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FACTORS AFFECTING CONSUMER CHOICES BETWEEN B2C AND C2C MODELS IN CHINESE ELECTRONIC COMMERCE

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ABSTRACT

B2C and C2C have become the most important online shopping platforms. However, the border between B2C and C2C e-commerce platforms is increasingly blurred, and there is a gradual trend toward unity. Previous studies have focused on shopping motivations and consumer behavior, but comparisons of shopping motivations among shopping platforms are sparse. In this study, B2C and C2C online shopping platforms based on previous research were compared. Website experiences, product experiences, and customer experiences were analyzed as main factors. The factors encompass 12 dimensions affecting online shopping. For 324 samples, SPSS was used to compare and analyze factors that influence consumers to choose different online shopping platforms. Four dimensions including website design, website content, product quality, and after-sale service influence platform selection intentions on B2C and C2C websites. Product price and conformity dimensions affect the customers' choices on B2C websites, but not on C2C websites. In addition, website experiences and customer experiences among the main factors influence the customers' choices on B2C and C2C websites. However, product experiences does not influence on B2C websites. Our results will enable e-commerce platform operators to better understand consumer demands, and also to formulate business strategies that take into account consumer intentions. Finally, open research issues that require substantial research efforts are summarized.

Keywords: *E-Commerce, Online Shopping Platform, Platform Selection Intention, Influencing Factor, B2C (Business To Customer), C2C (Customer To Customer)*

1. INTRODUCTION

With the development of the Internet and the increasing popularity of e-commerce in China, the Internet has gradually infiltrated into daily life. In 2010, only 3% of private consumption in China came from online shopping. By 2015, the total number of online shoppers in China had almost tripled and reached 410 million, while the total consumption through online channels accounted for 15% of private consumption [1]. Online shopping is driving the transformation of the Chinese consumer market. According to survey data from [2], China's online shopping penetration rate reached 12.6% and online transactions amounted to 3800 billion Yuan (about 550 billion US dollars) in 2015, representing an increase of 36.2% than that of 2014. The impact of e-commerce on China shopping market is growing rapidly.

With the development of network infrastructure, logistics, and payment means, online shopping is expected to further penetrate and affect people's lives. Due to the wide variety of online goods, the use of online shopping in China has increased rapidly. Therefore, understanding online shoppers is becoming more important and has attracted more e-commerce research. Currently, much research is dedicated to customer satisfaction [3, 4, 5], customer repurchase intentions [6, 7], trust in the Internet [8, 9], website development characteristics [10] and other factors to assess e-commerce success.

At present, B2C and C2C e-commerce platforms dominate online shopping [11]. Data from iResearch [2] show that Chinese B2C market transactions reached 2 trillion Yuan in 2015, which far exceeds the growth rate of the C2C market. However, the C2C market is large and complex, and there is room for growth in the future.

Although there is abundant research on online consumer behavior and motivations, most previous

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studies were limited to single network platforms and did not distinguish between various network platforms. In this study, we compare B2C and C2C e-commerce platforms and analyze questionnaire data to elucidate factors that affect Chinese consumers making choices between B2C and C2C transaction platforms. We hope that the results of this study can be used to explore the motivations of customers using different platforms, and to provide practical suggestions for online shopping managers.

This paper is divided into the following sections, which outline the topic, thought, theory and empirical study: 1) research plan; 2) literature search; 3) hypothesis proposal; 4) questionnaire design; 5) questionnaire investigation; 6) data analysis; 7) results and discussion.

The objective of this study is to examine whether specific factors have positive impacts on repurchase intentions, and whether website experience, product experience, and customer experience have positive impacts on platform selection. We distributed questionnaires to 324 respondents who were asked to respond according to their own perspectives, and used these data to identify the most important factors affecting customers' choices between B2C and C2C online shopping platforms. We used SPSS 21.0 to analyze these data regarding reliability, validity, correlation, and regression.

2. LITERATURE REVIEW

As of December 2016, there were 731 million Internet users in China, representing an increase of more than 42,990,000 new Internet users since 2015. The Internet penetration rate reached 53.2%, an increase of 2.9 percentage points compared to the end of 2015 [12]. When Chinese customers go online shopping, they are mainly engage in B2C and C2C transactions. Online shopping behavior is becoming more mature, and online shopping transactions in China maintain steady growth. Based on market share, Tmall and JD maintain a lead in the B2C market in China, while Taobao is the most popular C2C retailer in China. iResearch [2] data show that the B2C market share was greater the C2C market share for the first time in 2015.

The e-commerce market in China is shifting from traditional e-commerce to mobile e-commerce. Mobile e-commerce includes the use of mobile phones, tablets, palmtop computers, and other wireless terminals. In 2016, mobile online shopping accounted for 68.2% of Chinese online shopping transactions [13].

With the rapid development of the B2C and C2C markets, it has become critical to identify factors that influence Chinese consumers choosing among different online shopping platforms. However, shopping behavior is probably influenced most by the consumers' motivation for shopping in the first place. Many potential factors could be determinants of motivation. Previous research [14, 15, 16, 17, 18, 19, 20, 21] indicated that realistic demand and potential demand are the main motivations for online shopping. These studies proposed several relevant hypotheses, and we can examine factors that influence consumer motivations to engage in e-commerce through a literature review.

When customers have a real need for a product or service, they will take the initiative to find information about those products or services. This is referred to as practical motivation for online shopping [15]. Low price, convenience, and large selection are the most important factors in terms of realistic demand.

