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A Model and Empirical Study on the User's Continuance Intention in Online China Brand Communities Based on Customer-Perceived Benefits

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Abstract: Many Chinese companies have recently joined a trend to build their own online brand community, which is good for their corporate strategy and even for innovation, but with a high failure rate due to the low continuance intentions of users. In addition, related research is rare, especially for studies on the relationships between customer-perceived benefits, satisfaction, and the continuance intention of users. The objective of this study was to examine the existing relationships between three constructs: customer-perceived benefits, satisfaction, and user's continuance intention, in the context of Chinese online brand communities from the perspective of the process. An online questionnaire surveyed 153 online brand community users to understand the relationship between customer-perceived benefits, customer satisfaction, and user's continuance intention. The data analysis shows that customer-perceived benefits as an antecedent variable have an important influence on the satisfaction and continuance intention of users. Customer satisfaction as a mediator variable also makes a significant positive impact on the user's continuance intention. At a practical level, the result provides further insight into online brand community operation strategies, and provides managers with new ideas and suggestions for business innovation models.

Keywords: brand community; customer perceived benefits; user's continuance intention; customer satisfaction; expectation confirmation theory

1. Introduction

With the rapid development of the Internet, the popularization of the online payment system, and the change of consumer spending patterns as a result of social changes, the Chinese brand community is entering the 3.0 era. Many successful online brand communities, for example the Millet community and Starbucks, has been using the "brand + product + community" model as an effective way to create profit for the enterprise, which also has significant effect on brand image and consumers' brand loyalty. Thus, more and more enterprises have joined the tide of brand community building. Firms may develop their online branding communities' strategies through relationship marketing by using an online co-creation strategy [1]. Unfortunately, many communities take only a few months from budding to decay. According to incomplete statistics, the average life of today's brand communities does not exceed two years.

The online brand community is a new research field; most studies focus on its definition, properties, forming mechanism and membership [1,2]. As for how to form the user's continuance intention in the brand community, the key factors for the sustainable development of brand community, and the main reasons for online brand community to cultivate brand loyalty, are less involved.

Continuance intention, as the user's decision to continue to use a specific product/service that users have already been using, is different from the user's first-time usage, and is more able to promote the long-term subsistence of a corporation [3–5]. Continued user participation in a community can also promote community activities; namely, the user's activity and their loyalty will be higher [6]. Casalo [7] also suggests that it is crucial to develop successful and sustainable communities through helping new members to acculturate into online communities and enhancing the user's continuance intention. Therefore, how to improve the user's continuance intention becomes an urgent problem to be solved in today's brand community operations.

Bhattacharjee [4,5] proposes an Expectation Confirmation Model (ECM), which predicts users' continuing behavior in an information system to explore the factors affecting brand community user's continuance intentions. In prior studies [3–5], user's continuance intention was mostly analyzed via the ECM, with the finding that the perceived usefulness of consumers has a positive impact on consumer satisfaction and continuance intention. Moreover, the ECM was found to be appropriate even within the e-commerce context [3,8]. Therefore, the ECM is a fairly suitable model for this study.

To address these issues, this paper seeks to construct a new theoretical model and validate it empirically, in order to enhance the understanding of relationships between customer-perceived benefits, satisfaction and user's continuance intention in the context of Chinese online brand communities. First, based on prior studies, a detailed theoretical model of user's continuance intention, including both customer-perceived benefits and satisfaction, is developed. Second, we empirically tap the more specific relationship between them. Hence, the main contributions of this paper are as below: (1) to explain and construct the concept of perceived usefulness; (2) to expand the online brand community and enrich research on ideas for users' willingness to continue to use, which will also allow managers to think about improved business models to increase business and customer value. The remainder of this article is organized as follows. The next part focuses on the framework of the user's continuance intention, and gives a review on the relevant prior studies, and then proposes the assumptions of this paper. Afterwards, we give details on our scale, data, and measures before we present our results. We then use software to analyze the data that we have collected. Finally, we present the implications of the empirical results, and we outline some future research directions.

2. Conceptual Framework and Hypotheses

Brand loyalty, an important part of the development of brand community theory, is a comprehensive, multi-dimensional concept including cognition, attitude, and behavior. Asseel [9] argued that brand loyalty represents a particular brand's preference, which leads to continuous buying behavior. Dick and Basu [10] found that, in addition to emphasizing repeat purchase behavior, brand loyalty must have a strong and sustained attitude toward the brand. Oliver [11] believed that brand loyalty is a strong commitment to buy a preferred product or service again, which promotes repeated purchases of brands, even when buying scenarios and marketing tools may lead to changes in buying behavior. Bodie et al. [12] suggested that engaged consumers exhibit enhanced consumer loyalty, satisfaction, empowerment, connection, emotional bonding, trust, and commitment. Hajli [1] looked at the co-creation of value in the branding process with members of online communities. Thus, user's continuance intention is one of the necessary and external manifestations of customer loyalty, which plays an important role in the formation of brand loyalty. This theory applies equally to the brand community.

From the perspective of the sustainable management of the brand community, the key to the sustainable survival of the brand community is its continuous use by community members. In research on the online brand community, the behavior of brand community users has the characteristics of freedom and diversity. Chen [13] found that social interaction, knowledge quality, and system quality have a positive impact on the user's willingness to continue knowledge exchange, in a study of virtual communities with professional knowledge. Wang [14] found that Facebook user's cognitive and emotional decision-making processes when using the platform will affect their willingness to use,

in a study on Facebook. Lee and Kwon, Lin and Qu [3,15,16] explored the formation and influencing factors of user's continuance intentions in an online community. However, they focused on different perspectives. Lee and Kwon [3] pay attention to affective factors rather than cognitive factors. Lin [15] emphasized the positive effect of perceived sacrifices and the perceived value on the user's willingness to share in a virtual community. Qu [16] explored the influence of the user's experience and personal interest perception. However, these studies focused on the general virtual community. They did not highlight the role of brand building in the virtual community. They also did not notice the intermediate variable of customer satisfaction. Therefore, we propose a more systematic mechanism of "benefits-satisfaction-continuance intention" to construct an extended ECM model. This model applies to the general brand virtual community, and it helps users to form continuous intention and brand loyalty.

