

The effect of institutional marketing regulation on customers' willingness to participate in value co-creation: the mediating role of customer value perception

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Abstract: The rapid development of the platform economy makes platform institutional marketing gradually become an important means for platform companies to attract customers to use and participate in platform activities. On the one hand, platform companies guarantee users' transaction rights and interests based on a certain intensity of regulation to enhance customers' willingness to participate in value co-creation, and on the other hand, they promote customers' willingness to participate in value co-creation by establishing trust relationships with users. Based on the SOR model, this paper investigates the influence mechanism of institutional marketing regulation on customers' willingness to participate in value co-creation based on value perception theory with three-dimensional value perception as the mediating variable. The relationship between the variables in the conceptual model is tested empirically using questionnaires, and it is concluded that: institutional marketing regulation positively affects customers' willingness to participate in value co-creation; value perception mediates the positive relationship between institutional marketing regulation and customers' willingness to participate in value co-creation; and there is a direct effect of platform institutional regulation on customers' willingness to participate in value co-creation, and there is a direct effect of platform trust regulation on customers' willingness to participate in value co-creation. There is no direct effect of platform trust regulation on customers' willingness to participate in value co-creation.

Keywords: institutional marketing regulation, value perception, value co-creation willingness

1. Introduction

Institutional marketing first refers to strategic management in which organizations use transactional rules to build value propositions for customers, and suggests the important role of institutional marketing design in achieving organizational goals^[1]. Zucker (1986) defines institutional marketing in the context of the Internet as a business that can be developed and manipulated by Internet platform firms for the primary purpose of creating a customer value transaction system (e.g., consumer evaluation system, payment system, service guarantee system, membership system, etc.) and the market transaction system (e.g., privacy system, third-party authentication system, etc.) that firms need to adopt or participate in for the primary purpose of safeguarding the rights and interests of both parties to the transaction^[2]. In traditional institutional marketing, Achrol (2014) argues that formal systems or transaction rules in the transaction process facilitate the protection of the interests of the parties to the transaction^[3]. With the development of the Internet, online transactions have increased the uncertainty of the transaction environment and the complexity of the transaction behavior, while constraining the traditional institutional marketing model. The function of institutions in the platform economy environment is not only limited to regulating and restricting opportunistic behaviors in online transactions and reducing uncertainty in online markets, but gradually begins to develop toward creating new market opportunities, creating customer value propositions and organizational value integration, such as audit and certification mechanisms, feedback mechanisms, dispute resolution mechanisms, privacy guarantee mechanisms, and security guarantee mechanisms that have a positive impact on consumer participation^[4], and gradually become an important marketing tool for platform companies to attract customers, such as the regulation of user mutual evaluation, third-party payment, and first compensation in the platform^[5].

In recent years, the development of the platform economy has provided convenient conditions and

fast ways for customers to participate in value co-creation. Consumer value realization is both the result and the reason and motivation for consumers to participate in value co-creation, and this relationship is influenced by customers' value perceptions of institutional marketing regulations^[6]; therefore, this paper introduces value perceptions at the micro level to explore the influence of institutional marketing regulations on customers' willingness to participate in value co-creation.

2. Theoretical background

2.1. Slippery slope framework theory

The slippery slope framework theory emerged in the context of governance theory, which first originated from taxation behavior, and takes institutions and trust as the premise of cooperative behavior between individuals and organization^[7]. Nowadays, the slippery slope framework theory has been applied to marketing and other fields, and regulation can be divided into two dimensions: institutional regulation and trust regulation, and used to explain the relationship between insurance companies and their customers^[8]. Tang et al. (2023) applied the theory to study the platform economy and explored different types of regulation for sharing economy platforms from the perspective of risk perception^[9]. Synthesizing the above scholars' studies, the platform system regulation in this paper refers to the regulation in which platforms usually have to secure transactions with each other with a certain intensity. When platform users perceive insecurity or distrust, platforms usually have to use mandatory measures to guarantee the healthy development of the platform economy. Platform trust regulation means that the platform needs certainly reasonable regulation to increase the trust between users and to assist in restraining the behavior of both parties to achieve the regulation of trading behavior. This kind of platform can achieve the expected transaction results without the help of a mandatory system to restrain the transaction behavior of both parties.

