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An Analysis of Factors Influencing Consumers' Continued Purchase

Intention Based on Online Shopping Pre-sale Mode

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Abstract: Online shopping pre-sale has great commercial value, and the key is to realize its commercial value, which is shown by the continuous purchase made by consumers. However, in China, there is a lack of relevant research on the factors affecting consumers' continued purchase intention. Based on the expectation confirmation theory, this paper constructs a model to explore the influential factors of the consumer's continued purchase intention. This study employed the Structural Equation Model (SEM) to perform empirical analysis. The results showed that the main influential factors of consumer's continued purchase intention include perceived usefulness, perceived ease of use, expectation confirmation, and satisfaction. Among which, satisfaction had relatively high influence while perceived usefulness had a relatively low influence. Perceived usefulness and perceived ease of use had an indirect effect on the continued purchase intention through satisfaction.

Keywords: pre-sale, expectation confirmation theory, continuous purchase intention, structural equation model

1. INTRODUCTION

As an important marketing tool^[1], pre-sale not only provides consumers with preferential treatment, but also helps sellers to understand consumer's demand in a timely manner. The aviation industry first adopted the pre-sale mode^[2]. In recent years, the commercial value of online shopping pre-sale has attracted the attention of e-commerce platforms and retailers. E-commerce platforms such as Alibaba, Jingdong and Suning have also invested the pre-sale mode. Although pre-sale can reduce inventory and save costs, it still has a long way to go with the retailer's expectations. Only by having an in-depth understanding of the influential factors of consumers' purchase intentions and making timely appropriate adjustments can we then obtain greater economic benefits.

The online shopping pre-sale mode is a new field in the e-commerce platform. Compared with the traditional online shopping mode, it can effectively solve the problems of warehousing, inventory overstocking and so on. Through the research of relevant literature, it was shown that there are few domestic researches literature in this field. Most of the researches focused on the supply chain and logistics field under the pre-sale mode. Liu(2018) studied the optimal strategy choice of the supply chain in the pre-sale phase^[3]. However, whether consumers are willing to make purchases through the online shopping pre-sale mode, and determining the main the influential factors of consumers' purchase intentions using the online pre-sale mode remains unknown due to the lack of in-depth research. Dan analyzes consumers' purchasing intentions from two sides, one of product factors and one of situational factors. He found that functional value, hedonic value, financial encouragement, information quality and reputation will affect consumers' purchase intention^[4].

Based on the above analysis, this study attempts to find out the main factors that can influence consumers' purchase intentions in online shopping pre-sale mode. Understanding those main factors will be of great significance for retailers to increase profits. Since there is a lack of in-depth research in China, so this paper attempts to fill the gap of knowledge in this area. It certainly is significant for guiding e-commerce platform

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retailers in making decisions.

2. RESEARCH REVIEW

2.1 Purchase intention study

Understanding the influential factors of the consumer's continuous purchase intention is important for online retailers. At present, more and more scholars at home and abroad are studying consumer's purchase intentions. Du(2016) looks at influences of consumer's purchase intentions from both sides of functional value and psychological representation^[5]. Jimenez(2013) found that highly reliable reviews have a positive influence on increasing purchase intentions of consumers^[6]. With the non-stop promotions of the pre-sale mode, some scholars have also begun to study the purchase intentions of consumers in the pre-sale mode. Using regression analysis, Shan(2014) discovered that the product's functional value, hedonic value, financial encouragement, information quality and reputation can influence purchase intentions of consumers^[4].

2.2 Sustained behavioral intention study

The continued intention to act is a more critical factor than the initial intention. There are more and more studies on the sustained behavioral intention at home and abroad. Chen(2016) found that personal cognition affects the sustained use of intentions through emotional response^[7]. Li(2010) found that the factors affecting the sustained use of intention mainly include technical and consumer interpersonal factors^[8].