There is potential demand for consumer awareness [14]. An enterprise needs to guide and stimulate consumer spending with a keen market vision that may be developed by exploring the potential needs of customers. Marketing strategies may affect consumer shopping psychology in terms of the decision-making process in two ways: by promoting and advertising through mass media to rapidly enhance brand influence and reputation, and by conducting product promotion activities directly to the market.

The main factor that determines potential demand for online shopping is that customers want to be able to enjoy shopping online. Research shows that in addition to collecting information and buying goods, consumers also seek to meet emotional needs online. That is, they prioritize hedonic value [15]. This dimension includes satisfaction, trust, comfort of goods, and customer aesthetic [16].

According to the needs of customers regarding the convenience of shopping, to obtain information on the Internet, to have goods in a timely manner, to communicate with others in the shopping process, to enjoy the shopping experience, and for commodity richness, these six indicators can be

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used to describe four categories of customers: convenience shoppers, variety seekers, balanced shoppers, and store oriented shoppers [17]. Buyers and sellers lack face-to-face communication, and online transactions leave consumers vulnerable to thefts of personal information. These factors increase the risk of shopping online and lowering consumer trust [18]. Lost trust will eventually cause Internet users to simply browse shopping sites but not to buy [19]. On the other hand, studies of the quality of consumer services [20] indicate that the quality of network services is reflected when services constitute a sense of customer perception. Network service quality is defined as the overall cognition and evaluation of the user's experience when using the network [21].

The difficulty of this research lies in the determination of classification standards, which include various factors such as behavior, motivation, and attitude. Different standards will inevitably produce different categories, and the thinking and behaviors of customers may change over time.

3. RESEARCH DESIGN

3.1 Research Model and Hypothesis

Our research objective was to identify factors that affect Chinese consumers when choosing between B2C and C2C transaction methods. Based on literature review, website experience, product experience, and customer experience, we identified the main factors influencing platform selection intentions, and explored the extent of each factor's impact on platform selection. Website experience includes website design, content, security, and publicity [3, 9, 10, 22, 23, 24, 25]. Product experience includes product diversity, price, quality, and delivery [5, 7, 24, 26, 27, 28, 29, 30]. Customer experience includes interaction, after-sales service, conformity, and repurchase [3, 4, 7, 22, 23, 28, 30, 31, 32, 33]. The study hypotheses are as follows:

H1: Website experience has positive impacts on platform selection intention.
H1a: Website design has positive impacts on platform selection intention.
H1b: Website content has positive impacts on platform selection intention.
H1c: Website security has positive impacts on platform selection intention.
H1d: Website publicity has positive impacts on platform selection intention.

H2: Product experience has positive impacts on platform selection intention.
H2a: Product diversity has positive impacts on platform selection intention.
H2b: Product price has positive impacts on platform selection intention.
H2c: Product quality has positive impacts on platform selection intention.
H2d: Product delivery has positive impacts on platform selection intention.

H3: Customer experience has positive impacts on platform selection intention.
H3a: Interaction has positive impacts on platform selection intention.
H3b: After-sales service has positive impacts on platform selection intention.
H3c: Conformity has positive impacts on platform election intention.
H3d: Repurchase has positive impacts on platform selection intention.

In order to explore the effects of these factors on platform selection intention, our research model includes the specific factors of website experience, product experience, and customer experience. Figure 1 outlines the research model used in this study.

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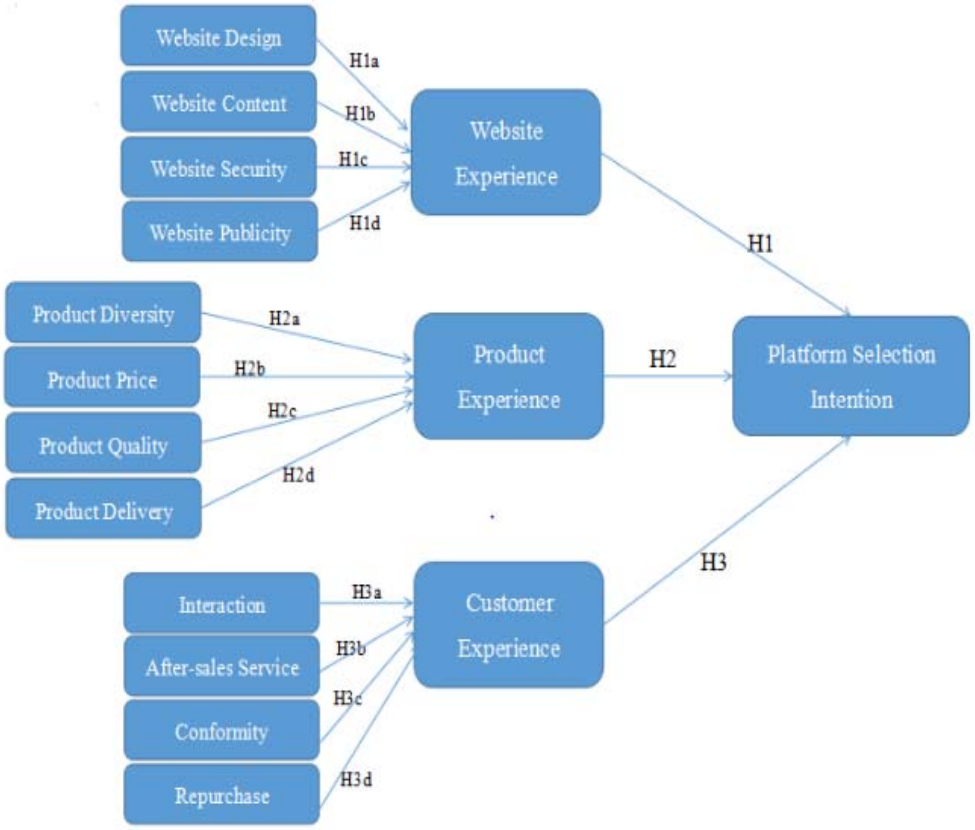

