

The Influence of Membership Service Value Perception on Consumer Loyalty in E-commerce Live Streaming Platforms

Leyao Cheng, Xinning Liang, Junli Zhang

School of Economics, Zhejiang Gongshang University, Hangzhou, 310018, China

ABSTRACT

E-commerce live streaming platforms typically formulate strategies to attract and retain members for better handling competition and achieving sustainable development. The value perception that consumers obtain from the membership services of e-commerce live streaming platforms also has an impact on their loyalty. To analyze the functional mechanism between the value perception of membership services on e-commerce live streaming platforms and consumer loyalty, this paper constructs a theoretical model of value perception of membership services on e-commerce live streaming platforms (emotional value perception, functional value perception) - psychological contract - consumer loyalty, and introduces degree of involvement as a moderating variable. Empirical analysis was conducted on 435 questionnaire samples. The results indicate that the value perception of membership services on e-commerce live streaming platforms (emotional value perception, functional value perception) has a positive influence on consumer loyalty; the psychological contract plays an intermediary role in the influence of the value perception of membership services on consumer loyalty of e-commerce live streaming platforms; the degree of involvement can amplify or weaken the effect of membership services and ultimately affect the loyalty of consumers.

KEYWORDS

Emotional Value Perception; Functional Value Perception; Psychological Contract; Degree of involvement; Consumer Loyalty

1 Introduction

E-commerce live streaming platforms have attracted a vast number of consumers by virtue of their vivid, interactive and real-time features, becoming multi-functional venues for shopping, entertainment and socializing. The membership services they offer have emerged as a crucial means for maintaining their market position and obtaining differential competitive advantages (Zhou Yongsheng et al., 2021). In light of this, the study on the value perception of membership services in e-commerce live streaming platforms becomes particularly significant. Membership service value perception refers to consumers' cognition of the membership services provided by e-commerce live streaming platforms, which may encompass exclusive discounts, personalized recommendations, exclusive activities, and enhanced user experiences. The perceived value of these services is of paramount importance for whether consumers are willing to become members and whether they will retain their membership status. Nevertheless, the competition in e-commerce live streaming platforms is intense, and merely providing membership services is insufficient to guarantee consumer loyalty. Hence, this research aims to deeply investigate the influence mechanism of membership service value perception in e-commerce live streaming platforms on consumer loyalty, with the purpose of better understanding why some consumers are more inclined to maintain their membership. In this study, we will analyze the direct impact of membership service value perception on consumer loyalty and further explore the mediating and moderating factors. Specifically, this paper constructs a theoretical model of membership service value perception - psychological contract - consumer loyalty in e-commerce live streaming platforms and introduces involvement as a moderating variable. Through in-depth exploration of these issues, this paper hopes to reveal the influence mechanism of membership service value perception on loyalty in e-commerce live streaming platforms and provide more practical suggestions for platform operators on how to enhance member loyalty. This research is not only of considerable reference value for practitioners in the e-commerce live streaming industry but also helps enterprises have a more comprehensive understanding of the nature of consumer behavior and loyalty in the digital era.

2 Literature Review and Research Hypotheses

2.1 Service Value Perception and Consumer Loyalty in E-commerce Live Streaming Platforms

Service value perception refers to the value assessment and experience that consumers generate when enjoying a service or purchasing a product. This concept encompasses emotional value perception and functional value perception, which respectively reflect the emotional and practical aspects of the consumer's experience in the service. Emotional value perception emphasizes the extent to which a service or product fulfills consumers' emotional and affective needs. It not only involves consumers' emotional experiences but also includes emotional responses related to the service or product. These emotions can be positive or negative, depending on consumers' expectations and actual experiences.

