

# Research on the Influence of Customer Participation on Customer Loyalty in Online Shopping Context—Based on the Intermediary Role of Experience Value

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**Abstract:** *With the development of the Internet, shopping through e-commerce platforms has become a significant choice for people. However, with the emergence of various e-commerce platforms, people's selectivity has gradually increased, so retaining customers has become an essential issue for e-commerce enterprises. This research explores the influence mechanism of customer participation on customer loyalty to e-commerce platforms, taking experience value as the intermediary variable, and its purpose is to put forward some suggestions for improving customer loyalty to e-commerce platforms.*

**Keywords:** *Customer participation; Experience value; Customer loyalty*

## 1. Introduction

The theory of value co-creation has attracted the attention of scholars since it came out because it changed people's previous views on value creation. The traditional value creation theory holds that value is created by enterprises and exchanged to consumers through services, and in this process, consumers are simply users of value and do not participate in value creation. However, with the change in a competitive environment, Prahalad and Ramaswamy put forward that value should not be created only by enterprises, but jointly by enterprises and customers, and the theory of value co-creation has entered people's perspective since then. <sup>[1]</sup> Vargo and Lusch put forward the "service-oriented logic", pointing out that service is the fundamental basis of all economic transactions. With the development of time, the service-oriented logic continues to grow, which not only changes people's focus from exchange value to use value but also finds that customers play an indispensable part in value creation.<sup>[2]</sup> Yi and Gong found that customer value co-creation behavior is divided into two dimensions, namely customer participation behavior and customer citizenship behavior. Customer participation behavior refers to the behavior within the customer's role, which refers to some things that customers must do in value co-creation. Only by doing these things can they successfully create common value, which is a necessary condition for value co-creation.<sup>[3]</sup>

Since entering the 21st century, the Internet has been in the stage of rapid development, and the e-commerce platform has also appeared in people's fields of vision. Due to the advantages of low prices and variety of choices brought by online shopping, more and more customers choose to buy goods on the e-commerce platform, and enterprises and customers can also conduct direct transactions and interactions through the e-commerce platform. This not only brings great convenience to people's lifestyles but also promotes the value-creation behavior of customers and enterprises to a certain extent. With the continuous improvement of living standards, people's requirements for goods are not limited to the quality of goods, but also the consumption experience in the process of buying goods. Therefore, experience value has become a new source of value. Finally, because consumers have more choices for e-commerce platforms, consumers' switching costs are relatively low. Therefore, how to maintain customer loyalty has become a difficult problem for e-commerce platforms.

## 2. Literature Review

### 2.1. Customer Participation

Cermak believes that customer participation refers to the specific spiritual and material behaviors related to the production and delivery of services, the customer's efforts, and the degree of involvement.

This definition emphasizes that customer participation includes both spiritual and material aspects.<sup>[4]</sup> At present, there are many ways to divide the dimensions of customer participation in academic circles. For example, Yi and Gong divide customer participation into four dimensions: information search, information sharing, interpersonal interaction, and responsible behavior.<sup>[3]</sup> The most widely used is the dimension division of customer participation by Ennew and Binks, which is the three dimensions of information sharing, responsible behavior, and interpersonal interaction,<sup>[5]</sup> which is also the dimension division used in this paper. Among them, information sharing means that customers need to share information with service providers to ensure that they are provided with services that meet their specific needs. Responsible behavior means that both parties in the relationship have obligations and responsibilities, that is, customers may be placed in the role of some employees and may have to act in this way. Sometimes responsible behavior can also be called cooperative behavior. Interpersonal interaction refers to the personal interaction between customers and employees who provide services. This is bound to be extensive and will include a series of factors that characterize the nature of the relationship, including trust, reliability, support, cooperation, flexibility, and commitment.