2.1. Customer Perceived Benefit and Customer Satisfaction

Nambisan and Baron [17] showed that providing the benefits needed by members is a key element in building a successful brand community, and these benefits are crucial to driving continued engagement in the brand community. Users can perceive different benefits when they participate in, and use an online brand community [17-19]. For a long time, scholars have studied the perceived interests of customers, and have classified the interests of customers from different perspectives; for instance, functional benefits, psychological benefits, hedonic benefits, and social benefits [17], targeted earnings, self-value discovery, maintenance of interpersonal relationships, social status, and entertainment benefits [19], learning benefits and social integrative benefits, personal integrative benefits and hedonic benefits [17], and so on.

However, the focus of these studies on brand community should not be focused on utilitarian interests, but to emphasize the benefits of user engagement and interaction. It should emphasize the emotional improvement of the user's satisfaction, thus forming the user's continuous intention. So this paper attempts to use the "customer perceived benefits", including learning benefits, self-realization, hedonic benefits, and social benefits, to describe the benefits that users expect to obtain when they participate in and use the brand community.

The learning benefits include the information that users can obtain from a community, or use to solve a product problem. At this point, it can be approximated as perceived usefulness. In Davis's technology acceptance model, perceived usefulness was defined as how users perceive the extent to which information systems can improve job performance. In the context of brand community, perceived usefulness can be extended to the degree to which users perceive the usefulness of a brand in order to satisfy its own needs. For example, through the brand community, users can more easily obtain information about the brand, without having to spend a lot of time and cost to find information about the brand. If a community can effectively solve the user's problems, customers will save their time and energy, thereby enhancing their satisfaction. Therefore, customer-perceived learning benefits in online brand communities have a positive impact on customer satisfaction.

Self-realization is that members gain self-respect and realize their own self-worth by sharing relevant product information and personal experiences in the community, or by helping other members. According to Maslow's hierarchy of needs, users can gain social needs, respect for needs, and self-actualization needs from social networking sites. Sometimes, using brand communities by users can increase their confidence in the ability to contribute knowledge, and this can bring satisfaction and awareness of self-efficacy. Gardner and Pierce [20] considered self-efficacy as the extent to which community members contribute to the community through individual knowledge-sharing behaviors. It can enhance their personal sense of honor, achievement, and impact. At the same time, community identity and authority represent the user's influence and their right to use resources, which can stimulate the user's continued use of the brand community, through self-actualization. For example, some bloggers share their experience in the brand community and offer practical advice for other people to buy goods, which can achieve the benefits of self-actualization. In general, users are respected

by guiding other users through their own knowledge and community experience, thereby increasing customer satisfaction with the community. Self-realization is the highest level in Maslow's demand theory; it can help to improve customer satisfaction. In other words, customer-perceived self-realization benefits in online brand communities have a positive impact on customer satisfaction.

Hedonic benefits, involves members receiving better entertainment experiences, and they engage in online communities with ease and pleasure. Martocchio and Webster [21] believed that the higher an individual's recreational attributes, the higher the enthusiasm and performance within an activity. For example, online communities are designed to enrich the use of communities with incentives, to let users perceive the incentive mechanism to bring higher entertainment value, and then promote users to be more willing to use them and encourage interactive participation. As a result, users' stickiness and activities are enhanced. Generally speaking, engaging and using online brand communities easily increases the user's experience of an entertainment experience in the community, thereby increasing customer satisfaction with the community. Therefore, customer-perceived hedonic benefits in online brand communities have a positive impact on customer satisfaction.

Social benefits refers to the establishment of good interpersonal relationships, and the expansion of social network communities, so that community members gain a sense of belonging and social identity. Social identity theory, proposed by Tajfel and Turner [22], argued that people define self-concepts by maintaining relationships with social groups or organizations. In the context of brand community, community members celebrate the virtues of their beloved brands, and help other brand identities by participating in collective activities. This not only promotes the interaction among the members of the community, but also strengthens the mutual influence and cooperation between them. It also strengthens the brand identity of the members of the community. For example, many communities are divided into different circles; users with similar interests tend to participate in specific circles to get social benefits. When an online community activity is high, it results in the generation of many comments. These users' comments, even negative comments, and subsequent responses, are an important information source for potential customers [23]. The establishment of good interpersonal relationships among community members will enable members to have a sense of belonging and social identity, thereby enhancing customer satisfaction with the community. Thus, customer-perceived social benefits in online brand communities have a positive impact on customer satisfaction. To sum up, we propose these hypotheses:

H1a: *Customer-perceived learning benefits in online brand communities has a positive impact on customer satisfaction.*

H1b: *Customer-perceived self-realization benefits in online brand communities has a positive impact on customer satisfaction.*

H1c: *Customer-perceived hedonic benefits in online brand communities has a positive impact on customer satisfaction.*

H1d: *Customer-perceived social benefits in online brand communities has a positive impact on customer satisfaction.*

2.2. Customer Perceived Benefit and User's Continuance Intention

Based on the theory of social exchange, users continue to gain certain benefits or value in a brand community, which will maintain the continuous willingness of users in the brand community. Qu [16] proposed that the user's experience and perception of personal interests will significantly affect the continuance intention and behavior of the community, from a study of a non-transactional virtual community.

Users often improve their community sensitivity after solving problems in the community, and are more willing to help the community. This means that after the emergence of similar problems, they can once again participate in the community through solving these problems. Thus, customer-perceived

learning benefits in online brand communities have a positive impact on the user's continuance intention. When users provide advice and respect others through their own knowledge and experience, users tend to establish a sense of belonging to the community. Therefore, customer-perceived self-realization benefits in online brand communities have a positive impact on the user's continuance intention. Users engage in community interactions because they want to be recognized in the community and to find a sense of belonging in the community. When this sense of belonging arises, users tend to enter the community to form their own circle, and they continue to engage in interaction. Thus, customer-perceived social benefits in online brand communities have a positive impact on the user's continuance intention. Based on this,

H2a: *Customer-perceived learning benefits in online brand communities has a positive impact on user's continuance intention.*

H2b: *Customer-perceived self-realization benefits in online brand communities has a positive impact on user's continuance intention.*

H2c: *Customer-perceived hedonic benefits in online brand communities has a positive impact on user's continuance intention.*

H2d: *Customer-perceived social benefits in online brand communities has a positive impact on user's continuance intention.*

2.3. Customer Satisfaction and the User's Continuance Intention

The users' satisfaction is the key factor that influences the users' continuance intention, based on the expectation confirmation model in information system (ECM-IS). Whether brand community can provide users with satisfactory perceived benefits, it will affect the user's continuing intention of the brand community [24,25].