Functional value perception pertains to the ability of a service or product to meet consumers' actual needs and goals, focusing on the actual performance and utility of the product or service, and whether they can solve the problems consumers encounter (Li Si and Shen Chaohai, 2022). Service value perception is not merely the simple addition of emotional and functional aspects but rather a comprehensive evaluation process. When evaluating the value of a service or product, consumers typically consider emotional and functional values comprehensively and regard them as part of the overall experience. In the business environment, service value perception is of paramount importance as it directly influences the success of an enterprise and consumer satisfaction. Therefore, understanding, satisfying, and continuously enhancing consumers' perceived service value is a key factor for enterprises to achieve sustainable development.

The perceived value of membership services in e-commerce live streaming platforms can exert a certain degree of influence on consumer loyalty. Analyzed from the perspective of emotional value perception, by offering personalized care, privileged experiences, and social interaction services, memberships of e-commerce live streaming platforms create a deeper emotional connection between consumers and the platform. This emotional value perception not only makes consumers feel the pleasure of being valued and treated uniquely but also strengthens their identification with the brand. As a result, their loyalty to the e-commerce live streaming platform will increase accordingly (He Xiaomei et al., 2023). Analyzed from the functional value aspect, by providing a series of substantive benefits and conveniences to members, membership services not only enhance the shopping experience but also create tangible economic value for consumers. In other words, these direct economic benefits and the advantages brought by shopping convenience make consumers more inclined to choose and maintain a long-term relationship with the platform, thereby consolidating their loyalty to the platform. Based on the above analysis, the following hypotheses are proposed in this paper.

H1: The perceived value of membership services in e-commerce live streaming platforms has a positive impact on consumer loyalty.

H1a: The emotional value perception of membership services in e-commerce live streaming platforms has a positive impact on consumer loyalty.

H1b: The functional value perception of membership services in e-commerce live streaming platforms has a positive impact on consumer loyalty.

2.2 Mediating effect of psychological contract

Psychological contract refers to the informal understanding and consensus on expectations, responsibilities and obligations between individuals and organizations, which covers individuals' expectations for a certain event or situation (She et al., 2022). The psychological contract of member service on e-commerce live streaming platforms refers to an informal agreement between consumers and platforms, reflecting their interaction, trust and expectations. The psychological contract is based on mutual trust and trust, in which members trust the platform to provide high-quality live content, offers and services, while members trusted by the platform will remain loyal. In addition, the psychological contract includes members' expectations for the unique benefits provided by the platform, such as exclusive discounts and customization. The value perception of member services of e-commerce live broadcasting platforms involves consumers' evaluation and experience of member services provided by e-commerce live broadcasting platforms. When the satisfaction obtained by consumers on the platform is high, they are more likely to continue to participate and form a long-term loyalty relationship, which is consistent with the long-term expectations and commitments in the psychological contract. Therefore, psychological contract may be a mediating factor in the impact of member service value perception on consumer loyalty on e-commerce live streaming platforms.

On the one hand, emotional value perception can make members more willing to establish positive emotional connection with the platform. If the membership service of the e-commerce live streaming platform can provide consumers with satisfying emotional experience, consumers are more likely to trust the value of members, and this trust helps to form a positive psychological contract, that is, consumers believe that the membership service will satisfy them emotionally and provide pleasant shopping experience (She et al., 2022). On the other hand, functional value perception focuses on consumers' evaluation of the functions of member services. If an e-commerce livestreaming platform can provide practical and effective functions, such as fast delivery, exclusive discounts or personalized recommendations, members are more likely to believe that the platform has fulfilled their expectations, and this performance helps build trust and enables the realization of psychological contracts. In addition, the establishment of psychological contracts for members of e-commerce live broadcast platforms is of great significance for e-commerce live broadcast platforms to attract members and enhance consumer loyalty. Psychological contracts can enhance brand image. Loyal members not only recognize membership status and value, but also improve economic benefits. Members usually enjoy exclusive rights and are therefore more inclined to buy more products or services. Based on the above analysis, this paper makes the following hypothesis.

H2: Psychological contract plays a mediating role in the impact of member service value perception on consumer

loyalty.

H2a: Psychological contracts play a mediating role in the impact of perceived emotional value of member services on consumer loyalty.