2.2. Value perception theory

Value perception is a subjective trade-off between payoffs and benefits based on an individual's existing perceptions^[10]. Zeithaml (1988) first divided the value perception theory into dimensions from a two-dimensional perspective, i.e., defining customers' perceived value evaluation of products and services in terms of profit perception and loss perception^[11]. Fan and Luo (2003) summarized and refined the value perception model, and proposed three dimensions of customer perceived value from the overall value perspective and value comparison perspective: functional value, emotional value, and social value^[12], in which functional value includes quality value and price value as described by Sweeney and Soutar (2001)^[13]. In this paper, we refer to the three-dimensional value perception model of Fan and Luo(2003)^[12]. Among them, the customer's functional value perception of the platform refers to the customer's overall assessment of the transaction behavior generated by using the platform under the guarantee of the platform's institutional marketing regulation, i.e., the customer's functional value perception of the platform regulation. Customers' perception of the emotional value of the platform refers to the hedonic feeling and emotional satisfaction obtained by customers in the process of using the platform for transactions. The social value perception of the platform refers to the value generated by the social self-perception and the value associated with others that customers can obtain in the process of using the platform for trading concerning the perceived social pressure or approval.

2.3. Value co-creation theory

Value co-creation theory is developed from value creation theory, where value creation under the product-dominant logic of industrial society is the creation of value by producers alone^[14]. Prahalad and Ramaswamy's (2004) consumer experience-based value co-creation theory states that instead of selling experiences to consumers, firms provide experiential situations in which consumers create their own experiences in that context that are uniquely meaningful to them^[15]. For Internet platform companies, the resources needed for the service mainly come from the supply side, and the company moves behind the scenes to become a platform that facilitates the connection between supply and demand for the service. As a result, the participants in value creation become diversified and dynamic, from the supply and demand sides to the three parties of users (supply and demand sides) and the platform. The company is no longer the dominant player in the value co-creation process but becomes the ecosystem that supports or facilitates the value co-creation activities of users^[16]. Therefore, the consumer experience-based value co-creation theory is based on microscopic enterprise strategy design and points out that value is co-

creative by the enterprise, customers, and other stakeholders, which is more in line with the tripartite co-creation of value in the context of platform enterprises. Based on the model of consumer experience-based value co-creation theory and the background of the platform economy, this paper points out that the willingness of customers to participate in value co-creation is the tendency of platform customers to use their resources and the resources provided by enterprises to create value and provide solutions to their problems.

3. Variable selection and model construction

3.1. The Effect of institutional marketing regulation on customer functional value perception

Platform institutional regulation ensures the security of transactions by stipulating standards, while platform trust regulation focuses on promoting transaction efficiency based on mutual trust. In the study of the platform economy, some scholars have studied customers' risk perceptions of mechanisms such as audit and certification mechanisms, platform guarantee mechanisms, dispute resolution mechanisms, privacy guarantee mechanisms, and value perceptions^[17,18]. The better the platform system regulation, the better the rights and interests of users, and the security of transactions can be protected, so that users can achieve their purposes more efficiently when using the platform for transactions or exchanges. The lasting protection of users' rights and interests will increase customers' perception of the functional value of the platform. The trust regulation of the platform focuses on increasing the trust among users and maximizing transaction efficiency with the help of implied trust. The transaction and communication process based on emotion and trust can close the psychological distance between the platform and customers, and increase customers' perception of transaction safety and efficiency, i.e., it is easier to perceive the functional value of the platform.

Therefore, hypotheses are proposed:

H1: Institutional marketing regulation has a significant positive impact on customers' perception of functional value

H1a: platform institutional regulation has a significant positive effect on customers' perception of functional value;

H1b: platform trust regulation has a significant positive impact on customer functional value perceptions.