The experience gained by users in using the community, the effectiveness of solving the problem, or their perception of the sense of belonging in the community, all increase the user's satisfaction with the community, and thus establish the user's loyalty and trust to the community. As a result, users tend to join communities and gather community information, and then interact frequently in the community. On the one hand, they can continue to experience this wonderful experience. On the other hand, it reduces the time and energy costs of finding alternative communities. Therefore, the customer satisfaction in an online brand community has a positive impact on the user's continuance intention. Therefore, the following hypotheses are offered.

H3: *The customer satisfaction in an online brand community has a positive impact on the user's continuance intention.*

2.4. Mediation Effects

Finally, based on the ECM proposed by Bhattacharjee (2001), we built a new model by adding the technology acceptance model (TAM) and mediation effects. We formulate the following hypotheses:

H4a: *Satisfaction mediates the relationship between learning and continuance intention.*

H4b: *Satisfaction mediates the relationship between self-realization and continuance intention.*

H4c: *Satisfaction mediates the relationship between hedonic and continuance intention.*

H4d: *Satisfaction mediates the relationship between social and continuance intention.*

3. Research Method

In order to investigate the proposed relationships within our research model, same as [26], we developed a web-based questionnaire. Data were collected through questionnaires, which contained questions on the specific circumstances of the respondents’ use/participation in the brand community, the measurement of relevant variables, and the basic situation of the respondents, by using single questions and matrix scales. The related variable items are shown in Table 1.

Due to the particularity of the online brand community—attached to popular social networking platforms (including Weibo, WeChat, QQ Group, etc.), the issuance and recycling of questionnaires was based on the sojump platform and popular social media. The survey chose to investigate some prominent brand communities in China such as the Millet Community, Luogic Show, and Starbucks, which not only sell their products and services to community users, but also enhance their reliance on brands, and form a strong fan effect, as a model of Chinese online brand communities. Although all the online brand communities mentioned in the questionnaire are successful, their user age is concentrated on young people. Considering the recyclability of the questionnaire and the main age groups of online brand community users, the main research object of this paper are college students and white-collar users within five years of graduation. The questionnaire was published in 20 April 2017 and was collected on 26 April 2017, which lasted seven days and finally collected 153 valid questionnaires. All items in the questionnaire required an answer, and all the data obtained were original, with no missing values, which ensured the validity of the questionnaire. (The formal questionnaire is shown in Appendix A.)

At the same time, the number of related variables items in the questionnaires was 20, which was in accordance with the requirements of structural equation modeling and the empirical study, where the ratio of the measured items to the number of respondents was between 1:5 and 1:10.

In this paper, we used SPSS and AOMS to analyze the data. As for the reasons, (1) these two software packages are the common choice when analyzing data; (2) SPSS is easy to use for descriptive statistical analysis and correlation analysis; (3) AOMS is also widely used to do structural equation modeling (SEM). Data analysis includes the descriptive statistics, reliability, and validity analysis, correlation analysis, and verification of the structural equation model. The Pearson analysis method in SPSS software was used to analyze the correlation variables, and the structural equation model and research hypothesis were validated by the AOMS statistical software. The relationship between each variable was analyzed, and the analysis results were summarized.

Table 1. Items of relevant variables.

Variables	Items	References
Learning benefits	Q4: When I use this community, I can get the product information and the latest brand trends	[27,28]
	Q5: I can get information from the community to solve the problems of the product	
	Q6: I would like to share my personal experience or product experience in the community	
Self-realization benefits	Q7: Talking, commenting, or sharing in the community gives me more attention and recognition	[29–31]
	Q8: Effective advice on products or services, or frequent positive feedback, will make me feel important in the community	
	Q9: I would like to share my experiences or opinions in the community to help other members, which makes me get their respect	
Hedonic benefits	Q10: It makes me feel good to use this community, or makes me feel relaxed and happy	[32,33]
	Q11: I would like to spend my leisure time participating/using the community	
	Q12: The services or activities offered in the community give me a good experience	

Table 1. Cont.

Variables	Items	References
Social benefits	Q13: When I use the community, I communicate well with other members and build good relationships	[32]
	Q14: I identify with most of the members in the community, and interacting with them makes me feel a sense of belonging	
	Q15: I would like to interact with other members of the community and become friends with them	
Customer satisfaction	Q16: I am satisfied with the information or services provided by the community	[4,34]
	Q17: The community can meet my expectations of the brand or product	
	Q18: I think it wise to choose to use/join this community	
User’s continuance intention	Q19: I will continue to use the community to gain information or share experiences in the future	[4,13,31]
	Q20: I will basically maintain the frequency of using the community	
	Q21: I would like to continue to make suggestions for the community	
	Q22: I would like to continue to participate in the new activities held in the community	
	Q23: I’m not going to quit this community for the time being	

4. Analysis

4.1. Descriptive Statistical Analysis

First of all, we conducted a statistical analysis of the sample demographics and brand community usage. Table 2 shows the sample characteristics of this study.

Table 2. Demographic statistics and the usage of the brand community (N = 153).

Features	Percentage	Features	Percentage	
Gender	Male	Average educational level	Undergraduate	
	Female		—	
	Total		100%	
Average age	22	Average monthly community frequency	every day	
Time to join or to use the brand community	0–3 months		39.87%	3–4 times a week
	3–6 months		19.61%	Once a week
	6–12 months		13.73%	Once or less per month
	More than 12 months		26.80%	Total
	Total	100%	100%	
Average use of brand community time each time	Total	0–30 min	32.68%	
		30 min–1 h	47.71%	

The main characteristics were as follows: (1) the proportion of men and women involved in the survey was relatively balanced; (2) young people in this survey accounted for the vast majority of respondents; (3) more respondents had higher education levels; (4) the survey mainly focused on students and white-collar workers.