## **2.2. Experience value**

Experiential value refers to some inner feelings that customers get by consuming the products or services of enterprises. The customer's experience value is closely related to the customer's preference. Some scholars divide the experience value into functional experience value, emotional experience value, and social experience value according to the hierarchy of needs theory, and classify the five levels of customer needs into three dimensions of experience value,<sup>[6]</sup> and some scholars put forward a hierarchical dimension model of experience value structure based on predecessors.<sup>[7]</sup> At the same time, some studies use grounded theory to divide the co-creation experience value in social media situations into four dimensions: spiritual value, empowerment value, practical value, and hedonic value, and develop a new initial scale.<sup>[8]</sup> It can be seen that according to the different research backgrounds and purposes, scholars have divided the experience value into different dimensions. According to the characteristics of the e-commerce platform, this paper adopts a two-dimensional division method to divide the experience value into functional experience value and emotional experience value. Among them, functional experience value refers to that the products or services purchased by customers can meet their own needs, and emotional experience value refers to the emotions or emotions caused by products and services in the process of consumption.<sup>[7]</sup>

## **2.3. Customer loyalty**

Assael believes that customer loyalty refers to the influence of various factors such as the quality, service, and design of an enterprise. After the first consumption, customers gradually trust and prefer the products or services of the enterprise and will repeatedly consume the products or services of the enterprise for a long time.<sup>[9]</sup> Customer loyalty includes behavioral loyalty and attitude loyalty. Behavioral loyalty means that customers will repeatedly buy products or services of enterprises, while attitude loyalty is a kind of commitment of customers to enterprises. Customer loyalty is an important variable for enterprises to maintain customers. Some scholars construct the formation mechanism of customer loyalty based on the secondary network and also point out that the time effect will affect customer loyalty.<sup>[10]</sup> Al-Maamari and Abdulrab found that customer satisfaction, service quality, trust, perceived value, perceived enjoyment, and technology have a more important and positive impact on customer loyalty through literature analysis.<sup>[11]</sup> Some studies also show that the types and levels of customer loyalty may be different due to the characteristics of the market where the enterprise is located. Therefore, enterprises need to target the types of loyalty that are suitable for the market dynamics.<sup>[12]</sup> In the formation of customer loyalty, in addition to customer satisfaction, market share, service quality, and many other factors, emotional factors are also very important.

## **3. Research Hypothesis**

### **3.1. Customer participation and experience value**

Based on the perspective of service-oriented logic, enterprises, and customers create value by integrating resources and sharing information, customers participate in value creation and interact with enterprises, and enterprises focus on customers to produce products or services that customers are satisfied with, and finally enhance the experience value of customers. Studies have shown that the

intensity of customer participation will have a direct impact on customer experience because of the adjustment of relationship intensity and perceived competence.<sup>[13]</sup> At the same time, customer participation has a direct impact on customer experience in different scenarios. Some scholars have pointed out that customer participation in value co-creation in the virtual brand environment can be divided into two types: customer participation in initiation and customer participation in spontaneity, and these two types have a positive impact on customer experience value such as emotion and thinking.<sup>[14]</sup> Under the background of the Internet, customers' participation in value co-creation can help improve customers' personalized experience, and through this behavior, the cooperation between customers and enterprises is strengthened and the customer's experience value is also strengthened.<sup>[15]</sup> Finally, some research shows that customer participation can effectively improve and create new customer experience value with tourism apps as the research background.<sup>[16]</sup> Therefore, this research puts forward the hypothesis:

H1: Customer participation has a positive impact on experience value.

H1a: Information sharing, responsible behavior, and interpersonal interaction have a positive impact on the value of functional experience.

H1b: Information sharing, responsible behavior, and interpersonal interaction have a positive impact on the value of emotional experience.