H2b: Psychological contract plays an intermediary role in the impact of member service function value perception on consumer loyalty.

2.3 Moderating effect of involvement

Involvement is a widely used concept in different fields, and it is usually used to describe the degree and depth of involvement of a person, organization or society in an event or situation. In the field of consumption, the degree of involvement is used to describe the degree and depth of consumers' participation in a specific product, brand or market (Hu, 2022). This concept not only helps to understand consumer behavior, but also has important implications for the development of marketing strategies. Firstly, the degree of involvement can be interpreted as the degree of emotional investment and cognitive involvement of consumers in a certain product or brand. Consumers with high involvement are usually enthusiastic about a particular product or brand, have a deep understanding of it, and may spend more time and effort researching and purchasing related products. Second, the degree of involvement can be used to describe the degree of consumer involvement in a certain market or shopping activity. Consumers with high involvement are likely to shop more frequently, actively seek out offers and discounts, and participate in shopping events and promotions. Such consumers may be enthusiastic about the shopping experience, viewing it as an entertainment or social activity. Conversely, consumers with low involvement may be more inclined to shop quickly, focus only on basic needs, and care less about the process and details of shopping. All in all, involvement deepens the emotional bond and actual interaction between consumers and platforms. The higher the degree of involvement is, the member service value perception of e-commerce live broadcast platform will be further amplified, and therefore its impact on consumer loyalty will also be affected.

First, from the perspective of emotional value perception, involvement plays a key role in the membership service of e-commerce live streaming platforms. Emotional value perception refers to consumers' emotional connection to a brand or service, while involvement plays a role in stimulating and strengthening consumers' emotions in this process. In e-commerce live streaming platforms, member services build emotional bonds with consumers by providing unique shopping experience and customized services. The increase in involvement means that consumers are more invested in and involved in the activities of the platform, which makes it easier for them to form emotional dependence on and identification with member services. Second, functional value perception refers to the degree of cognition of consumers on the actual benefits and functions provided by products or services. In the membership service of e-commerce live broadcast platform, the involvement degree enables users to experience the actual benefits brought by membership service more comprehensively by increasing their participation and usage frequency. For example, membership services may include exclusive discounts, free trials, advance experience and other practical benefits, and the improvement of involvement makes users more active to enjoy these benefits, so as to more clearly perceive the functional value of membership services. The increase in involvement may also encourage users to dig deeper into the functions of the platform, understand more practical services, and improve their awareness of the actual benefits of member services. Based on the above analysis, this paper makes the following hypothesis.

H3: Involvement plays a positive moderating role in the impact of member service value perception on consumer loyalty.

H3a: Involvement plays a positive moderating role in the impact of perceived emotional value of member services on consumer loyalty.

H3b: Involvement plays a positive moderating role in the impact of member service function value perception on consumer loyalty.

3 Research design and empirical analysis

3.1 Variable measurement and data sources

The core variables involved in this paper include service value perception (emotional value perception, functional value perception), psychological contract, involvement and consumer loyalty of e-commerce live streaming platform. Among them, the measurement of emotional value perception (PEV) and functional value perception (PFV) refer to the research of Li and Shen (2022), and design three measurement items respectively, including "whether the membership service of e-commerce live broadcasting platform brings experience improvement," "whether it provides unique services," "whether it can save time," and so on. The psychological contract (PC) measurement refers to the scale design of Robinson et al. (1994), and a total of 8 items are designed, including "I believe that members of e-commerce live streaming