As can be seen from the statistical results, the respondents’ usage times to participate in or use online brand communities were roughly the same. A total of 39.87% of respondents had joined widely-used brand communities of China within three months, but more than half of them did not usually stay in these communities for more than half a year. China’s brand communities, as a new thing, are being accepted by more and more people. In the past few years, many people have joined various communities, indicating that the brand community is in a phase of rapid growth and activity. The statistical results showed that members of the community used social intercourse at this stage with relatively high frequency, and the use time mainly lay within one hour. Since the majority of online

brand community users were concentrated in young people, in this survey, we selected a successful online brand community that was inherently representative of China, and a small amount (3.92%) of the data belonged to the age but not the mainstream users (less than 18 years old or older than 35 years old).

4.2. Reliability Analysis

The reliability analysis was mainly used to test the consistency and stability of the result. In this paper, the internal consistency of each variable in the questionnaire was tested by Cronbach’s α . The result (as shown in Table 3) shows that the Cronbach’s α for each subscale was 0.7 or higher, and the Cronbach’s α of the whole scale was higher than 0.8, suggesting that research scales had good credibility, and the questionnaire had a good internal consistency and met the needs for further analysis.

Table 3. Reliability test of related variables.

Variables	Items	Number	α Coefficient of the Subscale	α Coefficient of the Whole Scale
Customer-perceived benefits	Learning benefits	Q4	0.838	0.894
		Q5		
		Q6		
	Self-realization benefits	Q7	0.826	
Q8				
Q9				
Hedonic benefits	Q10	0.810	0.936	
	Q11			
	Q12			
Social benefits	Q13	0.794		
	Q14			
	Q15			
Customer satisfaction	3	Q16	0.824	
		Q17		
		Q18		
User’s continuance intention	5	Q19	0.843	
		Q20		
		Q21		
		Q22		
		Q23		

4.3. Validity Analysis

After analyzing the reliability of the sample, the validity of the sample was further tested, that is, for whether the questionnaire could effectively reflect the objective reality. A validity analysis is usually checked by convergent validity and discriminant validity.

(1) Convergent Validity

Convergence validity refers to the similarity of measurement results when using different measurement methods to measure the same feature. This paper used AMOS 22.0 statistical software for confirmatory factor analysis. Table 4 indicates that latent variables of the standardized factor loading in the model were between 0.659–0.85, all exceeding 0.5; the values of all composite reliabilities were higher than 0.75, and all average variances extracted (AVE) were higher than 0.5, indicating that each latent variable had good convergent validity.

(2) Discriminant Validity

The discriminant validity is used to show the degree of difference between latent variables. In this paper, we used the Heterotrait-monotrait (HTMT) criterion, a new criterion for assessing discriminant validity in variance-based structural equation modeling, to assess the discriminant validity of the model. It can be seen from Table 5 that the correlation coefficient between the variables was good.

Table 4. Convergent validity test of the related variables.

Latent Variables	Observed Variable	Standardized Factor Loading	Estimate	Standard Error	Critical Ratio.	<i>p</i>	Composite Reliability	Average Variance Extracted
Learning benefits	Q4	0.814	1					
	Q5	0.789	0.895	0.12	7.427	***	0.8391	0.6348
	Q6	0.787	0.896	0.119	7.531	***		
Q7	0.85	1						
Self-realization benefits	Q8	0.789	0.89	0.106	8.421	***	0.8304	0.6211
	Q9	0.72	0.822	0.118	6.996	***		
	Q10	0.784	1					
Hedonic benefits	Q11	0.703	0.984	0.138	7.105	***	0.819	0.6026
	Q12	0.836	0.99	0.115	8.606	***		
	Q13	0.659	1					
Social benefits	Q14	0.823	1.235	0.2	6.184	***	0.7858	0.5521
	Q15	0.738	1.192	0.194	6.156	***		
	Q16	0.824	1					
Customer satisfaction	Q17	0.665	0.74	0.106	6.998	***	0.8212	0.6073
	Q18	0.837	1.009	0.107	9.471	***		
	Q19	0.752	1					
User’s continuance intention	Q20	0.678	0.9	0.14	6.441	***	0.8463	0.5255
	Q21	0.794	1.156	0.154	7.525	***		
	Q22	0.75	1.029	0.145	7.103	***		
	Q23	0.64	0.896	0.148	6.031	***		

Note: *** indicates *p* < 0.0001.

Table 5. Discriminant validity text.

	Customer Satisfaction	Hedonic Benefits	Learning Benefits	Self-Realization Benefits	Social Benefits	User’s Continuance Intention
Customer satisfaction						
Hedonic benefits	0.861					
Learning benefits	0.717	0.649				
Self-realization benefits	0.393	0.729	0.641			
Social benefits	0.708	0.883	0.701	0.588		
User’s continuance intention	0.909	0.851	0.736	0.629	0.753	

(3) Common Method Bias Test

Since the variables measured in the questionnaire were psychological variables, which cannot be directly observed, in the course of our research, we could not exercise adequate procedural controls on them, which could lead to a common methodological bias (CMB). This article verified the existence of the common method bias by controlling for the effects of an unmeasured latent method factor [35].

First, all the items were assigned to their respective measured latent variables, and a confirmatory factor (CFA) analysis was performed. The result is called Model 1. Then, we added a latent variable (“method factor”) to the model and assigned all of the items to it for CFA analysis. The result was called Model 2. If Model 2 has significant improvement over Model 1 in terms of fitting, there is a significant common method bias. Otherwise, the common method bias has little effect on the result. The result is shown in Table 6.