### **3.2. Experience Value and Customer Loyalty**

Holbrook shows that customers are not simply buying in the process of consumption but also have a perception, and giving customers a good consumption experience can improve customer loyalty.<sup>[17]</sup> Nobar and Rostamzadeh put forward that the current concept of customer experience is regarded by market leaders as the best strategy to create value and gain a competitive advantage. At the same time, it also shows that customer experience has psychological and material needs, which can not only directly affect customer loyalty, but also indirectly affect customer loyalty through customer satisfaction.<sup>[18]</sup> Under the background of Internet technology, customer experience value also plays a positive role in customer loyalty. Some scholars have studied the virtual brand community and found that customer experience value can promote customers' community loyalty and brand loyalty.<sup>[19]</sup> In the retail industry, research shows that when the retail APP is applied to the market, customer experience is the key to the success of the retail application, and customers' emotions, perceptions, and cognitive experiences can positively affect customer loyalty. Therefore, when customers have a good experience in the e-commerce platform and meet their requirements to a certain extent, a high degree of experience value will encourage customers to remain loyal to the platform.<sup>[20]</sup> At the same time, after the application of new retail technology, the customer's process experience is divided into sensory experience, emotional experience, and service experience. Customers can enhance their perception of goods by improving their experience, which can finally affect customer loyalty.<sup>[21]</sup> Therefore, this paper puts forward the hypothesis:

H2: Experience value has a positive impact on customer loyalty.

H2a: Functional experience value has a positive impact on customer loyalty.

H2b: Emotional experience value has a positive impact on customer loyalty.

## **4. Research Design**

### **4.1. Data collection**

The survey object of this research is mainly the people who use major e-commerce platforms to shop and conduct research through the online distribution of questionnaires. In this survey, 275 questionnaires were actually received, 17 invalid questionnaires were excluded, and 258 valid questionnaires were finally received, with an effective rate of 93.8%. As can be seen from Table 1, the proportion of women in the questionnaire sample is high, which is consistent with the characteristics that girls prefer online shopping.

Table 1: Demographic characteristics of survey samples

Variable	Option	Frequency	percentage (%)
Gender	woman	196	75.969
	man	62	24.031
Age	18-25 years old	231	89.535
	26-30 years old	21	8.14
	31-40 years old	4	1.55
	Under 18 years old	2	0.775
Academic degree	College or undergraduate course	196	75.969
	Graduate students and above	60	23.256
	High school (technical secondary school) and below	2	0.775
Average monthly income level	Below 2000 yuan	162	62.791
	2001-5000 yuan	78	30.233
	5001-8000 yuan	10	3.876
	More than 8000 yuan	8	3.101
Occupation	student	235	91.085
	Enterprise company personnel	9	3.488
	Personnel of party and government organs and institutions	6	2.326
	Individual and freelancer	6	2.326
	other	2	0.775
Monthly online shopping times	3-5 times	124	48.062
	5-7 times	57	22.093
	More than 7 times	50	19.38
	2 times or less	27	10.465
Total		258	100.000

#### 4.2. Reliability and validity analysis

This research analyzes the reliability of the questionnaire by SPSS 26.0. Table 2 shows that Cronbach's  $\alpha$  coefficient of customer participation, experience value, and customer loyalty are all greater than 0.8, and the overall Cronbach's  $\alpha$  coefficient is greater than 0.9, which shows that the questionnaire has a good consistency.

Table 2: Reliability testing of measurement models

Variable	Dimension	Number of terms	Cronbach's $\alpha$ coefficient	Sample number
Customer participation	Information sharing	4	0.695	258
	Responsible behavior	5	0.736	
	Interpersonal interaction	4	0.72	
Experience value	Functional experience value	4	0.645	258
	Emotional experience value	4	0.789	
Customer loyalty		6	0.806	258
Total		27	0.905	258

In this paper, the collected questionnaires are analyzed by AMOS 24.0, and the customer participation (three dimensions of information sharing, responsible behavior, and interpersonal interaction), experience value (two dimensions of functional experience value and emotional experience value), and customer loyalty are verified by structural equation model. As can be seen from Table 3, the chi-square/degree of freedom ( $X^2/df$ ) value is 2.293, the approximate root mean square (RMSEA) value is 0.071, and the mean square root (RMR) value is 0.047, etc. These values all meet the standards. At the same time, compared with the other five models, the fitting effect of the six-factor model is better, which shows that the variables in this paper have better discrimination validity.