Figure 1: Research Model

3.2 Data Collection

The total sample is based on 324 respondents with their own perspectives who have online shopping experience. We distributed a questionnaire through the most influential survey website in China, Sojump, from 26 February to 5 March 2017.

The questionnaire includes 50 questions and consists of two parts: the first seven questions solicit demographic data, and the final 43 questions address online shopping. Four questions address website design, four questions address website content, four questions address website security, two questions address website publicity, three questions address product diversity, four questions address product price, four questions address product quality, four questions address product delivery; four questions address interaction, four questions address after-sales service, three questions address conformity, and three questions address repurchase. Respondents addressed these questions for both B2C websites and C2C websites. Each question was answered using a Likert scale ranging from (1) "strongly agree" to (5) "strongly disagree" to rank the items. The detailed research questionnaire is provided in the Appendix.

We used questionnaire responses to obtain basic data, and used SPSS 21.0 for empirical analysis. Our specific research methods were as follows:

Demographic variables included gender, age, region (geographical distribution), education level, employment, income level, and experience with online shopping. These variables allow us to determine the impact of population differences on the questionnaire results.

Before performing factor analysis, a validity analysis is required to examine the effectiveness of the content being evaluated. We mainly used content validity analysis, which measures the internal consistency of items to investigate whether items of the same variable fall on the same dimension. We used KMO (Kaiser-Meyer-Olkin) values, with higher values indicating better correlation and higher content validity. Kaiser proposed that when the KMO value is greater than

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0.5, the original variable is more suitable for factor analysis [34].

Reliability analysis refers to the consistency of measurement. In this research, we use the intrinsic reliability measurement method, which measures whether a set of items is related to the same concept, assessing their internal consistency [34]. If the answers for the same variables are similar, the measurement is more likely to be reliable. The most commonly used index of reliability is Cronbach's alpha. Larger Cronbach's alpha values indicate that the variable is more reliable. When Cronbach's alpha is greater than 0.7, its reliability is strong; when Cronbach's alpha is between 0.6 and 0.7, the reliability is relatively weak, but can still be used for further research; and when Cronbach's alpha is less than 0.6, the reliability is poor and is not suitable for further study [35].

The correlation coefficient is a measure of the degree of correlation between variables. There can be direct or indirect connections between variables. Correlation analysis yields a quantitative index that describes the relationships of variables and indicates the consistency of the trend of variation between variables. If two variables are consistent, there is a relationship between the two variables [35]. Our hypotheses were tested using multiple linear regressions. Linear regression models are used to fit the data for the dependent variable and the independent variable.

4. DATA ANALYSIS

4.1 Demographic Analysis

After eliminating insincere respondents, the size of our final sample was 324 responses. The proportions of male and female respondents were almost equal, 159 males (49.07%), 165 females (50.93%). This indicates that both males and females engage in online shopping in China.

The largest age group was 21-25 years (174; 53.7%), followed by over 41 years (64; 19.75%), 26-30 years (49; 15.12%), 31-40 years (23; 7.1%), and under 20 years (14; 4.32%). Most respondents lived in western China (226, 69.75%), followed by eastern China (49; 15.12%), and central China (49; 15.12%). In terms of educational level, 50.62% of respondents (164) had completed bachelor's degrees, followed by 29.63% with master's degrees (96). Most of the respondents were civil servants (146; 45.06%), students (100; 30.86%), freelancers (63; 19.44%), or self-employed (15; 4.63%). The monthly allowance level was ≥2000RMB (217; 66.98%), followed by 1000-2000RMB (64; 19.75%), 500-1000RBM (35; 10.8%), ≤500RBM (8; 2.47%). We found that 41.67% of respondents (135) had at least 5 years of experience with online shopping, followed by those with 4-5 years of experience (115; 35.49%). Table 1 presents the demographic characteristics of respondents in detail.

Table 1: Demographic Characteristics.

Demographic variable	**Sample composition (*n* = 324)**	
	n	**Percent (%)**
Gender		
Male	159	49.07
Female	165	50.93
Age		
Under 20 years	14	4.32
21– 25 years	174	53.7
26– 30 years	49	15.12
31– 40 years	23	7.1
Over 41 years	64	19.75
Region		
Eastern China	49	15.12
Western China	226	69.75
Central China	49	15.12
Education		
Less than bachelor's degree	61	18.83
Bachelor's degree	164	50.62
Master's degree	96	29.63
PhD	3	0.93
Employment		
Student	100	30.86
Civil servant	146	45.06
Self-employed	15	4.63
Freelance	63	19.44
Income (monthly) *in Chinese Yuan (CNY)*		
Under CNY 500	8	2.47
CNY 500 – CNY 1000	35	10.8
CNY 1000 – CNY 2000	64	19.75
More than CNY 2000	217	66.98
Experience shopping online		
Less than 1 year	19	5.86
1 year – 3 years	55	16.98
4 years – 5 years	115	35.49
More than 5 years	135	41.67