Comparing the fitting index of two models, the change of Chi-square ($\Delta\chi^2 = 28.971$) was relatively larger than other indexes. Due to the Chi-square being affected by the size of the sample, it was necessary to make a comprehensive comparison of other indexes. For example,

with NFI ($\Delta\text{NFI} = 0.03$), the improvement/change of other indicators were within 0.02 ($\Delta\text{RMSEA} = 0$; $\Delta\text{CFI} = 0.012$; $\Delta\text{IFI} = 0.013$). This shows that, there was no significant improvement in the fit of Model 2 compared to Model 1 [36]. In short, the common method in this study was not significantly biased and did not affect the reliability of the findings.

Table 6. Common method bias test results.

MODEL	χ^2	df	χ^2/df	RMSEA	NFI	CFI	IFI
Model 1	225.085	155	1.452	0.071	0.765	0.909	0.913
Model 2	196.514	136	1.445	0.071	0.795	0.921	0.926
Difference	28.571	19	0.007	0	0.03	0.012	0.013

Note: df = degree of freedom; RMSEA = Root mean square error of approximation; NFI = Normalized fit index; CFI = Comparative-fit index; IFI = Incremental fit index.

(4) Goodness of Fit Analysis

In order to improve the fitting degree of the model, this paper used AMOS to build a quantitative model for confirmatory factor analysis. The results is shown in Table 7. The fit indices of the model were tested according to the standard proposed by [37].

There are 20 questions in the questionnaire, and we identified six factors. Each factor load was greater than 0.4, and the total variance of the six dimensions is 70.920%. Therefore, it shows that all the structural variables of the scale had high internal correlations, and then we tested the content validity of the questionnaire.

The model fitting degree was tested according to the model fitting index, and then the modification indices (MI) was used to adjust the model. The result of the index adaptation is shown in Table 8. The goodness-of-fit index (GFI) was just acceptable, and other fitness indicators met the standard, indicating that the research model adapted well and could carry out the next path analysis.

Table 7. Factor load case.

Items	Factor Load	Items	Factor Load
Q4	0.560	Q14	0.656
Q5	0.638	Q15	0.713
Q6	0.621	Q16	0.768
Q7	0.567	Q17	0.604
Q8	0.584	Q18	0.729
Q9	0.542	Q19	0.697
Q10	0.697	Q20	0.762
Q11	0.569	Q21	0.693
Q12	0.678	Q22	0.707
Q13	0.491	Q23	0.776

Table 8. Model adaptation index (confirmatory factor analysis).

MODEL	χ^2/df	GFI	CFI	RMSEA	IFI
Adaptation standard	<3	>0.9, [0.7, 0.9)	>0.9	<0.08	>0.9
Detection result	1.402	0.820	0.920	0.067	0.924
Adaptation judgment	YES	ACCEPTABLE	YES	YES	YES

4.4. Correlation Analysis

In SPSS20.0 software, we used a Pearson analysis to analyze the correlation. Customer-perceived benefits including learning benefits, self-realization benefits, hedonic benefits, and social benefits and customer satisfaction were independent variables, and the user’s continuance intention was a dependent variable. The result is shown in Table 9. Learning benefits, self-realization benefits, hedonic

benefits, social benefits, customer satisfaction, and user’s continuance intention were significantly correlated at the level of 0.01 (two-sided). Customer-perceived benefits, including four types of benefits, which can be seen from the table, showed that there was not much difference in the correlation coefficient between the two benefits; however, the correlation between the social benefits and hedonic benefits was the strongest. Although, all four customer-perceived benefits had a significant relationship with customer satisfaction, which was easy to understand, i.e., when the perceived benefits of the user are realized, the gap between the user’s expectations and the actual perception will become smaller and smaller, thus increasing customer satisfaction. However, the correlation between self-realization benefits and customer satisfaction are the lowest, despite the correlation coefficient being significant. One possible explanation is that as users become more self-fulfilled, they will have a positive impact on customer satisfaction, but will have higher requirements for the products or services that they use, which may lead to the correlation between them being not as strong as the others. Customer satisfaction and user’s continuance intention has strongest relationship in these table; as we all know, the higher the customer satisfaction, the stronger the willingness of users to continue to use. Thus, the relationship between all four customer-perceived benefits and the user’s continuance intention was similar to the relationship between customer-perceived benefits and customer satisfaction, besides, the coefficient of relationship between self-realization benefits and user’s continuance intention was higher than coefficient between self-realization benefits and customer satisfaction. Then, we used structural equation modeling to further analyze the causal relationship between the variables.

Table 9. Results of the Pearson correlation analysis of each variable.

	Learning Benefits	Self-Realization Benefits	Hedonic Benefits	Social Benefits	Customer Satisfaction	User’s Continuance Intention
Learning benefits	1	0.426 **	0.462 **	0.492 **	0.514 **	0.547 **
Self-realization benefits	0.426 **	1	0.518 **	0.429 **	0.283 **	0.492 **
Hedonic benefits	0.462 **	0.518 **	1	0.632 **	0.631 **	0.652 **
Social benefits	0.492 **	0.429 **	0.632 **	1	0.542 **	0.599 **
Customer satisfaction	0.514 **	0.283 **	0.631 **	0.542 **	1	0.822 **
User’s continuance intention	0.547 **	0.492 **	0.652 **	0.599 **	0.822 **	1

Note: ** indicates a significant correlation level of 0.01 (two-sided).

4.5. Model Hypothesis Test

(1) Whole Model Checking

Using AMOS software to validate the structure model, we observed and improved the model fitting degree through the fitting index of the initial analysis results. The analysis of all results was performed at 95% confidence intervals. The model was revised three times according to the MI correction index. The fitting index of the model was changed from Table 10 to Table 11. The model was tested according to the criteria proposed by Ming Long (2012), the overall model validation results were acceptable, and the model fitting degree was improved. Therefore, we can further conduct path analysis.

Table 10. Model adaptation index before correction.

MODEL	CMIN/DF	GFI	CFI	RMSEA	IFI
Adaptation standard	<3	>0.9, [0.7, 0.9)	>0.9	<0.08	>0.9
Detection result	1.658	0.813	0.906	0.084	0.909
Adaptation judgment	YES	ACCEPTABLE	YES	NO	YES

Table 11. Model adaptation index after correction.