Table 3: Results of the validation factor analysis

Model	$X^2$	df	$X^2/df$	RMSEA	RMR	CFI
XXGX,ZRXW,RJHD,GNJZ,QGJZ,GKZC	708.606	309	2.293	0.071	0.047	0.838
XXGX+ZRXW,RJHD,GNJZ,QGJZ,GKZC	815.505	314	2.597	0.079	0.054	0.797
XXGX+ZRXW+RJHD,GNJZ,QGJZ,GKZC	861.439	318	2.709	0.082	0.056	0.78
XXGX+ZRXW+RJHD,GNJZ+QGJZ,GKZC	894.661	321	2.787	0.083	0.056	0.767
XXGX+ZRXW+RJHD,GNJZ+QGJZ+GKZC	908.716	323	2.813	0.084	0.057	0.762
XXGX+ZRXW+RJHD+GNJZ+QGJZ+GKZC	1101.366	324	3.399	0.097	0.06	0.685

#### 4.3. Relevance analysis

Using SPSS 26.0 to analyze the correlation of variables, the results are shown in Table 4. According to the Pearson correlation coefficient, there are significant correlations among information sharing, responsible behavior, interpersonal interaction, functional experience value, emotional experience value,

and customer loyalty, so this paper will conduct a regression test.

Table 4: Pearson correlation coefficient

	1	2	3	4	5	6	7	8	9	10	11	12
Gender	1											
Age	-0.148**	1										
Academic degree	-0.043	0.116*	1									
Average monthly income level	-0.148**	0.355***	0.193***	1								
Occupation	-0.079	0.529***	-0.021	0.486***	1							
Monthly online shopping times	0.101	-0.042	0.104	0.144**	-0.03	1						
Information sharing	0.017	-0.032	0.136**	0.064	0.089	0.042	1					
Responsible behavior	0.042	-0.198***	0.038	0.022	-0.005	0.062	0.402***	1				
Interpersonal interaction	0.029	-0.225***	0.038	-0.035	-0.098	0.065	0.295***	0.541***	1			
Functional experience value	0.026	-0.309***	0.035	-0.036	-0.151**	0.134**	0.324***	0.541***	0.525***	1		
Emotional experience value	-0.001	-0.181***	0.112	0.048	-0.062	0.106	0.352***	0.463***	0.378***	0.601***	1	
Customer loyalty	0.002	-0.171***	0.1962***	-0.037	-0.111	0.103	0.39***	0.413***	0.481***	0.66***	0.657***	1

Note: \*\*\*, \*\* and \* represent the significance levels of 1%, 5% and 10% respectively.

#### 4.4. Regression analysis

In this research, regression analysis is selected for hypothesis testing, and the results are shown in Table 5 and Table 6. As shown in Table 5, Model 1 and Model 2 are models showing the influence of customer participation on customer loyalty. Model 1 refers to the regression analysis of control variables (gender, age, education, average monthly income level, occupation, and average monthly online shopping times). Model 2 adds customer participation (information sharing, responsible behavior, and interpersonal interaction) to Model 1 for regression analysis. The results show that the three dimensions of customer participation have a significant positive impact on customer loyalty.

Model 5 and Model 6 refer to the influence model of customer participation on functional experience value. Model 5 carries out regression analysis on control variables, and Model 6 carries out regression analysis by adding customer participation (information sharing, responsible behavior, and interpersonal interaction) based on Model 5. Table 5 shows that the three dimensions of customer participation have a significant positive impact on the value of functional experience (information sharing  $\beta=0.113$ , responsible behavior  $\beta=0.308$ , interpersonal interaction  $\beta=0.279$ ,  $p<0.001$ ), assuming that H1a is verified. Model 9 and Model 10 are the models of the influence of customer participation on the value of emotional experience. The control variables are regressed (Model 9), and then customer participation (information sharing, responsible behavior, and interpersonal interaction) is added for regression analysis (Model 10). According to the results of regression analysis in Table 6, customer participation has a significant positive impact on the value of emotional experience (information sharing  $\beta=0.182$ , responsible behavior  $\beta=0.289$ , interpersonal interaction  $\beta=0.14$ ,  $p<0.001$ ), assuming that H1b is verified.