2.3 Research on the purchase intentions in the pre-sale mode

After reading a large amount of literature, we found that domestic and foreign scholars have done an incredible amount of research on the continued purchase intention, but the research on consumers' continued purchase intention under the online shopping pre-sale mode is still at a preliminary stages. Therefore, this paper uses the expectation confirmation theory to study the consumer's intention to purchase, and constructs a Structural Equation Model (SEM) to further explain the consumers' continued purchase intention under the online shopping pre-sale mode.

3. THEORETICAL MODEL AND RESEARCH HYPOTHESIS

3.1 Expectation confirmation theory

The theory of expectation confirmation was first proposed by Oliver (1980)^[9]. The main structure and relationship of the this theory is shown in Figure 1. In the current research expectation confirmation theory is widely used to study the relationships between consumer satisfaction and intention to continue to use. Based on the theory of expectation confirmation Liu(2010) studied the elderly's intention to continue to use Internet applications^[10]. Cao(2017) studied the intention of consumers to continue to participate in online shopping reviews^[11].

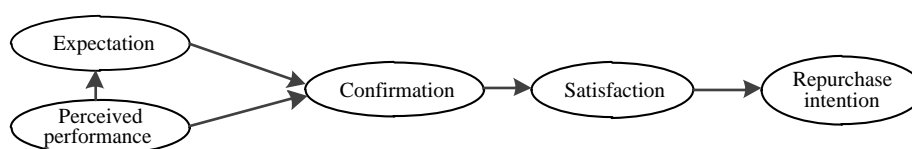


Figure 1. Expectation confirmation theory.

3.2 Expectation confirmation model

The expectation confirmation model was proposed by Anol Bhattacharjee (2001) (Figure 2). It is considered that the repeated purchase behavior in the consumer field and information system field are similar. Therefore, we believe that the use of expectation confirmation theory to study consumer continuous purchase

intentions is appropriate. The researcher modifies or expands the expectations in the confirmation model in combination with specific research questions to prove that the expectation confirmation model can better explain the consumers' intentions to participate continuously after improvement.

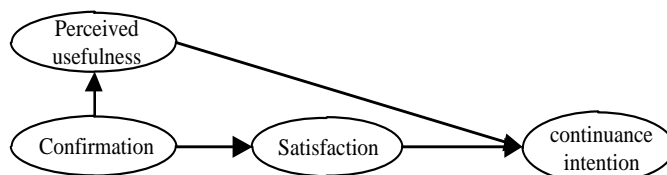


Figure 2. Expectation confirmation model.

3.3 Expectation confirmation

Expectation confirmation is an important variable in the expectation confirmation model. Anol Bhattacharjee (2001) defines the degree of expectation confirmation as the user is aware of the gap with their initial perception after using the product. The degree of expectation confirmation can improve user's perceived usefulness^[12]. Many scholars use the expectation confirmation model to study the intention of consumers to continue to use. Chang(2017) found that the degree of confirmation will significantly affect the user's perceived usefulness and the expected degree of confirmation in user satisfaction will be statistically significant in users continued use intentions of WeChat^[13]. This study defines expectations as the difference between a consumer's performance expectations before purchase and actual performance after purchase.

Perceived cost is the consumer's perception of the cost been paid. In the process of consumer's pre-sale shopping, the expected degree of confirmation will have an impact on the perceived cost of the consumer. Higher degrees of confirmation is, the user's perception of cost will be weaker and the more consumers think that the cost paid is worthwhile, and therefore, the perceived cost will be lower. Lu(2017) studied the effects of expectation confirmation on perceived cost^[14]. Therefore, the following assumptions are made:

H1a: expectation confirmation has a positive impact on consumer' perceived usefulness

H1b: expectation confirmation has a positive impact on consumer satisfaction

H1c: expectation confirmation has a negative impact on perceived cost

3.4 Perceived ease of use

The technology acceptance model (TAM) defines perceived ease of use as "the degree of difficulty or ease which user can use a technology." This study defines perceived ease of use as "the degree of difficulty or ease with which consumers purchase through online shopping pre-sale mode". According to TAM, perceived ease of use is positively perceived as useful. Li(2017) found that social media characteristics have a significant impact on consumer's purchase intention towards perceived ease of use^[15]. Perceived usability has a positive impact on user satisfaction^[12]. The following assumptions are made:

H2a: Perceived ease of use mode has a positive impact on perceived usefulness

H2b: Perceived ease of use has a positive impact on satisfaction

H2c: Perceived ease of use has a positive impact on consumers' continued purchase intention

3.5 Perceived usefulness

Perceived usefulness was first proposed by Davis^[16]. This study defines perceived usefulness as a way to help users to save money by shopping through an online shopping pre-sale mode. Perceived usefulness increases user satisfaction and continued intention to use. Zhao(2017) found that user perceived usefulness has an impact on satisfaction, and expectation confirmation has an impact on user perceived usefulness and satisfaction^[17]. Wang(2018) found that perceived usefulness has a positive impact on consumers' repeated intention to purchase^[18].

H3a: Perceived usefulness has a positive impact on consumer satisfaction

H3b: Perceived usefulness have a positive impact on consumers' continued purchase intention

3.6 Perceived cost

Perceived costs can affect consumer' using attitudes. High perceived costs reduce consumer evaluation of perceived value, thereby reducing user satisfaction^[19]. Based on this, the hypothesis is proposed:

H4: Consumer perceived cost has a negative impact on satisfaction

3.7 Satisfaction

According to the expectation confirmation theory, satisfaction can increase users' continued intentions for using information systems. Therefore, through the online shopping pre-sale mode, we believe that the satisfaction of consumers in the past has a positive impact on the users' willingness to continued participation. The following assumptions are made:

H5: Consumer satisfaction has a positive impact on the continued purchase intention

Although Bhattacharjee's expectation confirmation model does not explore the impact of perceived ease of use and perceived cost on consumers' continued purchase intention, many subsequent researchers have improved and expanded the model. Therefore, according to the research problem and based on the original expectation confirmation model, this study introduces the factors of perceived ease of use and perceived cost. Also, combined with the actual situation of consumers in online shopping pre-sale,we build a theoretical model of consumers' continued purchase intentions under the online shopping pre-sale mode. The theoretical model of the influencing factors (Figure3) hypothesizes a relationship between variables as follows.

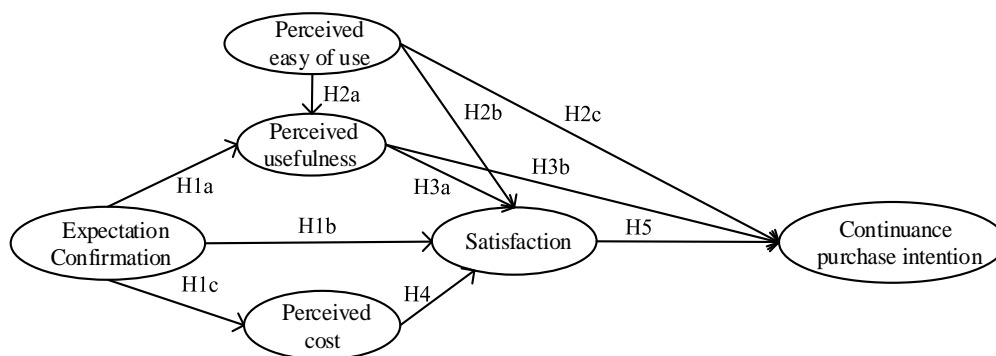


Figure 3. Research Model.

4. RESEARCH DESIGN AND DATA COLLECTION

4.1 Scale design

The research model contains six latent variables. In order to ensure the validity and reliability of the scale, all items measured are from the mature research scale and adapted according to the actual research background. The questionnaire used a 5-point Likert scale, ranging from “1” to extremely disagree to “5” for very agreeable. After designing the questionnaire, we conducted pre-tests and distributed 110 questionnaires. We received 103 valid questionnaires. The predicted questionnaire was tested by SPSS 24. The α values are all greater than 0.7, indicating that the reliability of the questionnaire is good. The variable measurement items and sources of each variable are shown in Table 1.

Table 1. Measurement items and sources of each variable.