platforms will conscientiously implement after-sales service," "I believe that members of e-commerce live streaming platforms will provide preferential product prices," and "I believe that once members make service mistakes, e-commerce live streaming platforms will take the initiative to bear the responsibility." The measurement of involvement degree (DI) refers to the scale design of Zohra and Mather (2019), and four items are designed, including "I think the membership service of this e-commerce live streaming platform is very important to me" and "I think the membership service of this e-commerce live streaming platform is closely related to my life." The measurement of consumer loyalty (CL) refers to the research of Zhang Sen (2021), and five items are designed, including "I will continue to use e-commerce live streaming platform member consumption in the future" and "I will encourage and recommend my family and friends to use e-commerce live streaming platform member services." The control variables are AGE (AGE), occupation (CAR), educational level (EDU) and monthly income (MGR) that have an impact on consumer loyalty. The scale items all use the seven-point Likert scale, and the respondents are consumers with members of e-commerce live streaming platforms. The questionnaire was filled in from January to June 2024, and the online survey was conducted by means of the link sent by the questionnaire star. A total of 500 questionnaires were distributed this time, and 445 were collected.

3.2 Reliability and validity test and correlation analysis

In order to judge the reliability and validity of the questionnaire, this paper uses SPSS 24.0 to test, and the results are shown in Table 1. The results were all in line with the standard. In order to carry out subsequent hypothesis testing, this study conducts correlation analysis on each variable through SPSS 24.0, and the results are shown in Table 2.

Table 1 Reliability and validity analysis

Variables	Number of items	Factor loading	Cronbach's α	CR	AVE
PEV	3	0.668-0.782	0.819	0.812	0.549
PFV	3	0.713-0.757	0.754	0.761	0.531
PC	8	0.645-0.728	0.812	0.813	0.513
CL	5	0.719-0.855	0.888	0.909	0.609
DI	4	0.657-0.839	0.845	0.871	0.532

Table 2 Correlation statistics

Variables	AGE	CAR	EDU	MGR	PEV	PFV	PC	CL	DI
AGE	1								
CAR	0.097	1							
EDU	0.069	0.013	1						
MGR	0.171*	0.739	0.040	1					
PEV	0.081	0.058	0.018	0.168*	1				
PFV	0.142	0.039	0.091*	0.155*	0.414**	1			
PC	0.168	0.131	0.171*	0.213**	0.235**	0.212**	1		
CL	0.125	0.095	0.085*	0.248**	0.298**	0.318**	0.435**	1	
DI	0.201	0.142	0.189**	0.321**	0.215**	0.409**	0.519**	0.503**	1
Average value	1.501	2.401	3.278	2.929	5.503	5.790	5.742	5.665	5.472
Standard deviation	0.513	0.662	1.051	0.942	1.309	1.388	1.013	1.068	0.789

Note: ** is significant at the 0.05 level, * is significant at the 0.1 level, the same below.

3.3 Hypothesis testing

Main effect and mediating effect test. In order to test the hypothesis, this paper uses the hierarchical regression analysis method of SPSS24.0 for hypothesis testing, and the regression analysis results are shown in Table 3. Among them, Models 5 and 6 respectively verify the impact of emotional value perception and functional value perception of member service of e-commerce live streaming platform on consumer loyalty. The results show that both can have a positive impact on consumer loyalty, and the results pass the significance test ($\beta=0.199$, $p < 0.05$; $\beta=0.212$, $p < 0.05$), so H1a and H1b are verified. In addition, to test the mediating effect, the following analysis was conducted. First of all, the regression results of Model 2 and Model 3 show that the emotional value perception and functional value perception of member services of e-commerce live streaming platform can both have a positive impact on the psychological contract, and the results pass the significance test ($\beta=0.148$, $p < 0.05$; $\beta=0.124$, $p < 0.05$). Secondly, Model 7 shows that psychological contract can also have a positive impact on consumer loyalty, and the result passes the significance test ($\beta=0.421$, $p < 0.05$). The above results meet the conditions for conducting the mediating effect test. Therefore, Model 8 includes both emotional value perception and psychological contract. The results show that emotional value perception can still have a positive impact on consumer loyalty, and the result is significant, but the influence coefficient drops from 0.199 to 0.138. It shows that psychological contract plays a partial mediating role in the influence of emotional value perception of member

service on e-commerce live streaming platform on consumer loyalty, and H2a is verified. Model 9 includes both functional value perception and psychological contract, and the results show that functional value perception can still have a positive impact on consumer loyalty, and the result is significant, but the influence coefficient drops from 0.212 to 0.172, indicating that psychological contract plays a partial mediating role in the impact of functional value perception of member service on e-commerce live streaming platform on consumer loyalty. H2b is verified. To sum up, H1 and H2 pass the hypothesis test.