MODEL	CMIN/DF	GFI	CFI	RMSEA	IFI
Adaptation standard	<3	>0.9, [0.7, 0.9)	>0.9	<0.08	>0.9
Detection result	1.493	0.826	0.937	0.073	0.931
Adaptation judgment	YES	ACCEPTABLE	YES	YES	YES

The result of the path analysis is shown in Table 12, suggesting that: self-realization benefits and social benefits have no significant effect on customer satisfaction; self-actualization has no significant effect on user’s continuous intention; but the other six hypotheses were verified, and among them, hedonic benefit and customer satisfaction had the greatest impact on the user’s continuing intentions.

Table 12. Model structural equation test results.

Hypothesis	Hypothetical Path	S (β)	p	Conclusion
H1a	customer satisfaction ← learning benefits	0.283	**	Support
H1b	customer satisfaction ← self-realization benefits	-0.156	0.1	Reject
H1c	customer satisfaction ← hedonic benefits	0.501	***	Support
H1d	customer satisfaction ← social benefits	0.174	0.1	Reject
H2a	user’s continuance intention ← learning benefits	0.256	**	Support
H2b	user’s continuance intention ← self-realization benefits	0.123	0.172	Reject
H2c	user’s continuance intention ← hedonic benefits	0.391	***	Support
H2d	user’s continuance intention ← social benefits	0.226	*	Support
H3	user’s continuance intention ← customer satisfaction	0.822	***	Support

Note: * indicates $p < 0.005$, ** indicates $p < 0.001$, *** indicates $p < 0.0001$, S indicates standardized path coefficient.

According to the above analysis, the final test result of the structure model is shown in Figure 1, in which the solid line shows the valid path and the dotted line indicates the path that is not supported.

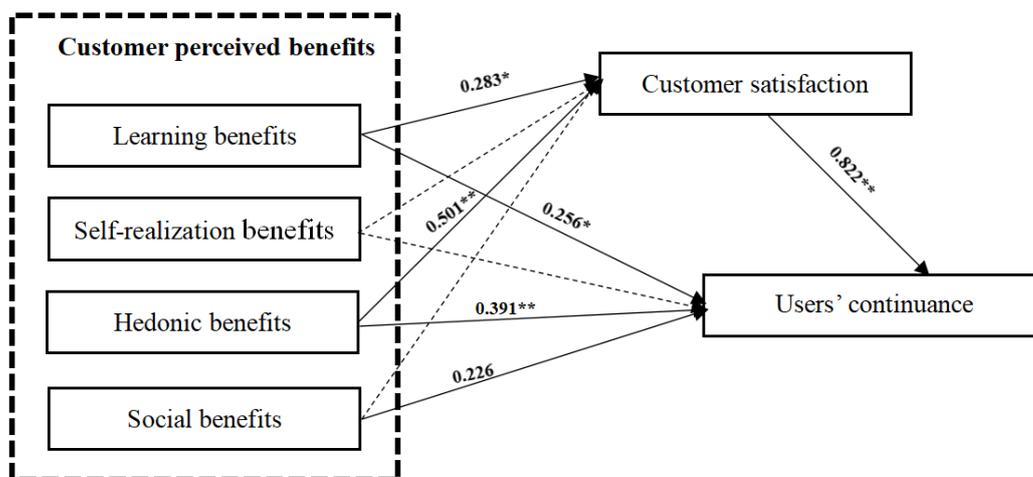


Figure 1. Model validation results. Note: The solid line indicates an established path, and the dotted line indicates a path that is not established. * indicates $p < 0.005$, ** indicates $p < 0.001$.

(2) Mediation analysis

This study uses the bootstrap method proposed by Preacher and Hayes (2004) [38] for the mediation analysis. First of all, we aggregated customer-perceived benefits variables, which is the weighted average of four first-order variables (learning benefits, self-realization benefits, hedonic benefits, and social benefits) (0.25 each). The analysis result is shown in Table 13.

When the sample size is 5000 and the confidence interval is 95%, the results do not include 0 (Lower limit of confidence interval (LLCI) = 0.2505, Upper limit of confidence interval (ULCI) = 0.5708) and $p < 0.001$, indicating that the mediating effect of M (customer satisfaction) was significant, and the mediating effect was 0.4106. After controlling the mediator variable M, the effect of the independent variable X (customer perceived benefits) on the dependent variable Y (user’s continuance intention) was also significant. The interval (LLCI = 0.3299, ULCI = 0.5778) did not contain 0 and $p < 0.001$. In addition, the coefficients of the direct effects and indirect effects were positive. The effect size was 70.67%. Thus, customer satisfaction plays a mediating role in the effects of customer-perceived benefits on the user’s continuance intention, and customer satisfaction is a complementary mediation under a 95% confidence interval.

Table 13. Direct and indirect effects.

	Coefficients	S.E.	LLCT	ULCT	P	Detection Result
Customer satisfaction←customer perceived benefits	0.7251	0.0966	0.5331	0.9172	***	Significant positive correlation
User’s continuance intention←customer satisfaction and customer perceived benefits	0.6095 0.4106	0.0694 0.0806	0.4716 0.2505	0.7474 0.5708	*** ***	Significant positive correlation
Direct effect of X on Y	0.4106	0.0806	0.2505	0.5708	***	Significant positive correlation
Indirect effect of X on Y	0.4420	0.0622	0.3299	0.5778	***	Significant positive correlation

Note: Direct effect of X on Y indicates the direct influence of the independent variable on the dependent variable after controlling for the mediator; the indirect effect of X on Y indicates a mediation pathway. *** indicates $p < 0.0001$.

5. Discussion

In the hypotheses that four dimensions of the customer-perceived benefits have a positive effect on customer satisfaction, customer-perceived learning benefits and hedonic benefits in online brand community have a positive impact on customer satisfaction ($\beta = 0.238, p < 0.001$; $\beta = 0.501 < 0.001$ respectively) as shown in Table 11. However, self-realization benefits and social benefits are insignificant ($\beta = -0.156, p > 0.005$; $\beta = 0.174, p > 0.005$ respectively). As some researchers, e.g., [29,39], show that users’ perceived benefits will enhance after using or joining in an online brand communities, which can have an influence on users’ behavior with regard to using the community; namely, the perceived benefits can guide users to participate in the community more frequently, and also enhance customer satisfaction. Our results also shows the same relationship; however, the relationship between self-realization benefits/social benefits and customer satisfaction in our study is not significant. The possible reasons are that with the realization of self-realization benefits/social benefits, the requirements of the users will become higher, resulting in a lack of satisfaction with the relationship.