Model 1, Model 3, and Model 7 are models that show the influence of experience value on customer loyalty. Regression analysis of control variables (Model 1), and then add functional experience value to regression analysis (Model 3). From the results in Table 5, it can be seen that functional experience value has a significant impact on customer loyalty ( $\beta=0.661$ ,  $p<0.001$ ), assuming that H2a is established. At the same time, the emotional experience value is added to Model 1 for regression analysis (Model 7). The results in Table 6 show that the emotional experience value has a significant impact on customer loyalty ( $\beta=0.634$ ,  $p<0.001$ ), assuming that H2b is established.

Model 1, Model 2, and Model 4 take customer loyalty as the dependent variable and put the control variable, customer participation, and functional experience value into the regression model respectively. From the results in Table 5, it can be seen that the  $\beta$  value of information sharing and interpersonal

interaction decreased significantly after adding the functional experience value, so the functional experience value played a partial intermediary role in the two dimensions of information sharing and interpersonal interaction and customer loyalty. However, after adding functional experience value, the  $\beta$  value of responsible behavior decreases and is not significant, so functional experience value plays a complete intermediary role between responsible behavior and customer loyalty. It shows that the intermediary role of functional experience value in customer participation and customer loyalty has been verified.

Table 5: Regression analysis results

Variable	Customer loyalty				Functional experience value	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Gender	-0.029	-0.033	-0.013	-0.018	-0.024	-0.029
Age	-0.191***	-0.042	0.029	0.043	-0.333***	-0.16***
Academic degree	0.215***	0.152 ***	0.182 ***	0.153	0.051	-0.002
Average monthly income level	-0.031	-0.044	-0.066	-0.062	0.052	0.032
Occupation	0.01	-0.054	0.009	-0.02	0.002	-0.064
Monthly online shopping times	0.08	0.055	0.008	0.011	0.11*	0.82
Information sharing		0.236 ***		0.175***		0.113**
Responsible behavior		0.133 **		-0.032		0.308***
Interpersonal interaction		0.314 ***		0.165***		0.279***
Functional experience value			0.661 ***	0.536***		
R <sup>2</sup>	0.083	0.35	0.469	0.517	0.116	0.418
$\Delta R^2$	0.061	0.327	0.454	0.498	0.095	0.397
F	3.8***	14.859***	31.52***	26.485***	5.516***	19.762***

Note: \*\*\*, \*\* and \* represent the significance levels of 1%, 5% and 10% respectively.

Table 6: Regression analysis results

Variable	Customer loyalty				Emotional experience value	
	Model 1	Model 2	Model 7	Model 8	Model 9	Model 10
Gender	-0.029	-0.033	-0.013	-0.017	-0.025	-0.031
Age	-0.191***	-0.042	-0.04	0.007	-0.239***	-0.097
Academic degree	0.215***	0.152 ***	0.142***	0.121***	0.115	0.061
Average Monthly income level	-0.031	-0.044	-0.083	-0.078	0.082	0.066
Occupation	0.01	-0.054	-0.07	-0.032	0.027	-0.044
Monthly online shopping times	0.08	0.055	0.032	0.028	0.075	0.053
Information sharing		0.236 ***		0.144***		0.182***
Responsible behavior		0.133 **		-0.013		0.289***
Interpersonal interaction		0.314 ***		0.243***		0.14**
Emotional experience value			0.634***	0.506***		
R <sup>2</sup>	0.083	0.35	0.458	0.533	0.067	0.286
$\Delta R^2$	0.061	0.327	0.443	0.514	0.044	0.261
F	3.8***	14.859***	30.179***	28.226***	2.981***	11.06***

Note: \*\*\*, \*\* and \* represent the significance levels of 1%, 5% and 10% respectively.