Table 3 Test of main effect and mediating effect

Variables	PC			CL					
	M1	M2	M3	M4	M5	M6	M7	M8	M9
AGR	0.058	0.027	0.016	0.331	0.281	0.251	0.303	0.275	0.258
CAR	0.084	0.058	0.081	0.042	0.011	0.019	0.003	0.016	0.007
EDU	0.179**	0.180**	0.172**	0.113**	0.107**	0.082**	0.027**	0.042**	0.022**
MGR	0.291**	0.217*	0.244**	0.482**	0.401**	0.381**	0.363**	0.309**	0.301**
PEV		0.148**			0.199**			0.138**	
PFV			0.124**			0.212**			0.172**
PC							0.421**	0.382**	0.380**
R ²	0.075	0.112	0.106	0.089	0.142	0.160	0.235	0.198	0.202
ΔR ²	0.077	0.037	0.031	0.089	0.053	0.071	0.127	0.109	0.113
F	4.082**	5.203**	4.375**	5.188**	7.002**	7.677**	12.193**	11.692**	12.545**
ΔF	4.082**	8.207**	5.271**	5.188**	12.987**	16.053**	36.501**	29.978**	31.083**

Moderating effect test. Emotional value perception, functional value perception and involvement are centralized, and regression analysis is carried out after pairwise interaction. The results show that the interaction term of emotional value perception and involvement and the interaction term of functional value perception and involvement both have a significantly positive impact on consumer loyalty.

Table 4 Moderating effect test

Variables	CL			
	Model 10	Model 11	Model 13	Model 14
AGE	0.209	0.225	0.304	0.482
CAR	0.021	0.062	0.161	0.225
EDU	0.209**	0.309**	0.272**	0.453**
MGR	0.128**	0.213**	0.379**	0.361**
PEV	0.181*	0.601**		
PFV			0.428**	0.583**
DI	0.340**	0.628**	0.521**	0.644**
PEV*DI		0.073**		
PFV*DI				0.172**
R ²	0.218	0.327	0.333	0.319
ΔR ²	0.175	0.109	0.115	0.101
F	11.738**	10.809**	13.652**	15.652**
ΔF	20.131**	15.901**	17.560**	21.671**

4 Conclusions and implications

4.1 Research conclusion

This study categorizes member service value perception within e-commerce live streaming platforms into emotional and functional dimensions, examining their influence on consumer loyalty. It further elucidates the intermediary role of psychological contract and the moderating influence of involvement in this context. The findings indicate that members' perception of service value (both emotional and functional) on e-commerce live streaming platforms positively correlates with consumer loyalty. By delivering emotional and functional value, the membership service of these platforms significantly bolsters member satisfaction and loyalty. Additionally, the psychological contract serves as a mediator in the relationship between member service value perception and consumer loyalty on e-commerce live streaming platforms. When consumers derive corresponding emotional and functional value from membership services, their recognition of these services is enhanced, fostering a preference for continued use. Furthermore, involvement acts as a moderator in this relationship, amplifying or attenuating the impact of member service value perception on consumer loyalty. High levels of involvement encourage active participation, experience sharing, and feedback, strengthening emotional investment in the platform and enhancing emotional value perception. Concurrently, high involvement facilitates consumers'

appreciation of the functional advantages of platform services, thereby reinforcing functional value perception.