3.2. The Effect of institutional marketing regulation on customer emotional value perceptions

Customers' emotional value perception of the platform refers to the hedonic feeling and emotional satisfaction that customers get in the process of using the platform for transactions. Platform institutional regulation can ensure the security of the transaction process and the rights and interests of both parties through a certain degree of compulsion, and the lasting protection of users' rights and interests will increase the trust between users and users to the platform, establish an emotional relationship with the platform, and make users perceive emotional value in the process of using the platform; platform trust regulation is mainly based on mutual trust between the two parties to achieve the expected result of the transaction. According to social exchange theory, because trust can enhance customers' long-term reciprocal expectations, platforms can form social and emotional relationships between users beyond ordinary economic exchange through high-quality trust support^[19]. Therefore, platform trust regulation can increase customers' emotional value perceptions.

Therefore, the hypothesis is proposed:

H2: Institutional marketing regulation has a significant positive effect on customers' emotional value perceptions

H2a: platform institutional regulation has a significant positive effect on customers' emotional value perceptions;

H2b: platform trust regulation has a significant positive impact on customer emotional value perceptions.

3.3. The Effect of institutional marketing regulation on customer social value perceptions

Customers' perception of the social value of the platform refers to the perceived utility of using the platform to improve the social self-concept of customers, a perception of value linked to others, obtained by reference to perceived social pressure or approval. Platform system regulation can be used to facilitate transactions and enhance user communication through a certain degree of regulation. The exchange and sharing among users can satisfy the social needs of users and gain the perception of self-knowledge and the value of exchange connection, i.e., the perceived social value of the platform. In the context of sharing economy, the trust support mechanism of the platform can influence the perception of self-determination of customers. The trust regulation of the platform will be conducive to increasing customers' trust in the platform, promoting customers' self-perception and mutual communication, establishing a social relationship connection between the platform and customers, and enabling customers to obtain a stronger perception of social value.

Therefore, the hypothesis is proposed:

H3: institutional marketing regulation has a significant positive effect on customers' social value perceptions;

H3a: platform institutional regulation has a significant positive impact on customers' social value perceptions;

H3b: platform trust regulation has a significant positive impact on customer social value perceptions.

3.4. The Effect of customer value perception on willingness to co-create value

Under the premise of the Internet economy, customer experience value perception as a mediating variable will promote customers' willingness to participate in value co-creation. Customer functional value perception positively influences their willingness to participate in value co-creation. Customer functional value perception implies that customers have a comprehensive perception of the costs and benefits of using the platform. When customers perceive that they can get more benefits from using the platform compared with other platforms, they will tend to take the initiative to participate in the platform value co-creation activities and spontaneously participate in the platform construction. Customer emotional value perception refers to the utility gained from the customer's feelings and emotional state of using the platform. The emotional satisfaction gained by customers will motivate them to increase their emotional connection to the platform, thus increasing their willingness to participate in value co-creation. Customers can perceive the social value of the platform through communication with the platform and between customers, enhance social self-knowledge and establish social relationship connection with the platform, thus promoting customers' willingness to participate in value co-creation. In short, customer value perception has an impact on customers' willingness to participate in value co-creation. Specifically, the greater the functional value perception, emotional value perception, and social value perception brought by the platform to customers, the more customers are willing to participate in value co-creation.

Therefore, the hypothesis is proposed:

H4: Customer value perception has a significant positive effect on customers' willingness to participate in value co-creation;

H4a: functional value perception has a significant positive effect on customers' willingness to participate in value co-creation;

H4b: emotional value perception has a significant positive effect on customers' willingness to participate in value co-creation;

H4c: social value perception has a significant positive impact on customers' willingness to participate in value co-creation.

3.5. The relationship between institutional marketing regulation and customers' willingness to participate in value co-creation and the mediating role of customers' value perception

Institutional regulation and trust regulation of platforms are not only important elements of platform institutional marketing but also important means for customers to participate in value creation. According to the theory of the SOR model, the external stimulus of platform marketing regulation will affect

customers when they use the platform, that is, through the value perception of marketing regulation generated by customers, it influences customers to respond by increasing their willingness to participate in value co-creation.