4.2 Data Analysis and Results

4.2.1 validity and reliability analysis of B2C websites

Validity refers to the extent to which variables can be measured accurately. When using factor analysis to test validity, it is first necessary to meet the prerequisites of factor analysis, which are that there is a strong correlation between the items

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according to the following two test indicators: KMO value and Bartlett spherical test value. KMO values are used for relatively simple correlations and partial correlations coefficients between items and range between 0 and 1. When the KMO value is greater than 0.9, it illustrates that the variable is strongly suitable for factor analysis; when the KMO value is 0.8-0.9, it illustrates that the variable is quite suitable for factor analysis; when the KMO value is 0.6-0.7, it illustrates that the variable is not very suitable for factor analysis; when the KMO value is 0.5-0.6, it illustrates that the variable is not suitable for factor analysis [34].

Bartlett spherical test value is used to determine whether the correlation coefficient between items is significant, and if significant (i.e., sig. <0.05), it is suitable for factor analysis [34].

The KMO value of the scale was 0.914, which is greater than 0.70 and indicates that the samples collected for B2C were suitable for factor analysis. Bartlett sphericity tests showed that the approximate chi-square value was 8324.845. As p=0.000 (p<0.001), the scale was suitable for factor analysis.

During principal factor analysis and Varimax rotation, 12 factors were extracted regularly. The total variance of the 12 factors was 69.204%, which is greater than 60%. Therefore, the validity of the scale is good [34].

Table 2: Convergent validity analysis of B2C website

Construct	Item	Factor loading value										Cronbach's Alpha
		WD	WC	WS	PD	PP	PQ	AS	CF	RP	SI	
WD	1 2 3 4	0.787 0.838 0.825 0.765										0.904
WC	1 2 3 4		0.741 0.737 0.692 0.597									0.789
WS	1 2 3 4			0.694 0.707 0.795 0.728								0.851
PD	1 2 3				0.790 0.654 0.588							0.753
PP	1 2 3 4					0.752 0.696 0.719 0.640						0.863
PQ	1 2 3 4						0.730 0.826 0.750 0.762					0.851
AS	1 2 3 4							0.669 0.710 0.489 0.676				0.713
CF	1 2 3								0.739 0.705 0.742			0.722
RP	1 2 3									0.685 0.638 0.563		0.860
SI	1 2 3 4										0.806 0.789 0.787 0.807	0.905

Abbreviations: Website design (WD), website content (WC), website security (WS), product diversity (PD), product price (PP), product quality (PQ), after-sales service (AS), conformity (CF), repurchase (RP), platform selection intention (SI)

Analyses of influences on consumer choice of B2C websites collapsed 43 problem options into 12 factors. The rotation of the component matrix table indicates that the loads of 9 dimensions were higher than 0.5, and there was no double factor load. These 9 dimensions were: website design (Q8--11), website content (Q12--15), website security (Q16--19), product diversity (Q22--24), product price (Q25--28), product quality (Q29--32), after-sales service (Q41--44), conformity (Q45--47), and repurchase (Q48--50). The 9 dimensions were aggregated according to the theoretical distribution, indicating that the B2C scale has good content validity in these 9 dimensions. The other three dimensions were website publicity (Q20--21), product delivery (Q33--36), and interaction (Q37--40), and for these the load was less than 0.5 and the double factor was high, indicating poor content validity. Therefore, the items that belong to these three dimensions were deleted from the B2C scale.

The results of the reliability test show that Cronbach's alpha values of the nine dimensions ranged from 0.713 to 0.904. Cronbach's alpha for platform selection intention when analyzed as the dependent variable was 0.905, or greater than the reasonable value of 0.7 [35]. Any test or scale with Cronbach's alpha of 0.70 or greater has good internal consistency. Therefore, the reliability of the survey data is good and has high internal consistency (See the Table 2).

4.2.2 validity and reliability analysis of C2C website

The KMO value of the scale was 0.889, or greater than 0.70. This indicates that the sample collected by the C2C website was suitable for factor analysis. Bartlett sphericity test results show that the approximate chi-square value was 6735.156. P=0.000 (p<0.001), so the scale was suitable for factor analysis [34].

The factor analysis included principal factor analysis and Varimax rotation, which extracted 12 factors regularly. The total variance of the 12 factors was 65.176%, or greater than 60%. Therefore, the validity of the scale is good.

Table 3: Convergent validity analysis of C2C website

Construct	Item	Factor loading value										Cronbach's Alpha
		WD	WC	WS	PD	PP	PQ	AS	CF	RP	SI	
WD	1 2 3 4	0.680 0.706 0.716 0.693										.808
WC	1 2 3 4		0.710 0.758 0.720 0.608									.752
WS	1 2 3 4			0.771 0.656 0.785 0.638								.825
PD	1 2 3				0.677 0.645 0.570							.757
PP	1 2 3 4					0.592 0.729 0.759 0.724						.800
PQ	1 2 3 4						0.716 0.706 0.771 0.738					.828
AS	1							0.669				.767

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	2 3 4							0.598 0.689 0.589				
CF	1 2 3								0.723 0.725 0.685			.752
RP	1 2 3									0.699 0.693 0.711		.828
SI	1 2 3 4										0.803 0.777 0.770 0.772	.896

Abbreviations: Website design (WD), website content (WC), website security (WS), product diversity (PD), product price (PP), product quality (PQ), after-sales service (AS), conformity (CF), repurchase (RP), platform selection intention (SI)

The results of research on platform selection intention to choose the C2C website are similar to those for the B2C website. We collapse 43 problem options into 12 factors. The rotation of the component matrix table indicates that the load of 9 items was greater than 0.5, and there was no double factor load. The 9 dimensions were aggregated according to the theoretical distribution, indicating that the C2C scale has good content validity for these 9 dimensions. For the other 3 dimensions, website publicity (Q20--21), product delivery (Q33--36), and interaction (Q37--40), the load was less than 0.5 and the double factor is high. This indicates poor content validity and that the items that belong to these 3 dimensions should be deleted from the C2C scale.