In the hypothesis of the influence of customer perceived benefits on user’s continuance intention, learning interests, hedonic benefits, and social benefits all have positive influences on the user’s continuance intention ($\beta = 0.256, p < 0.001$; $\beta = 0.391, p < 0.0001$; $\beta = 0.226, p < 0.005$ respectively). Also, the hedonic benefits have the most significant impact on the user’s continuance intention, while self-realization benefits have an insignificant impact ($\beta = 0.123, p > 0.005$). As with [40], there is a positive relationship between the perceived benefits and the willingness of users to continue to use. However, the relationship between self-realization benefits and the user’s continuance intention is not to a find significant impact, which may be that with the realization of self-worth benefits, users may seek new methods or new communities to pursue new or higher benefits. Rigid demand (gaining information) and interaction with other members in the community can improve the user’s perceived

performance and increase their willingness to continue in using a branded community. Most users focus on individual activities, and there is a lack of regular organization of activities within the community, which makes the user's perceived benefits homogeneous. The brand community should pay attention to improve user stickiness.

In the significant condition of $p < 0.001$, the standardized path coefficient (β) of customer satisfaction to the user's continuance intention is 0.822, which has a very significant positive effect. In the use of the brand community, users will decide to continue with using the brand community because of their high level of satisfaction. In addition, the nature of online products/services makes entry barriers lower. If a service is created, some of the alternative online services will follow closely, and the user may switch to another online brand or social platform [41]. Thus, there is no doubt that customer satisfaction has a significant impact on the user's continuance intention.

The result of the mediation analysis shows that the degree of significance and relevance of the customer perceived benefit (X) to the user's continuance intention (Y) will change after controlling for the mediator variable of the customer satisfaction (M). As Bhattacharjee (2001) [4] and other studies [37] show that user satisfaction has a mediating effect on users' willingness to continue to use. In the process of using a brand community, perceiving different benefits will affect customer satisfaction and then affect the user's continuance intention. Therefore, customer satisfaction plays a complementary intermediary role in the model. Our results support the hypothesis expectations for H1b, H1d, H2b, H4a, and H4d.

6. Conclusions

The key motivation of this study is to examine whether customer-perceived benefits and customer satisfaction enhance the user's continuance intention in an online brand community, by proposing an extended ECM, based on ECM and customer perceived benefits. The findings indicate that the learning benefits and hedonic benefits in an online brand community have a positive impact on the customer satisfaction and user's continuance intention; social benefit has a positive influence on the user's continuance intention, but does not significantly influence customer satisfaction; self-realization benefits neither influence customer satisfaction nor user's continuance intention, and customer satisfaction plays an intermediary role between customer-perceived benefits and the user's continuance intention. Our research summarizes the current development of online brand communities in China, and provides insights into the continuing use intentions by users of online brand communities, and suggests what should be done to support user's continuance intention.

6.1. Theoretical Implications

Previous studies did not systematically analyze the how to improve the user's continuance intention in an online brand community, which has become a major issue in the operation of today's brand communities. This study fills the gap by introducing customer perceived benefits into ECM [4,5]. From the perspective of customer-perceived benefits, this paper explores research fields and the factors that influence the formation of continuance intention in brand community users, which support brand managers in developing more advanced positioning strategies.

In addition, after analyzing the behavioral characteristics of users in online brand communities, such as acquisition, leisure, sharing, and interaction, this paper chooses customer-perceived benefits as the antecedent variable. The traditional ECM was revised and extended to establish a continuous intention model for users in the online brand community. This also extended existing research variables that are relevant to the user's continuance intention model, such as perceived playfulness [42], perceived identity verification [43], and post-adoption expectation [44], which enrich the user's continuous intention in the research methods.

Affective factors (e.g., perceived enjoyment) on the user's continuance intention model have more significant effects than cognitive factors (e.g., perceived usefulness). However, many studies on ECM only consider cognitive factors [3]. In this paper, the classification of customer-perceived benefits

(learning benefits, self-realization benefits, hedonic benefits and social benefits) includes both affective factors and cognitive factors.

This study provides a reference for future research in this area, and in particular, the study of continuance intention in an online brand community.

6.2. Managerial Implications

Although are studies that show that management can cultivate a community of loyal program members through the recognition of self-image congruence and its relationship with communication style [45], our study shows that businesses must pay more attention to the learning benefits and hedonic benefits of users in the online brand community because they have a positive impact on customer satisfaction and user's continuance intention. For example, the brand community should actively organize different types of activities and establish more learning and entertainment platforms for users. Due to the characteristics of the current brand community (younger users, shorter joining times, lack of a rich and interesting interaction mechanism) and data analysis results, self-realization benefits do not affect customer satisfaction nor user's continuance intention in the online brand community. However, self-realization benefits and social benefits are the key factors to have an active community. As a result, enterprises should organize different types of online activities that increase the chance of community members interacting, which means allowing users to evolve an interactive habit that increases customer-perceived interests, and enhances their satisfaction with the brand community in use, ultimately improving the user's continuance intention. At the same time, users participate in rich brand community activities for a better entertainment experience, thereby increasing customer-perceived hedonic benefits. In addition, this will have a direct impact on how long a user uses the branded community and has a positive impact on the user's continuance intention.