The platform system regulation can effectively guarantee the customers' comprehensive perception of the transaction process and make them feel the functional value, and also satisfy the customers' emotional needs through the transaction interaction and communication process of the platform so that the customers perceive the emotional value. At the same time, customers share and recommend their satisfied transactions, answer other customers' questions and evaluate the transaction process, which can enhance customers' self-identity and make them perceive social value. The trust regulation of the platform can make the social and emotional relationship between the platform and the customers beyond the ordinary economic exchange by establishing a high-quality trust relationship, and the transactions and interactions generated under this relationship can make the customers have a higher evaluation of the platform and perceive the functional value of the platform. The increased trust of customers in the platform can have a positive impact on the communication and emotional connection between customers and the customer platform, and meet the social needs of customers. Therefore, platform trust regulation is conducive to customers' perceived emotional and social value.

When customers' perception of value gained in the process of using the platform increases, it positively affects customers' willingness to participate in value co-creation. Specifically, the perception of functional value will make customers perceive using the platform for transaction communication as practical and efficient, while the enhancement of emotional experience value also means that the transaction communication on the platform will bring more emotional satisfaction to customers, and the enhancement of social experience value will satisfy customers' social needs and improve their self-perception, which will all have a facilitating effect on customers' willingness to participate in value co-creation.

As a result, the following hypothesis is proposed:

H5: Institutional marketing regulation significantly and positively affects customers' willingness to participate in value co-creation;

H6: customer value perception plays a mediating role in the effect of platform institutional regulation on customers' willingness to participate in value co-creation;

H7: customer value perception plays a mediating role in the effect of platform trust regulation on customers' willingness to participate in value co-creation.

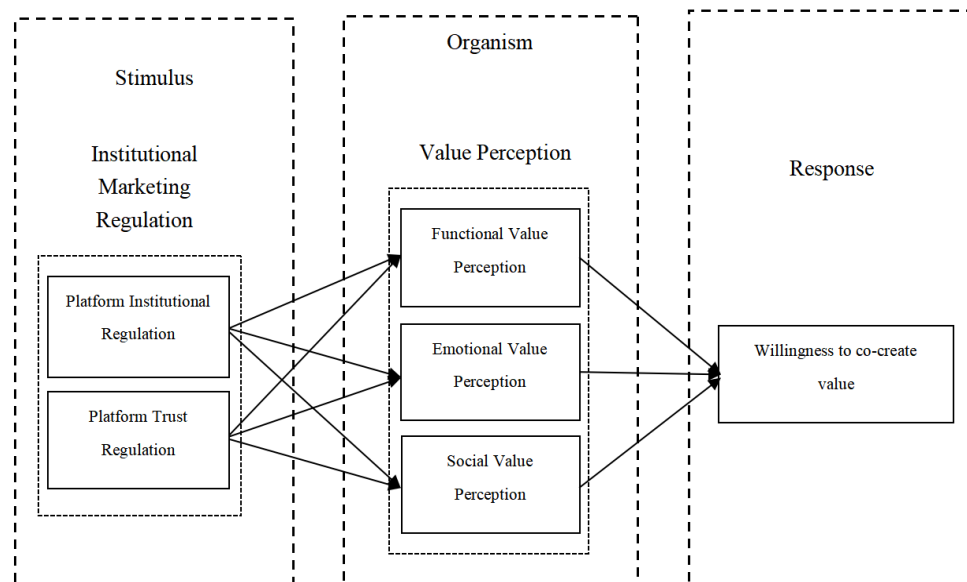


Figure 1. Theoretical model

4. Materials and methods

4.1. Variable measurement

In this study, there are three constructs: institutional marketing regulation, customer value perception, and customer willingness to participate in value co-creation, and the measurement scale is formed by drawing on the developed scales and modifying them appropriately with the characteristics of the platform economy. In this paper, a 7-point Likert scale is used, with "1" indicating "strongly disagree" and "7" indicating "strongly agree". In addition, the demographic characteristics section of the questionnaire was designed with three measures: gender, age, and education level.