The results of reliability tests indicate that Cronbach's alpha for the nine dimensions ranged from 0.752 to 0.828. Cronbach's alpha when platform selection intention was treated as the dependent variable was 0.896. These values are greater than the reasonable value of 0.7 [35]. The reliability of the survey data is good, with high internal consistency (See the Table 3).

4.3 Correlation Analysis

Table 4: Correlation analysis of the B2C website

Pearson's Correlation Coefficient										
Constructs	**WD**	**WC**	**WS**	**PD**	**PP**	**PQ**	**AS**	**CF**	**RP**	**SI**
WD	1									
WC	0.428**	1								
WS	0.386**	0.497**	1							
PD	0.374**	0.419**	0.554**	1						
PP	0.424**	0.439**	0.578**	0.568**	1					
PQ	0.209**	0.160**	0.345**	0.314**	0.361**	1				
AS	0.317**	0.147**	0.178**	0.216**	0.227**	0.453**	1			
CF	0.273**	0.220**	0.201**	0.172**	0.255**	0.257**	0.344**	1		
RP	0.539**	0.435**	0.499**	0.468**	0.610**	0.322**	0.359**	0.374**	1	
SI	0.462**	0.358**	0.312**	0.289**	0.412**	0.355**	0.435**	0.389**	0.447**	1

** $p<0.01$

The correlation coefficients among the 9 dimensions of website design, website content, website security, product diversity, product price, product quality, after-sales service, conformity, repurchase and selection intention have significance levels less than 0.01, indicating that there was a significant positive correlation among the 9 variables and platform selection intention to use the B2C website (See the Table 4).

*Table 5: Correlation analysis of the **C2C** website*

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Pearson's Correlation Coefficient										
Constructs	**WD**	**WC**	**WS**	**PD**	**PP**	**PQ**	**AS**	**CF**	**RP**	**SI**
WD	1									
WC	0.224**	1								
WS	0.389**	0.443**	1							
PD	0.343**	0.332**	0.462**	1						
PP	0.361**	0.154**	0.380**	0.395**	1					
PQ	0.114*	0.201**	0.272**	0.364**	0.388**	1				
AS	0.362**	0.163**	0.369**	0.374**	0.285**	0.406**	1			
CF	0.282**	0.394**	0.296**	0.348**	0.192**	0.195**	0.343**	1		
RP	0.533**	0.280**	0.391**	0.384**	0.344**	0.149**	0.352**	0.422**	1	
SI	0.416**	0.342**	0.395**	0.365**	0.285**	0.399**	0.476**	0.340**	0.316**	1

*** p<0.01, * p<0.05*

The correlation coefficients among the 9 dimensions of website design, website content, website security, product diversity, product price, product quality, after-sales service, conformity, repurchase and selection intention have significance levels less than 0.05, indicating that there was a significant positive correlation among the 9 variables and platform selection intention to use the C2C website (See the Table 5).

4.4 Regression Analysis

4.4.1 regression analysis of the B2C website

We conducted regression analysis including the customer's choice of B2C website as the dependent variable, and website design, website content, website security, product diversity, product price, product quality, after-sales service, conformity, and repurchase as independent variables.

The correlation coefficient of the model was 0.631, the coefficient of determination (R^2) was 0.398, and the adjusted coefficient of determination was 0.381, indicating that the selected variables explain 38.1% for the model. This value is greater than 30%, and therefore the model is good. The goodness of fit test shows that when the regression equation contains 9 different variables, the value of F is 23.049 and the significance probability value (p-value=0.000) is less than 0.001. Therefore, the better fitting effect of the final regression equation is presented.

Table 6: Standardized coefficients of relevant items for selection intention to use the B2C model

Group	**Model**	**Un-standardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		β	**Std. Error**	**Beta**		
B2C	(Constant)	-0.071	0.281		-0.253	0.801
	Website design	0.214	0.056	0.211	3.828	0.000***
	Website content	0.132	0.055	0.130	2.394	0.017*
	Website security	-0.028	0.061	-0.028	-0.465	0.642
	Product diversity	-0.044	0.058	-0.044	-0.761	0.447
	Product price	0.162	0.070	0.148	2.322	0.021*
	Product quality	0.108	0.053	0.109	2.059	0.040*
	After-sales service	0.225	0.057	0.208	3.931	0.000***
	Conformity	0.193	0.059	0.160	3.258	0.001***
	Repurchase	0.052	0.064	0.052	0.817	0.415

Dependent Variable: Selection intention, *** *p<0.001, * p<0.05*

The standardized regression coefficient for website design on platform selection intention to use the B2C site was 0.211 (t=3.828, P<0.001), which shows that website design has a significant positive impact on platform selection intention. That is, the better the website design, the greater the willingness of consumers to choose that website. The standardized regression coefficient of website content on platform selection intention to use the

