



# The Influence of the Attributes of Interest-Based Virtual Community on Consumers' Purchase Intention in the Context of the Internet—An Empirical Study Based on SIT Theory

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**Abstract.** Based on consumer psychology and marketing theories, using the Social Influence Theory (SIT) model, starting from the four attribute dimensions of interactivity, reliability, sociality and visibility of Interest-based virtual community, and taking perceived usefulness and perceived value as intermediary variables, this paper constructs the impact model of interest-based virtual community attributes on consumers' purchase intention. The data were collected through the questionnaire, and the hypothesis was verified by structural equation model. The results show that the social and visibility attributes of interest-based virtual community have a positive impact on customer perceived usefulness, reliability and social attributes have a positive impact on customer perceived value. As of December 2021, the number of Internet users in China has reached 1.032 billion, and the Internet penetration rate has reached 73.0%. This study provides theoretical support and suggestions for interest-based virtual community operators to improve platform quality. In addition, it is helpful for enterprises to select virtual communities reasonably, and promote network marketing mechanisms. It enriches the research on the pre-dependent variables of consumers' perceived value and consumers' purchase intention as well.

**Keywords:** Interest-based virtual community · Internet · Purchase intention · Perceived usefulness · Perceived value

## 1 Introduction

With the development of the mobile Internet and the advent of the 5G era, the trend of contemporary young people's preference for online surfing is unstoppable. The number of online shopping users in China reached 842 million, accounting for 81.6% of the total number of Internet users. On July 21, 2021, the domestic brand Hongxing Erke donated 50 million yuan in materials for Henan flood fighting and relief. The event quickly fermented on Micro-blog, Tiktok and other platforms the next day, setting off consumers' Wild consumption towards Hongxing Erke's online and offline products. Interest-based

virtual communities include Zhihu, Micro-blog, Bilibili, TikTok, etc. [6]. It's a new type of network communication platform that provides aggregation opportunities for social individuals with the same views and interests. Exploring the influence of the attributes of the interest-based virtual community on consumers' online purchase intentions can provide reasonable suggestions for the construction and background management of the interest-based virtual community platform, which will help its platform to develop better, attract more advertising. In addition, it is helpful for enterprises to select virtual communities reasonably, promote network marketing mechanisms.

## **2 Theoretical Basis and Related Concepts**

### **2.1 Social Influence Theory**

Social Influence Theory (SIT) was first proposed by Kelman [4]. Scholars Venkatesh and Davis believed that identification and internalization arose from voluntary social influencing factors. Based on this, the SIT has been revised, that is, voluntary influencing factors cause individuals to identify and internalize, then affecting individual behavior and attitudes. Wang studied the influence of consumer recognition on other consumers' recognition through SIT theory, and believed that the content released by users would have an impact on consumers' purchase intentions [9]. Studies have shown that SIT theory can be used to investigate consumer purchase intentions.

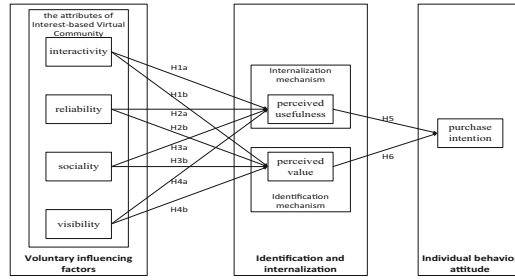
### **2.2 Virtual Community**

The virtual community was first proposed by Rheingold [7]. Sang Hoon Kim believes that the cohesion and interaction degree in virtual community will affect users' perceived usefulness and trust [8]. Previous studies on the impact of virtual community on consumer behavior and intention confirmed that the characteristics, atmosphere, information sender and information receiver of virtual community will have different degrees of impact on consumers' purchase intention. Therefore, based on the attributes of interactivity, reliability, sociality and visibility of interest-based virtual community, this paper believes that the attributes of interest-based virtual community will affect customers' perceived usefulness value, then affect consumers' purchase intention.

## **3 Model Construction and Research Hypotheses**

### **3.1 Model Construction**

This study constructs a model based on SIT to analyze the impact of the attributes of interest-based virtual community on consumers' purchase intention. The research model is shown in Fig. 1.



**Fig. 1.** The research model of the influence of the attributes of the interest-based virtual community on the purchase intention of consumers.