Constructs	Item	Measure	Source
Expectation confirmation (CFM)	CFM1	Overall, I met my expectations through the online shopping pre-sale mode.	Bhattacharjee ^[12]
	CFM2	I confirm that the online shopping pre-sale mode can get a discount.	
	CFM3	I confirm that the results of shopping under the online shopping pre-sale mode are better than I expected.	
Perceived	PU1	Online shopping pre-sale mode can help me save money.	Bhattacharjee ^[12]

Constructs	Item	Measure	Source	
usefulness (PU)	PU2	Online shopping pre-sale mode can make me a smart consumer.	Davis ^[16]	
	PU3	In short, I think the online shopping pre-sale mode is useful.		
Perceived ease of use (PEU)	PEU1	Its not difficult to shop through online shopping pre-sale mode.		
	PEU2	Its not take much time to shop through the online shopping pre-sale mode.		
	PEU3	In short, I think online shopping pre-sale mode is very easy to shop.		
Satisfaction (SAT)	SAT1	I am satisfied with the online shopping pre-sale mode.		Bhattacharjee ^[12]
	SAT2	I am satisfied with the results of shopping through the online shopping pre-sale mode.		
	SAT3	In short, I am very satisfied with the online shopping pre-sale mode.		
Continuous Purchase intention (CPI)	CPI1	I will use the online shopping pre-sale mode to shop.		Bhattacharjee ^[12]
	CPI2	In the future, I am willing to continue shopping through the online shopping pre-sale mode.		
	CPI3	I am willing to recommend others to shop through the online shopping pre-sale mode.		
Perceived cost (PC)	PC1	It will spend a lot of time shopping through online shopping pre-sale mode.		Kim C ^[20]
	PC2	Its not worth through the online shopping pre-sale mode.		
	PC3	It will spend a lot of energy and energy on online shopping pre-sale mode.		

4.2 Data collection

The questionnaires of this study were distributed through the website(<https://www.wjx.cn>). After 4 weeks, 362 questionnaires were collected. After removing some invalid questionnaires, 336 were valid, with a recovery rate of 93.3%. In the sample data, males and females accounted for 47.6% and 52.4%, respectively. The ages of the users surveyed were mainly distributed between 18 to 29 years old, accounting for 89.0% of the total sample size.

5. DATA ANALYSIS

After the data collection was completed, a preliminary sample test was performed using SPSS 24 to determine whether the sample data can be used for factor analysis. The KMO value obtained by the preliminary test of the sample was 0.928, the Bartlett's chi-square value is 4740.812, and the Cronbach's Aloha coefficient is 0.944, therefore the sample data can be used for factor analysis.

5.1 Measurement model

Validation analysis of variables was performed using Amos 24 software. The results are shown in Table 2. The Cronbach's coefficients of all variables are greater than 0.8, indicating that the internal consistency of the scale is good. The convergence validity (AVE) is greater than 0.6, indicating that the convergence validity of the scale is good. The combined reliability (CR) value is greater than 0.6, indicating that the composite reliability of the scale is better. The diagonal elements in the table are used to determine the discriminant validity of the scale. The values of the elements on the diagonal are the square root of the convergence validity (AVE). Each element on the diagonal is greater than the variable of the row and column. The correlation coefficient indicates that the scale has good validity. In general, the indicators of the scale are in line with the reliability and validity of the inspection requirements.

Table 2. Cronbach's Alpha coefficient, AVE, The square roots of AVE, CR and correlations.

	Cronbach's Alpha	AVE	CR	CFM	PU	SAT	CPI	PEU	PC
CFM	0.881	0.711	0.882	0.843					
PU	0.833	0.632	0.837	0.805	0.795				
SAT	0.898	0.740	0.895	0.836	0.846	0.860			
CPI	0.912	0.781	0.914	0.706	0.757	0.850	0.884		
PEU	0.877	0.882	0.714	0.696	0.790	0.821	0.710	0.939	
PC	0.842	0.641	0.842	0.345	0.447	0.435	0.434	0.295	0.801