In addition, our results may give managers ideas for improved innovative business models that will bring new experiences and value to companies and customers. As we all know, with the rapid development of China's economy and the process of internationalization, the innovation concepts and marketing models that are closer to consumers are becoming more and more valued by scholars and managers, compared with the traditional production and sales models. The establishment of an online brand community, as one of the methods, enables companies and customers to connect more closely, and even promote the creation of new ideas for products or services, and further enhance consumer satisfaction and loyalty. Although business models are more easily replicated than technological innovations, the heterogeneity of users and social conditions in different online brand communities makes it difficult to create good communities. Therefore, even if many Chinese companies set up their own online brand community with Starbucks and Apple as their example, their life expectancy is very short. This will not only cause the company to lose a lot of opportunity cost, but even reduce the impression of consumers, with the community becoming a "zombie group". Thus, companies should look for a new way to motivate users to participate in online brand communities, and even promote users' innovative activities, but the question is how to implement this. Most companies only set up a community for consumers to interact with each other, and rarely carry out effective targeted management. This means that if companies want to make the community more active, it is very important to understand the user and to control their behavior. Enterprises cannot just hope that users will always have passionate discussions and put forward their own ideas and opinions. The more important task of the company is to manage and excavate users and users' behaviors, including users' personalities and perceptions, in order to increase user satisfaction and user's continuance intention. The enterprise develops different incentive activities for different users' online brand community needs, that is, different customer-perceived benefits; for example, the community could develop technical questions and answers about products or services with small awards to meet learning benefits, and it may find some new ideas from users for future products or service developments.

The brand community has its own problems at present, such as the confusion of advertising within the community, the quality of community content not being high, and the lack of systematic interaction

mechanism. In essence, these problems are related to the operation of the brand community. As the entry barriers of the brand community are very low (because of the rapid development of the mobile terminal) and the majority of enterprises are using the traditional laissez-fair growth management model, brand communities are in a state of confusion, which influences the significant factors of customer satisfaction and continuance intention. Therefore, if a company wanted to create more commercial value from its brand community, the company should increase its investment to operate the community and set up a special operation team to be responsible for the daily maintenance and management of the brand community. The operations team should first ensure the orderly functioning of the community, and then take positive action on specific issues in the community. For example, they need to identify and cultivate leading users with high brand loyalty, to attract more new users to the community. This can be done by using “de-centric” approaches to cultivate different levels of leading customers, and developing their ownership and motivation to participate in the brand community.

6.3. Limitation and Further Research

This study has several limitations and can be extended by further research in a number of ways. First, a relatively small sample size leads to poor sample representation and concentration of respondents, leading to some degree of sampling error. Some problems are not clear enough at present, not easy to study, and still need further improvement for the future. The final model from the study did not give particularly good results, because some indicators cannot meet the requirements of adaptation; therefore, the model needs further adjustment to improve the explanatory power of the user’s continuous intention model. The study lacks further research linking the user’s continuance intention to the user’s continuance behaviors.

Second, research on how to improve the willingness of users in the brand community to remain in use is still scarce, and this is one of the major issues that needs to be addressed in today’s brand community operations. This article only reports from the perspective of the perceived interests of customers, from the conduction of a preliminary study. Further research can consider other factors that affect the user’s continuance intention, such as trust, reputation, and brand loyalty. In the field of data collection and analysis, further research needs to expand the scope of the respondents and ways of obtaining data. It is good for research to increase the distribution channels of questionnaires, such as expanding samples and using other survey methods such as interviews.

Finally, through mediation analysis, we know that customer satisfaction plays a complementary intermediary role between the customer-perceived benefit and the user’s continuance intention in the online brand community; thus customer satisfaction is not the only mediation variable. Further mediation can serve as one of the future research directions. In addition to exploring the user’s continuing intentions, we should also extend conclusions about behavioral research to make the findings more illuminating and deeper.

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Appendix A. Questionnaire

The influence of customer perceived benefits on online brand community’s continuance intention.

Online brand community refers to an online interactive community established by a brand (based on products or services), including brand websites, WeChat public numbers, brand blogs, APP, QQ group, forums, and so on. Typical online brand communities in China include the Millet community, Luo thinking, KEEP (Nike sports type APP), mafengwo (website, APP), and so on.

Answer the following questions based on the brand community you have participated in or learned about:

Part 1: The basic situation of using brand community

1. How long will it take you to use the brand community?
A. 3 months B. 3–6 months C. 6 month D. over 12 months
2. How often do you use the community every month?
A. every day B. 3–4 times a week C. 1 times a week D. 1 times a month or less
3. The average time you spend using this community?
A. below 30 min B. 30 min–1 hr C. 1–2 h D. above 2 hr

Part 2: Survey of related variables

Please fill out the following form according to the actual situation. "1, 2, 3, 4, 5" respectively express "strongly disagree, mildly disagree, neutral, mildly agree, agree very much".

Variables	Items	1	2	3	4	5
Learning benefits	Q4: When I use this community, I can get the product information and the latest brand trends					
	Q5: I can get information from the community to solve the problems of the product					
	Q6: I would like to share my personal experience or product experience in the community					
Self-realization benefits	Q7: Talking, commenting, or sharing in the community gives me more attention and recognition					
	Q8: Effective advice on products or services, or frequent positive feedback, will make me feel important in the community					
	Q9: I would like to share my experiences or opinions in the community to help other members, which makes me get their respect					
Hedonic benefits	Q10: It makes me feel good to use this community, or makes me feel relaxed and happy					
	Q11: I would like to spend my leisure time participating/using the community					
	Q12: The services or activities offered in the community give me a good experience					
Social benefits	Q13: When I use the community, I communicate well with other members and build good relationships					
	Q14: I identify with most of the members in the community and interacting with them makes me feel a sense of belonging					
	Q15: I would like to interact with other members of the community and become friends with them					

Customer satisfaction	Q16: I am satisfied with the information or services provided by the community
	Q17: The community can meet my expectations of the brand or product
	Q18: I think it wise to choose to use/join this community
User's continuance intention	Q19: I will continue to use the community to gain information or to share experiences in the future
	Q20: I will basically maintain the frequency of using the community
	Q21: I would like to continue to make suggestions for the community
	Q22: I would like to continue to participate in the new activities held in the community
	Q23: I'm not going to quit this community for the time being

Part 3: Basic information

24. Your gender:

A. male B. female

25. Your age:

A. less than 18 years old B. 19–25 years old C. 26–35 years old D. 35 years old and above

26. What is your education level?

A. below high school B. high school or junior college C. undergraduate D. graduate and above

E. other

27. Your occupation:

A. students B. party or government workers C. company employees D. freelancers E. other

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