4.2. Participants and data collection

The research subjects of this study are various types of platform users such as college students, white-collar workers, and general citizens, and the research is conducted for two types of platform regulation, three types of perceived value types, and value co-creation willingness. To expand the universality and randomness of the research population, this study conducted a nationwide survey of platform users by collecting questionnaires online and filling them out. A total of 370 questionnaires were distributed, 365 were collected, 10 invalid questionnaires were excluded, and 355 valid questionnaires were obtained, with a valid recovery rate of 95.95%. There were 26 questions in the questionnaire, and the number of valid questionnaires met the standard of 10 times the number of questions. Among the respondents, 51.5% were male and 48.5% were female; the age was mainly concentrated between 18 and 25 years old, accounting for 47.9%, and respondents aged 26-35 years old accounted for 33.8%; the largest proportion of respondents with bachelor's degree was 72.4%.

5. Statistical analyses

5.1. Reliability and validity analysis

Table 1: Scale reliability and validity tests

Factors	Indicators	Loading	Cronbach's a	CR	AVE
Platform Institutional regulation ^[8,9,24]	1	0.800	0.893	0.910	0.669
	2	0.798			
	3	0.832			
	4	0.836			
	5	0.822			
Platform trust regulation ^[8,9,24]	1	0.807	0.897	0.911	0.67
	2	0.836			
	3	0.842			
	4	0.812			
	5	0.798			
Functional value perception ^[11,13]	1	0.815	0.829	0.889	0.667
	2	0.820			
	3	0.791			
	4	0.839			
Emotional value perception ^[11,13]	1	0.804	0.838	0.922	0.703
	2	0.845			
	3	0.800			
	4	0.873			
	5	0.867			
Social value perception ^[11,13]	1	0.829	0.832	0.887	0.662
	2	0.820			
	3	0.812			
	4	0.793			
Willingness to co-create value ^[25,26]	1	0.905	0.764	0.936	0.829
	2	0.915			
	3	0.911			

In this paper, SPSS26.0 was used to test the reliability of the scale for controllability and stability, and the results are shown in Table 1. The results of the reliability test showed that the minimum Cronbach's α coefficient of each variable was greater than 0.7, which indicated that the scale had good internal consistency. The overall KMO value of the scale was 0.894, and the KMO sample measures of each latent variable were greater than 0.7, which was suitable for the validation factor analysis. The results of the factor rotation analysis showed that all question items under the same variable in the scale

were distributed in the same factor, and the minimum factor loadings were greater than 0.7, which were far above the acceptable threshold value of 0.5.

The combined reliability (CR) was greater than the criterion of 0.700. The average variance extracted (AVE) was also greater than the criterion of 0.500. The square root of each latent variable AVE value was greater than the correlation coefficient between that latent variable and other latent variables, and the correlation coefficient of any two latent variables was less than 1 (Table 2), indicating that the differential validity of the scale used in this study passed the test^[20].

Table 2: Correlation coefficients and discriminant validity

Variables	1	2	3	4	5	6
Platform Institutional regulation	0.818					
Platform trust regulation	0.220**	0.819				
Functional value perception	0.343**	0.292**	0.817			
Emotional value perception	0.356**	0.417**	0.354**	0.838		
Social Value Perception	0.268**	0.301**	0.343**	0.384**	0.814	
Willingness to co-create value	0.300**	0.290**	0.311**	0.396**	0.367**	0.910

Note: ** indicates $p < 0.01$, two-tailed test; the number below the diagonal line is the correlation coefficient of the corresponding variable; the number on the diagonal line is the square root of AVE

5.2. Hypothesis testing

In this study, the linear regression method and Bootstrap method in SPSS 26.0 software were used to test the direct effect hypothesis and the mediating effect hypothesis, respectively. The hierarchical regression method is mostly used for testing work with only one mediating variable model^[21], and the theoretical model in this study is a complex multiple concurrent mediating variable model, so the procedure for testing mediating effects without the assumption of normality (Process procedure) proposed by Zhao et al. (2010) is used^[22]. The hypotheses of this study were tested by referring to the multiple concurrent mediating variables test (Bootstrap method) proposed by Preacher and Hayes (2008)^[23]. The linear regression method operates by setting the dependent variable and then incorporating the independent variables into the regression equation as input. The Bootstrap method operates by selecting a sample size of 5000 and setting the confidence interval to 95% in the Process test procedure, and the mediating effect exists when the upper and lower limits of the confidence interval in the analysis results do not contain 0.