### 3.2 The Hypothesis of the Influence of the Attributes of the Interest-Based Virtual Community

Interest-based virtual community users can express their views and opinions on certain content, a product, an activity, etc., convey their cognition and values. Adjei studied online communities and believed that information communication through forums can reduce users’ perceived uncertainty [1]. Therefore, the following assumptions are proposed:

H1a: the Interactivity of interest-based virtual community has a significant positive impact on customer perceived usefulness

H1b: the Interactivity of interest-based virtual community has a significant positive impact on customer perceived value

Reliability is the social individual’s perception of the authenticity and source credibility of the network information content. It is an important index for individuals to evaluate the content attribute and value of network organizations. Donna used the revised TAM model to verify the attitude of the older generation in the United States towards e-commerce participation, and believed that trust has a positive impact on online shopping. Therefore, the following assumptions are proposed:

H2a: The reliability of interest-based virtual community has a significant positive impact on customer perceived usefulness

H2b: The reliability of interest-based virtual community has a significant positive impact on customer perceived value

Interest-based virtual community reflects its sociality through user comments, user activity and gathering social groups with the same characteristics. According to the research on the impact of Meng Lei’s virtual brand community perceived value on consumer behavior, it is considered that the virtual community covers a large amount of information, which meets the social needs of network users to a great extent, thus affecting customer perceived usefulness. Therefore, the following assumptions are proposed:

H3a: the sociality of interest-based virtual community has a significant positive impact on customer perceived usefulness

H3b: the sociality of interest-based virtual community has a significant positive impact on customer perceived value

Visibility is the perception and impact of vision, which can attract virtual community users and establish trust mechanism with them. The visibility of interest-based virtual community is mainly reflected in the openness and visualization of information exchange. Lurie confirmed that visual effects significantly affect consumers' purchase intentions [5]. Therefore, the following assumptions are proposed:

H4a: the visibility of interest-based virtual community has a significant positive impact on customer perceived usefulness

H4b: the visibility of interest-based virtual community has a significant positive impact on customer perceived value

### **3.3 The Impact of Customer Perceived Usefulness and Customer Perceived Value on Consumers' Purchase Intention**

Davis believed that perceived usefulness and perceived ease of use affect individuals' attitudes towards the use of information technology [2]. Sweeney and Soutar confirmed the decisive role of perceived value on purchase intention based on the framework of "customer value - purchase intention" [3]. Therefore, the following assumption is proposed:

H5: customer perceived usefulness has a significant positive impact on consumers' purchase intention

H6: customer perceived value has a significant positive impact on consumers' purchase intention

## **4 Research Design and Empirical Analysis**

### **4.1 Questionnaire Design and Variable Measurement**

This paper collects data through questionnaire survey. Corresponding questions is designed for each variable. For each question, Likert five-level scale is used to measure the degree of approval or opposition of the respondents, that is, giving different scores from 1 to 5 to express agreement from "very disagree" to "very agree". The questionnaire consists of two parts. The first part is the personal information of the respondents, and the second part is the measurement of the latent variables of the interest-based virtual community.

### **4.2 Data Collection and Sample Description**

The survey included online questionnaires and offline questionnaires. There are 267 valid online questionnaires and 70 offline questionnaires, for a total of 337 valid questionnaires. Among them, 159 are men, accounting for 47%, and 178 are women, accounting for 53%.

**Table 1.** KMO and Bartlett's test.

Kaiser-Meyer-Olkin measure of sampling adequacy		.905
Bartlett's sphere test	Approximate chi-square	3566.173
	df	465
	Sig.	.000

**Table 2.** Construct validity.

$\chi^2$	df	$\chi^2/df$	RMSEA	GFI	CFI	AGFI
553.801	360	1.538	0.049	0.86	0.937	0.831

### 4.3 Reliability and Validity Test

Through exploratory factor analysis of samples, KMO = 0.905 ( $> 0.6$ ), Bartlett's sphere test approximate chi-square value  $\chi^2 = 3566.173$ , significance Sig = 0.000, indicating that they can fully reflect the original data, indicating that the questionnaire has good structural validity (Table 1).

The results show that all indexes meet the standard, indicating that the overall model has a good degree of fit (Table 2).

It can be seen from Table 3 that the Cronbach's  $\alpha$  coefficients of each dimension are all  $> 0.7$ , indicating that the reliability  $\alpha$  value of each dimension meets the standard of this study, which means that the data reliability of each dimension is good. In terms of validity, the indicators are in an ideal state, which shows that the research structure selected in this paper has a good degree of explanation for the variance of the explanatory variables.

### 4.4 Structural Equation Model and Hypothesis Test

Using AMOS 25.0 and SPSS19.0 software, the maximum likelihood method is used to test the models and assumptions of this study step by step (Table 4).

The regression coefficient of the standardized path of route 1 is 0.031 ( $P = 0.617 > 0.05$ ), route 2 is -0.006 ( $p = 0.9177 > 0.05$ ); route 3 is 0.069 ( $P = 0.512 > 0.05$ ), route 4 is 0.259 ( $P = 0.012 < 0.05$ ) route 5 is 0.38 ( $P < 0.001$ ), route 6e is 0.347 ( $P < 0.001$ ) route 7 is 0.451 ( $P < 0.001$ ), route 8 is -0.007 ( $P = 0.956 > 0.05$ ) route 9 is 0.229 ( $P = 0.031 < 0.05$ ) route 10 is 0.652 ( $P < 0.001$ ). To sum up, it is assumed that H1a, H2a, H1b and H4b are not established, and H3a, H4a, H2b, H3b, H5 and H6 are established.