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B2C site was 0.130 (t=2.394, P<0.05), which shows that website content has a significant positive impact on platform selection intention. That is, the richer the content of the website, the greater the willingness of consumers to choose that website. The standardized regression coefficient of website security on platform selection intention to use the B2C site was -0.028 (t=-0.465, P>0.05), which shows that website security does not influence platform selection intention. The standardized regression coefficient of product diversity on platform selection intention to use the B2C site was -0.044 (t=-0.761, P>0.05), which shows that product diversity does not influence platform selection intention. The standardized regression coefficient of product price on platform selection intention to use the B2C site was 0.148 (t=2.322, P<0.05), which shows that the product price has a significant positive impact on platform selection intention. That is, the more reasonable the price, the greater the willingness of consumers to choose that website. The standardized regression coefficient of product quality on platform selection intention to use the B2C site was 0.109 (t=2.059, P<0.05), which shows that the product quality has a significant positive impact on platform selection intention. That is, the better the quality of the product, the greater the willingness of consumers to choose that website. The standardized regression coefficient of after-sales service on platform selection intention to use the B2C site was 0.208 (t=3.931, P<0.001), which shows that after-sales service has a significant positive impact on platform selection intention. That is, the more thoughtful the after-sales service, the greater the willingness of consumers to choose that website. The standardized regression coefficient of conformity on platform selection intention to use the B2C site was 0.160 (t=3.258, P<0.001), which shows that conformity has a significant positive impact on platform selection intention. That is, the greater the herd mentality, the greater the willingness to choose the B2C website. The standardized regression coefficient of repurchase on platform selection intention to use the B2C site was 0.052 (t=0.817, P>0.05), which shows that repurchase does not influence platform selection intention (See the Table 6).

Using choice of B2C website as the dependent variable, and website experience, product experience, and customer experience as the independent variables, we conducted regression analysis.

The correlation coefficient of the model was 0.603, the coefficient of determination (R^2) was 0.364, and the adjusted coefficient of determination was 0.358, indicating that the selected variables explain 35.8% for the model. This value is greater than 30%, and therefore, the model is good. Goodness of fit test results show that when the regression equation contains 9 different variables, the F value is 61.052 and the significance probability (P) value is less than 0.001. Therefore, the better fitting effect of the final regression equation is presented.

Table 7: Standardized coefficient of each relevant factor for selection intention to use the B2C model

Group	Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		β	Std. Error	Beta		
B2C	(Constant)	0.153	0.271		0.564	0.573
	Website experience	0.265	0.076	0.206	3.465	0.001***
	Product experience	0.121	0.081	0.092	1.495	0.136
	Customer experience	0.577	0.081	0.400	7.079	0.000***

Dependent Variable: Selection intention, *** *p<0.001*

The standardized regression coefficient of website experience on platform selection intention to use the B2C site was 0.206 (t=3.465, P<0.01), which shows that website experience has a significant positive impact on platform selection intention. That is, the better the perception of the consumer website experience, the higher the willingness of consumers to choose. The standardized regression coefficient of product experience on platform selection intention to use the B2C site was 0.092 (t=1.495, P>0.05), which shows that product experience does not influence platform selection intention. The standardized regression coefficient of customer experience on

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platform selection intention to use the B2C site was 0.400 (t=7.079, P<0.001), which shows that customer experience has a significant positive impact on platform selection intention. That is, the better the customer experience, the greater the willingness of consumers to choose that website (See the Table 7).

4.4.2 regression analysis of the C2C website

We conducted a regression analysis using choice of C2C website as the dependent variable, and website design, website content, website security, product diversity, product price, product quality, after-sales service, conformity, and repurchase as independent variables.

The correlation coefficient of the model was 0.629, the coefficient of determination (R^2) was 0.395, and the adjusted coefficient of determination was 0.378, indicating that the selected variables explain 37.8% for the model, more than 30%, therefore, it is considered that the independent variable of the model is good.

The results of goodness of fit test show that when the regression equation contains 9 different variables, the value of F is 22.826, the significance probability value (p=0.000) is less than 0.001, with significant statistical significance, so that the better fitting effect of the final regression equation is presented.

Table 8: Standardized coefficient for each relevant item for selection intention to use the C2C model

Group	Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		β	Std. Error	Beta		
C2C	(Constant)	-0.203	0.303		-0.671	0.503
	Website design	0.293	0.068	0.237	4.280	0.000***
	Website content	0.157	0.057	0.145	2.769	0.006**
	Website security	0.081	0.058	0.078	1.380	0.169
	Product diversity	0.031	0.062	0.027	0.499	0.618
	Product price	-0.015	0.055	-0.015	-0.278	0.781
	Product quality	0.209	0.051	0.214	4.072	0.000***
	After-sales service	0.260	0.061	0.229	4.246	0.000***
	Conformity	0.095	0.063	0.080	1.515	0.131
	Repurchase	-0.036	0.062	-0.033	-0.587	0.557

