central urban districts (such as the combination of "whole-house cleaning + dinner preparation on behalf") to respond to the 28% growth rate of fragmented demand; integrate community renovation resources in emerging districts to promote outlet coverage; establish a "academic qualification + skill" dual-track certification system in outlying suburban districts to fill the 42% certification rate gap [8]. In addition, it is necessary to break through three barriers: data barriers (connecting the Health Code interface to build credit files), capability barriers (developing a "service capability radar chart" to assist decision-making), and standard barriers (blockchain deposit certification technology reduces complaint rates by 41.7%) [9]. Finally, a sustainable ecology of "government supervision - enterprise compliance - consumer trust" should be built to promote high-quality development of the industry.

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