5.2.1. Verification of the Relationship between institutional marketing regulation and customer value perception

The sub-paths of H1 are platform institutional regulation and platform trust regulation have significant positive effects on customer functional value perceptions, respectively. The test results are shown in Table 3, platform institutional regulation (M1, $\beta=0.343$, $p<0.001$) and platform trust regulation (M2, $\beta=0.292$, $p<0.001$) have significant positive effects on customer functional value perceptions, and H1a and H1b are supported, thus, H1 is fully supported.

The sub-paths of H2 are platform institutional regulation and platform trust regulation have a significant positive effect on customer emotional value perceptions, respectively. The test results are shown in Table 3, platform institutional regulation (M3, $\beta=0.356$, $p<0.001$) and platform trust regulation (M4, $\beta=0.417$, $p<0.001$) have a significant positive effect on customer emotional value perceptions, and H2a and H2b are supported, therefore, H2 is fully supported.

The sub-paths of H3 are platform institutional regulation and platform trust regulation have a significant positive effect on customer social value perceptions, respectively. The test results are shown in Table 3, platform institutional regulation (M5, $\beta=0.268$, $p<0.001$) and platform trust regulation (M6, $\beta=0.301$, $p<0.001$) have a significant positive effect on customer social value perception, and H3a and H3b are supported, therefore, H3 is fully supported.

5.2.2. Validation of the relationship between customer value perception and customer willingness to participate in value co-creation

The sub-paths of H4 are functional value perception, emotional value perception, and social value perception have significant positive effects on customers' willingness to participate in value co-creation, respectively. The test results are shown in Table 3, functional value perception (M7, $\beta=0.311$, $p<0.001$), emotional value perception (M14, $\beta=0.396$, $p<0.001$), and social value perception (M8, $\beta=0.367$, $p<0.001$) have significant positive effects on customers' willingness to engage in value co-creation, and H4a, H4b, and H4c are supported. Thus, H4 was fully supported.

Table 3: Hypothesis 1~hypothesis 4 test

Dependent variable	Functional value perception		Emotional value perception		Social Value Perception		Willingness to co-create value		
Independent variable	M1	M2	M3	M4	M5	M6	M7	M8	M9
Platform Institutional regulation	0.343***		0.356**		0.268***				
Platform trust regulation		0.292***		0.417***		0.301**			
Functional value perception							0.311***		
Emotional value perception								0.396***	
Social Value Perception									0.367**
R2	0.118	0.085	0.126	0.174	0.072	0.090	0.097	0.157	0.135
F	47.210	32.874	51.075	74.219	27.240	35.089	37.755	65.688	55.062

Note: *** indicates $p < 0.001$ and the VIF value of each model is less than 2

5.2.3. Verification of the relationship between institutional marketing regulation and customers' willingness to participate in value co-creation i.e. the test of the mediating effect of customers' value perception

The paths of H5 are a significant positive effect of platform institutional regulation and platform trust regulation on customers' willingness to participate in value co-creation, respectively. The results of the analysis (Table 4) show that the upper and lower bounds of the direct effect of platform institutional regulation (LLCI=0.022, ULCI=0.228) on willingness to engage in value co-creation do not contain 0, and the direct effect exists. The upper and lower bounds of the direct effect of platform trust regulation (LLCI=-0.011, ULCI=0.198) on willingness to value co-creation both contain 0, and the direct effect is not present. Therefore, H5 is partially supported. Drawing on Zhao et al.'s (2010) test for mediating effects^[22], where the presence of direct effects is not a prerequisite for the existence of mediating effects, H6 and H7 are further tested. If mediating effects exist for H7, they are fully mediated by multiple concurrent mediating variables.