**Table 3.** Cronbach’s  $\alpha$  coefficient and convergence validity.

Facet	Index	Standardized load	Non-standardized load	S.E.	T -value	Cronbach’s $\alpha$	AVE	CR
interactivity	A1	0.65	1			0.867	0.591	0.877
	A2	0.622	1.086	0.132	8.255***			
	A3	0.864	1.236	0.118	10.454***			
	A4	0.852	1.229	0.116	10.618***			
	A5	0.82	1.142	0.112	10.151***			
reliability	B1	0.809	1			0.800	0.576	0.802
	B2	0.764	0.964	0.088	10.973***			
	B3	0.699	0.809	0.08	10.132***			
sociality	C1	0.632	1			0.825	0.494	0.829
	C2	0.803	1.665	0.175	9.522***			
	C3	0.678	1.168	0.142	8.231***			
	C4	0.752	1.598	0.184	8.705***			
	C5	0.625	1.167	0.153	7.627***			
visibility	D1	0.704	1			0.758	0.443	0.760
	D2	0.699	0.967	0.105	9.249***			
	D3	0.623	0.9	0.123	7.3***			
	D4	0.63	0.898	0.119	7.541***			
Customer perceived usefulness	U1	0.696	1			0.817	0.528	0.817
	U2	0.77	1.14	0.112	10.22***			
	U3	0.743	1.111	0.114	9.767***			
	U4	0.694	0.991	0.11	9.016***			
Customer perceived value	V1	0.738	1			0.828	0.544	0.827
	V2	0.741	0.886	0.084	10.587***			
	V3	0.741	0.91	0.085	10.664***			
	V4	0.728	0.884	0.086	10.259***			
Consumer purchase intention	W1	0.74	1			0.835	0.566	0.839
	W2	0.803	1.385	0.12	11.56***			
	W3	0.708	1.184	0.118	10.049***			
	W4	0.754	1.275	0.12	10.591***			

**Table 4.** Structural equation model results and tests.

route	Standardized regression coefficient	C.R.	P-value	Hypothesis	conclusion
①Interactivity → perceived usefulness	0.031	0.5	0.617	H1a	unsupported
②Reliability → perceived usefulness	0.069	0.655	0.512	H2a	unsupported
③Sociality → perceived usefulness	0.38	3.968	***	H3a	supported
④Visibility → perceived usefulness	0.451	3.966	***	H4a	supported
⑤Interactivity → perceived value	-0.006	-0.105	0.917	H1b	unsupported
⑥Reliability → perceived value	0.259	2.525	0.012	H2b	supported
⑦Sociality → perceived value	0.347	3.416	***	H3b	supported
⑧Visibility → perceived value	-0.007	-0.055	0.956	H4b	unsupported
⑨perceived usefulness → purchase intention	0.229	2.151	0.031	H5	supported
⑩perceived value → purchase intention	0.652	5.51	***	H6	supported

## 5 Conclusion and Enlightenment

### 5.1 Research Conclusion

The structural equation model is used for analysis, the results show that the sociality and visibility attributes of interest-based virtual community have a positive impact on customer perceived usefulness; reliability and sociality attributes have a positive impact on customer perceived value; customer perceived usefulness and value have a positive impact on consumers' purchase intention.

### 5.2 Research Enlightenment

For the interest-based virtual community platform as a whole, it is necessary to improve the quality to attract more advertising and cooperation: First of all, in terms of platform construction, platform rules and regulations should be improved, clearly stipulating that it is not allowed to publish false information. Secondly, it is important to strengthen the backstage technical support, give publicity to positive energy user traffic and exposure, increase user sense of belonging. Finally, the virtual community should improve its own

use functions, so that multiple formats such as text, pictures, audio, video, live animation, etc. can be uploaded to the community, so that users can publish works and participate in comments and exchanges more quickly and diversely, so as to diversify product publicity and display, so that users can more directly and clearly understand relevant products.

For enterprises, there are many interest-based virtual communities, but the characteristics and attributes of each community are not exactly the same. When selecting virtual communities for product marketing, enterprises should fully consider the attributes of virtual communities and the platform atmosphere and environment. In addition, enterprises should make use of the attributes of interest-based virtual communities, seize the characteristics of their active users and rapid information dissemination, formulate marketing plans, attack accurately, and obtain the most effective publicity, ensure the maximization of advertising and publicity benefits, and save marketing costs.

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