Models 1, Model 2, and Model 8 take customer loyalty as dependent variables and put control variables, customer participation, and functional experience value into regression models respectively. From the results in Table 6, it can be seen that emotional functional value plays a partial intermediary role in the two dimensions of information sharing and interpersonal interaction and customer loyalty and plays a complete intermediary role in responsible behavior and customer loyalty. It shows that the intermediary role of emotional experience value in customer participation and customer loyalty has been verified.

#### 4.5. Intermediary effect test

In this research, the bootstrap method is used to sample 5000 times, and the results are shown in Table 7. The confidence intervals of functional experience value and emotional experience value between information sharing and customer loyalty are [0.166, 0.046] and [0.162, 0.051] respectively. The confidence intervals of functional experience value and emotional experience value between responsible behavior and customer loyalty are [0.314, 0.134] and [0.26, 0.11] respectively. The confidence intervals of functional experience value and emotional experience value between interpersonal interaction and customer loyalty are [0.274, 0.103] and [0.231, 0.079] respectively, which further verifies the intermediary role of experience value in customer participation and customer loyalty.

Table 7: Results of mediating effect

Path	C total effect	a	b	a*b intermediary effect value	a*b (95%BootCI)	C' direct effect	Inspection conclusion
Information Sharing-Functional Experience Value-Customer Loyalty	0.29	0.207	0.465	0.096	0.166-0.046	0.01	Partial mediation
Information Sharing-Emotional Experience Value-Customer Loyalty	0.29	0.299	0.313	0.094	0.162-0.051	0.01	Partial mediation
Responsible Behavior-Functional Experience Value-Customer Loyalty	0.401	0.442	0.493	0.218	0.314-0.134	0.007	Complete mediation
Responsible Behavior-Emotional Experience Value-Customer Loyalty	0.401	0.521	0.337	0.176	0.26-0.11	0.007	Complete mediation
Interpersonal Interaction-Functional Experience Value-Customer Loyalty	0.483	0.435	0.418	0.182	0.274-0.103	0.162	Partial mediation
Interpersonal interaction-emotional experience value-customer loyalty	0.483	0.426	0.326	0.139	0.231-0.079	0.162	Partial mediation

## 5. Conclusions and discussion

### 5.1. Conclusions

Based on the e-commerce platform, this paper discusses the influence of customer participation on customer loyalty and constructs a model. Through the analysis, it is concluded that customer participation ultimately positively affects customer loyalty by influencing experience value, and the following conclusions are obtained. In the context of e-commerce platforms, customer participation has a positive impact on both functional experience value and emotional experience value, and ultimately positively affects customer loyalty. First, customers can fully grasp the relevant information about goods by searching the information shared by others and asking for customer service on the e-commerce platform, to reduce the negative feelings caused by information asymmetry in the shopping process. At the same time, in this way, it will increase its experience value on the e-commerce platform and finally affect customer loyalty.

Second, customers can build a good relationship with service personnel through interpersonal interaction, which can not only help customers improve the emotional experience value of shopping on the platform but also ask for customer service and inform their own needs, thus enhancing the functional experience value of customers and finally promoting customer loyalty. Third, the customer's responsible behavior may strengthen the customer's sense of participation, make customers finally improve their experience value of the platform, and finally affect customer loyalty.

### 5.2. Limitations

The limitations of this study are as follows: First of all, the distribution of the samples collected in this study is uneven at all ages, and the sample size of the study should be expanded in the future to improve the accuracy of the study. Secondly, this study only discusses the mechanism that customer participation affects customer loyalty through experience value in the online shopping situation, and it can continue to be studied in other situations in the future. Finally, this research takes customer experience value as an intermediary variable, and other variables can be introduced to discuss the influence of customer participation on customer loyalty in the future.

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