The sub-paths of H6 are functional value perception, emotional value perception, and social value perception mediating between platform institutional regulation and customers' willingness to participate in value co-creation, respectively. The results of the analysis (Table 4) showed that the three mediating variables jointly mediated significantly (LLCI=0.121, ULCI=0.246) with an effect size of 0.180. Therefore, H6 was supported.

The sub-paths of H7 are functional value perception, emotional value perception, and social value perception mediating between platform trust regulation and customers' willingness to participate in value co-creation, respectively. The results of the analysis (Table 4) showed that the three mediating variables jointly mediated significantly (LLCI=0.141, ULCI=0.260) with an effect size of 0.198, and the three mediating variables played a fully mediating role between platform trust regulation and customers' willingness to participate in value co-creation. Therefore, H7 was supported.

Table 4: Mediating effect test of customer value perception

Independent variable	Mediator variables	Dependent variable	Effect	SE value	95% confidence interval	
					LLCI	ULCI
Platform Institutional regulation	Co-mediating effect	Customer willingness to participate in value co-creation	0.180	0.032	0.121	0.246
	H6a functional value perception		0.040	0.019	0.005	0.081
	H6b emotional value perception		0.084	0.023	0.041	0.132
	H6c Social Value Perception		0.056	0.017	0.025	0.094
	H5 direct effect		0.125	0.052	0.022	0.228
Platform trust regulation	Co-mediating effect	Customer willingness to participate in value co-creation	0.198	0.030	0.141	0.260
	H6a functional value perception		0.039	0.016	0.009	0.074
	H6b emotional value perception		0.097	0.026	0.049	0.149
	H6c Social Value Perception		0.062	0.017	0.030	0.098
	H5 direct effect		0.094	0.053	-0.011	0.198

In summary, marketing system regulation, i.e., platform system regulation and platform trust regulation, have significant positive effects on customer value perceptions in three dimensions; customer value perceptions, i.e., functional, emotional, and social value perceptions, have significant positive effects on customer willingness to participate in value co-creation; platform system regulation has a direct effect on customer participation in value co-creation, but platform trust regulation has no direct effect on customer participation in value co-creation; functional, emotional, and social value perceptions play a mediating role in the effects of the two types of marketing system regulation on customer participation in value co-creation.

6. Conclusions and Implications

6.1. Research Conclusion and Discussion

Based on the slippery slope framework theory, this study divided institutional marketing regulation into platform institutional regulation and platform trust regulation; divided customer value perception into functional value perception, emotional value perception, and social value perception; and constructed a theoretical model of "institutional marketing regulation-value perception-value co-creation willingness" based on SOR theory, and The relationship between the three variables was tested empirically. On the one hand, this study explores the application of the slippery slope framework theory to the platform economy and expands the research context of the slippery slope framework theory; on the other hand, it deconstructs and analyzes the influencing factors and formation paths of customers' willingness to co-create value, and initially reveals the influence process of institutional marketing regulation on customers' willingness to co-create value.

Both platform institutional regulation and platform trust regulation have significant positive effects on functional value perception, emotional value perception, and social value perception. Specifically, platform institutional regulation has a greater effect on customers' functional value perceptions compared to platform trust regulation (see M1 and M2 in Table 3). Compared to platform institutional regulation, platform trust regulation has a greater effect on customers' emotional value perceptions and customers' social value perceptions (see M3 and M4; M5 and M6 in Table 3). Platform institutional regulation is more likely to make customers focus on the basic functional utility of the platform, such as the security of platform transactions, and thus more likely to generate functional value perceptions; platform trust regulation focuses on suggesting a trust relationship with customers, which not only facilitates emotional connection and increases the connection between users, but also enables customers to obtain emotional satisfaction and have higher emotional value perceptions and social value perceptions.

Value perception significantly and positively affects willingness to value co-creation, i.e., functional value perception, emotional knowledge, and social value perception all have significant positive effects on willingness to value co-creation. Specifically, among the studies on the effects of the three types of value perceptions on willingness to value co-creation, emotional value perception has the greatest effect on customers' willingness to participate in value co-creation (see M7, M8, and M9 in Table 3). It indicates that emotional connection is more conducive to promoting customers' willingness to participate in activities initiated by the platform or to spontaneously conduct value co-creation activities such as experience evaluation, recommendation use, and improvement feedback.