Dependent Variable: Selection intention; *** *p<0.001*, ** *p<0.01*

The standardized regression coefficient of website design on platform selection intention to use the C2C site was 0.237 (t=4.280, P<0.001), which shows that the website design has a significant positive impact on platform selection intention. That is, the better the website design, the greater the willingness of consumers to choose that website. The standardized regression coefficient of website content on platform selection intention of C2C site was 0.145 (t=2.769, P<0.01), which shows that website content has a significant positive impact on platform selection intention. That is, the richer the content of the website, the greater the willingness of consumers to choose that website. The standardized regression coefficient of website security on platform selection intention to use the C2C site was 0.078 (t=-1.380, P>0.05), which shows that website security does not influence platform selection intention. The standardized regression coefficient of product diversity on platform selection intention to use the C2C site was 0.027 (t=-0.499, P>0.05), which shows that product diversity does not influence platform selection intention. The standardized regression coefficient of product price on platform selection intention to use the C2C site was -0.015 (t=-0.278, P>0.05), which shows that product price does not affect platform selection intention. The standardized regression coefficient of product quality on platform selection intention to use the C2C site was 0.214 (t=4.072, P<0.001), which shows that product quality has a significant positive impact on platform selection intention. That is, the better the quality of the product, the greater the willingness of consumers to choose that website. The standardized regression coefficient of after-sales service on platform selection intention to use the C2C site was 0.229 (t=4.246, P<0.001), which shows that after-sales service has a significant positive impact on platform selection intention. That is, the more thoughtful the after-sales service, the greater the willingness of consumers to choose that website. The standardized regression coefficient of

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conformity on platform selection intention to use the C2C site was 0.080 (t=1.515, P>0.05), which shows that conformity does not influence platform selection intention. The standardized regression coefficient of repurchase on platform selection intention to use the C2C site was -0.033 (t=-0.587, P>0.05), which shows that there is no significant effect of repurchase on platform selection intention (See the Table 8).

We used the customer's choice of C2C website as the dependent variable, and website experience, product experience, and customer experience as the independent variables in regression analysis. The correlation coefficient of the model was 0.575, the coefficient of determination (R^2) was 0.331, and the adjusted coefficient of determination was 0.325, indicating that the selected variables explain 32.5% for the model. This is greater than 30%, therefore, that the fit of the independent variable of the model is good.

The results of goodness-of-fit tests show that when the regression equation contains 9 different variables, the value of F is 52.734, with p-value is less than 0.001, so that the better fitting effect of the final regression equation is presented.

Table 9: Standardized coefficient of each relevant factor for selection intention of C2C model

Group	Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		β	Std. Error	Beta		
C2C	(Constant)	-0.022	0.315		-0.070	0.944
	Website experience	0.419	0.086	0.285	4.861	0.000***
	Product experience	0.207	0.075	0.146	2.774	0.006**
	Customer experience	0.393	0.087	0.264	4.540	0.000***

Dependent Variable: Selection intention, *** $p<0.001$, ** $p<0.01$

The standardized regression coefficient of website experience on platform selection intention to use the C2C site was 0.285 (t=4.861, P<0.001), which shows that website experience has a significant positive impact on platform selection intention. That is, the better the perception of consumer website experience, the greater the willingness of consumers to choose. The standardized regression coefficient of product experience on platform selection intention to use C2C sites was 0.146 (t=2.774, P<0.01), which shows that product experience has a significant impact on platform selection intention, that is, the better the perception of consumer product experience, the greater the willingness of consumers to choose that website. The standardized regression coefficient of customer experience on platform selection intention to use the C2C site was 0.264 (t=4.540, P<0.001), which shows that customer experience has a significant positive impact on platform selection intention. That is, the better the customer experience, the higher the willingness of consumers to choose that website (See the Table 9).

5. OPEN RESEARCH ISSUES

Comprehensiveness and parsimony principles are needed for the model to analyze the social and customer-based phenomena and their relationship [36]. The former questions whether a theoretical model includes all factors related to the phenomenon. The latter presents that any factor not contributing to understand a phenomenon should be removed in a theoretical model [36]. However, they have a trade-off relationship. This study has a research model consisting of three independent constructs and 9 dimensions to measure three constructs excluding three dimensions according to validity criteria. The model to satisfy two principles fully is very difficult to attain it but seeking it is requisite to increase a model's explanation power.

As similar to point out it in the literature review section, the difficulty of this research lies in the determination of constructs and measure items classification standards, which include various factors such as behavior, motivation, and attitude. Different standards will inevitably produce different categories, and the thinking and behaviors of customers may change over time. We found some different results according to the method of considering both B2C and C2C model in e-commerce. For the accepted and rejected variables, an additional survey including various samples and

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different time/place can bring about plentiful meanings.

In this study, the numbers of male and female respondents were nearly equal. iResearch data also indicate that as the number of online shopper increases, the gender ratio tends to become more balanced [2]. In addition, with societal changes and improvements in quality of life, the cost of investment in online shopping has gradually increased.

6. CONCLUSION

6.1 Results

B2C and C2C are established e-commerce models that are accepted by enterprises and individuals in China. The development of online shopping behavior has matured. Over the years of development, the border between B2C and C2C e-commerce platform has become increasingly blurry and there is a gradual trend toward unity. Therefore, in this study we hoped to compare and analyze factors that influence consumers when choosing shopping sites, in order to provide customer selection intentions for sellers who have failed in business, to help them with future online shop management.