4.2 Management implications

Improve the value perception level of e-commerce live broadcast platform members. In terms of emotional value perception, platforms can enhance members' emotional engagement by building a strong sense of community and user interaction. Users are encouraged to share their shopping experiences, support each other, and even participate in online activities to foster close bonds between members and cultivate community feelings. In addition, providing privileged experiences, such as exclusive discounts and birthday surprises, can enhance members' sense of being special and make them feel taken care of, thus fostering loyalty. In terms of functional value perception, e-commerce live streaming platforms should continuously improve their core functions, such as optimizing the commodity recommendation algorithm and user experience, to ensure that members can easily find the commodities they are interested in. At the same time, platforms should continuously improve platform performance and loading speed to ensure smooth viewing experience so as to reduce member dissatisfaction.

Establish and maintain the psychological contract of e-commerce live broadcast platform members. First, ensure the authenticity and effectiveness of products and services. The platform should provide true and accurate product information to ensure that the advertised goods are consistent with the reality, so as to eliminate consumers' doubts. Any promotions, discounts and privileges should be clear and without implicit conditions, establishing the basis for consumer trust. Secondly, personalized service is an effective way to enhance psychological contracts. Through data analysis, we understand members' shopping preferences, provide them with personalized recommendations and customized shopping experience, make members feel valued, build a sense of closeness, and deepen their dependence on the platform. Finally, platforms should follow ethical and legal regulations to ensure legal and compliant operations. Respect consumers' privacy rights, abide by commodity quality standards and advertising regulations, show a high degree of business ethics, enhance consumer trust.

Enhance the involvement of e-commerce live broadcast platform members. First, enhance the attractiveness of content. Platforms can attract members by providing attractive content, and by constantly improving content, attract members' attention and increase their viewing time. Second, focus on providing personalized experiences. Using data analytics and artificial intelligence to understand members' interests and shopping preferences and then provide personalized product recommendations and promotions can make members feel that the platform truly understands them and provides valuable information. Third, strengthen interaction and exchanges. During the livestream, members are encouraged to comment, ask questions and participate in the polls so they feel their voices are being heard. At the same time, it responds to members' questions and interactions in a timely manner, establishes an interactive platform atmosphere, and increases members' sense of participation.

Funding

This work was supported by the China National University Student Innovation & Entrepreneurship Development Program "Silver Hair' Worry-Free, Digital Assistance for the Elderly: A Study on the Impact of Short Video App Usage on the Lives of the Elderly-Taking Hangzhou as an Example"(Grant No.202210353044).

References

- [1] Zhou Yongsheng, Tang Shihua, Xiao Jing. Research on consumers' purchase intention on e-commerce live streaming Platform: from the perspective of social presence[J]. Contemporary Economic Management, 2021, 43(1): 40-47.
- [2] Li, C. Shen, C. The impact of member service value perception on consumption willingness of knowledge payment platform: an empirical analysis based on college students[J]. China Publishing, 2022(12): 22-25.
- [3] He X., Xu, B. & Chang, Y. Scene, emotion and product enabling live e-commerce traffic realization mechanism research[J]. Times Economics and Trade, 2023, 20(3): 126-128.
- [4] She S X, Xu H R, Xu D Y. Psychological Contract between consumers and hosts with goods in live streaming marketing: Scale development and its dynamic evolution[J]. Journal of Finance and Economics, 2022(6): 93-102.
- [5] Hu Chuangchuang. E-commerce live broadcasting, Product Involvement and Consumer Decision Making[J]. Business Economics Research, 2022(17): 109-112.
- [6] Robinson S L, Kraatz M S, Rousseau D M. Changing obligations and the psychological contract: a longitudinal study[J]. Academy of Management Journal, 1994, 37(1): 137-152.
- [7] Zohra G, Maher T. The Antecedents of the Consumer Purchase Intention: Sensitivity to Price and Involvement Inorganic Product: Moderating Role of Product Identity[J]. Trends in Food Science & Technology, 2019, 90(1): 175-179.
- [8] Zhang Sen. Research on the Influence of corporate social responsibility on Consumer loyalty[J]. Journal of Henan University (Social Science Edition), 2021, 61(6): 24-32.