The direct effect of platform institutional regulation on customers' willingness to participate in value co-creation exists, but the direct effect of platform institutional regulation on the direct effect on customers' willingness to participate in value co-creation does not exist. This finding suggests that institutional regulations initiated by platforms to ensure smooth and safe transactions can enhance consumers' willingness to engage in value co-creation by ensuring the direct rights and interests of users. Some of the institutional regulations themselves are designed to include customer participation, and therefore, platform institutional regulations have a direct effect on customers' willingness to participate in value co-creation. Platform trust regulation has no direct impact on customers' willingness to participate in value co-creation, which means that platform trust regulation cannot directly increase customers' willingness to participate in value co-creation, but requires the value perception of trust relationship with customers to achieve.

Among the mediating effects of the "institutional marketing regulation-value perception-value co-creation willingness" path, the mediating effects of functional, emotional, and social value perceptions between institutional regulation and value co-creation willingness of the platform are all present and significant. Specifically, the mediating effect of emotional value perceptions is more prominent. The

above findings suggest that platform trust regulation does not directly promote value co-creation willingness, but influences the formation of value co-creation willingness through the mediating effect of value perception. Among them, emotional value perception plays the most significant mediating role, indicating that platform trust regulation mainly enhances customers' willingness to co-create value by establishing an emotional connection with customers and making users perceive stronger emotional value.

In conclusion, platform institutional regulation can directly guide or promote customers' willingness to participate in value co-creation by increasing their functional value perceptions; the impact of platform trust regulation on willingness to create value is realized through the mediating role of customers' value perceptions, especially through emotional value perceptions to increase customers' willingness to create value.

6.2. Management Implications

This study explores the impact of marketing institutional regulation on customer participation in value co-creation in a platform economy. From these findings, we can draw some valuable suggestions for platform companies.

For the first time, for institutional regulation-based platforms, platform companies can choose certain mandatory safeguards, feedback regulations, and customer participation regulations in their institutional design to promote direct customer participation in value co-creation activities initiated by the platform company, and can also enhance customers' willingness to co-creating value by communicating the functional value of the platform's institutional regulation. For example, third-party certification can guarantee the transactions of rental platforms and make customers feel the functional value.

Secondly, for trust-regulated platforms, platform companies can focus on the emotional connection with customers in the design of regulation to meet hedonistic and social needs, thus enhancing customers' willingness to participate in value co-creation. For example, the interest groups established by the platform can increase communication and interaction among customers and convey emotional and social values to customers.

In short, platform companies can divide the current marketing system regulation of the platform, and adjust and design the original regulation according to the platform's current market positioning and achievement goals. The platform with institutional regulation should focus on the functional value perception of customers or directly lead customers to participate in value co-creation activities. A platform based on trust regulation should focus on establishing an emotional connection with customers, delivering customer emotions and social values, and realizing long-term value co-creation with trust as the premise.

6.3. Future development tendencies

There are certain limitations and shortcomings in this study. First, the generally high level of education of the survey respondents affects the generalizability of the research findings to some extent. Future research can analyze platforms in more detail according to institutional marketing regulations and examine the differences in personality characteristics of various types of platform customers. Secondly, this study is a study based on platform customers' perception of the value of institutional marketing regulation on platforms, and does not consider the specific identity factors of platform customers, such as transaction supply side or transaction demand side, nor does it further classify the nature of platforms, such as three-party platforms or two-party platforms. In the future, customer identity and platform nature can be defined and incorporated into the framework of this research model to further examine the mechanism of the impact of marketing system regulation on the willingness to co-create value across platforms. Finally, this thesis only studies the influencing factors of value co-creation intention from the perspective of marketing system regulation and does not consider other platform factors that affect value co-creation intention, which can be explored in detail in future studies to further enrich the research findings.

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