We studied factors that influence consumer choice among different e-commerce shopping platforms, and discussed several. Through empirical analysis, we found that for B2C and C2C websites, among the 12 dimensions that may influence selection intentions (website design, website content, website security, website publicity, product diversity, product price, product quality, product delivery, interaction, after-sales service, conformity, and repurchase), the validity of the three dimensions of website publicity, product delivery, and interaction were low. Therefore, they did not reflect the characteristics of measurement; the validity of the remaining 9 dimensions was very high, which could reflect the characteristics of measurement, and has high internal consistency. At the same time, the correlations among these 9 dimensions were less than 0.05 (p-value), which indicated that there were significant correlations among these 9 dimensions and intent to use both B2C and C2C websites.

We found that consumers pay more attention to website design, website content, and website security than website publicity. When purchasing products, customers pay more attention to product diversity, product price, and product quality than they do in product delivery; from the customer‘s perspective, customers pay more attention to after-sales service, conformity, and repurchase than they do to interaction.

We conducted regression analysis and obtained the following results. For the B2C website, website security, product diversity, and repurchase, did not impact consumer choice. For the C2C website, website security, product diversity, product price, conformity, and repurchase did not impact consumer choice.

In summary, among 9 dimensions that influence e-commerce website choice, we found that four factors influence selection intentions to use B2C and C2C websites. These are website design, website content, product quality, and after-sale service. Website security, product diversity, and repurchase did not affect customer willingness to choose the B2C website or C2C website. However, product price and conformity affected consumer choice to use the B2C website, but not the C2C website.

In tests of the main hypotheses, website experience and customer experience were significant influences on selection intention to use B2C and C2C websites. However, product experience was a significant influence on intent to use the C2C website but not the B2C website.

Our findings may help e-commerce platform operators to better understand customer demands and improve their business strategies by identifying factors affecting selection intentions to use B2C and C2C websites.

6.2 Limitations and Further Research

Limiting factors such as time, sample composition, and the use of a questionnaire can affect the applicability of this research. The questionnaire was administered from 26 February to 5 March 2017. Given the rapid development of e-commerce, these data represent only the characteristics of that particular period. Future research is needed to remain up to date. The age range and geographical distribution of the survey respondents is relatively concentrated, and therefore cannot represent the wishes of all Chinese online shoppers. There are limitations regarding the classification of occupations, which is vague. Occupational type should be more clearly defined, to improve respondent satisfaction with the contents of the questionnaire. In addition, as living

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standards have improved, the overall income level in China has also increased significantly, so the monthly allowance level should fall within a larger range.

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Appendix: Questionnaire items for each construct

Construct	Item
Website experience	
Website design	WD1: the shopping site looks simple and easy to understand.
	WD2: the shopping site is easy to operate.
	WD3: the site's merchandise display mode makes it easy for me to find goods.
	WD4: the web page design style is very attractive.
Website content	WC1: the site provides accurate information about the goods.
	WC2: the site offers very complete product information.
	WC3: the site offers a wide range of goods.
	WC4: the site provides a very effective customer evaluation.
Website security	WS1: the site can effectively protect my personal information from being leaked.
	WS2: the site is a current online shopping environment with an atmosphere of social integrity and control mechanisms to allow customers to enjoy shopping, and is trustworthy.
	WS3: the site can effectively prevent hacker attacks.
	WS4: the site provides a secure trading mechanism for online transaction security.
Website publicity	WP1: the site's publicity works very well, and I often see the site's advertising during everyday activities.
	WP2: the site offers regular promotions.
Product experience	
Product diversity	PD1: the site's products are very diverse and you can find what you want.
	PD2: those who usually buy general life consumption goods will choose this site.
	PD3: those who usually buy electronic electrical equipment will choose this site.
Product price	PP1: the prices on the site are cheaper than in brick and mortar stores.
	PP2: the commodity pricing of the site is reasonable.
	PP3: the site can give me a more favorable price (discount, return to cash, vouchers, etc.)
	PP4: when buying something from this site, there is a variety of price options.
Product quality	PQ1: on this site, the quality of the purchased goods appears satisfactory.
	PQ2: on this site, the performance of the purchased goods is satisfactory.
	PQ3: on this site, the life cycle of purchased goods is satisfactory.
	PQ4: on this site, the reliability of the purchased goods is satisfactory.
Product delivery	PDL1: the site's delivery fee is acceptable.
	PDL2: the site's goods distribution is fast with high efficiency.
	PDL3: the site's goods distribution is accurate and safe.
	PDL4: The site offers a variety of delivery methods.
Customer experience	
Interaction	ITC1: the website provides a satisfactory exchange of views among buyers.
	ITC2: the website provides satisfactory communication between the seller and the buyer.
	ITC3: the site promptly responds to customer questions and comments.
	ITC4: merchants will communicate with me and give me a sense of security.
After-sales service	ASS1: the site's after-sales service is satisfactory.
	ASS2: when there is a problem with the business, the shop owner can respond to my message in time.
	ASS3: the site attaches great importance to consumer complaints and reasonable consumer demands will be met.
	ASS4: this site has a good return / replacement mechanism.
Conformity	CFM1: if many friends are online shopping, then I will try online shopping.
	CFM2: I usually choose the shop my friends recommended.
	CFM3: comments of others or online shop (online evaluation) will affect my purchase

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	decision.
Repurchase	REP1: I will continue to use this site for online shopping. REP2: I would recommend this site to relatives and friends. REP3: in the future, I will give priority to the use of this site.
Selection intention	SI1: when purchasing general life consumables, I will choose to shop at this website. SI2: when buying household appliances and electronic equipment, I will choose to shop at this website. SI3: in my spare time, I will visit this website. SI4: when I need to shop, I will choose to buy from this website.