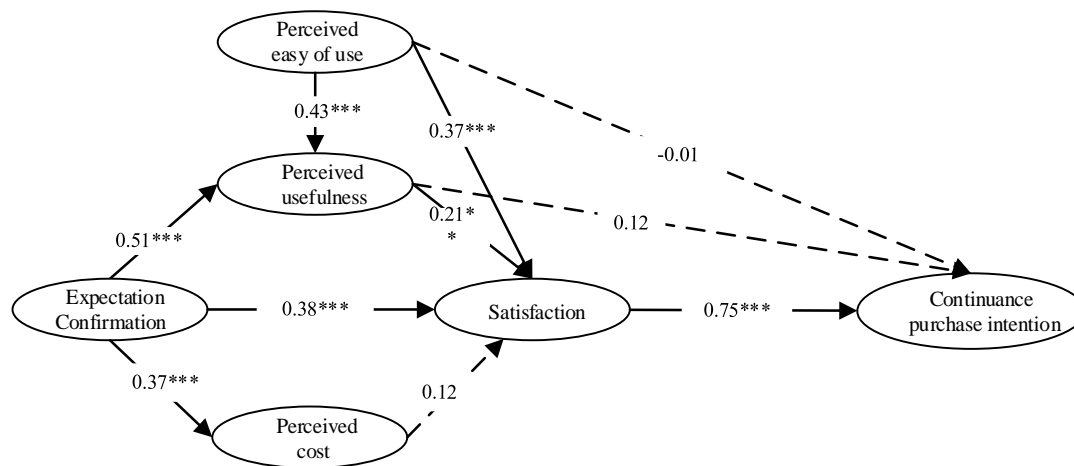
5.2 The structural model

In this study, the hypothetical model is fitted by the structural equation model from the software AMOS23. The overall model adaptation is shown in Table 3. The value of CMIN/DF is less than 3, and the GFI, NFI, IFI and CFI are all greater than 0.9, and the AGFI is greater than 0.8, indicating that the overall model fits well.

Table 3. Overall model adaptation.

Index	Recommended value	This research	Evaluation
CMIN/DF	<3	3.191	Acceptable
GFI	>0.90	0.876	Acceptable
AGFI	>0.80	0.829	good
NFI	>0.90	0.918	good
IFI	>0.90	0.942	good
CFI	>0.90	0.942	good
RMSEA	<0.08	0.081	Acceptable

5.3 Model verification



Note: *** p<0.001; ** p<0.05; * p<0.1.

Figure 4. Hypothesis testing results.

Table 4. Hypothesis test results.

Serial number	Hypothesis	conclusion
H1a	expectation confirmation has a positive impact on consumer perceived usefulness	support
H1b	expectation confirmation has a positive impact on consumer satisfaction	support
H1c	expectation confirmation has a negative impact on the perceived cost of consumers.	support
H2a	Perceived ease of use has a positive impact on consumer perceived usefulness	support
H2b	Perceived ease of use has a positive impact on consumer satisfaction	support
H2c	Perceived ease of use has a positive impact on continued purchase intention	not support
H3a	Perceived usefulness has a positive impact on consumer satisfaction	support
H3b	Perceived usefulness has a positive impact on consumers' willingness to purchase	not support
H4	Perceived cost has a negative impact on consumer satisfaction	not support
H5	Consumer satisfaction has a positive impact on consumers' willingness to purchase	support

6. CONCLUSION AND DISCUSSION

6.1 Measurement model

In order to investigate the influential factors of consumers' continuous purchase intention towards shopping pre-sale mode, this paper develops a model by reviewing relevant literature and theoretical analysis using the theory of expectation confirmation as the theoretical basis, and combining specific research backgrounds, We constructs a purchase intention theory model and performed an empirical research on the model. The study found that satisfaction is an important factor influencing consumer's continued purchase intention. Expectation confirmation is an important factor in perceived usefulness, satisfaction, and perceived cost. At the same time, the study also found that perceived ease of use and perceived usefulness have a significant impact on consumer satisfaction.

The unsupported hypotheses in the study are perceived ease of use and perceived usefulness, which have no significant effect on consumers' continued purchase intention (H2c); consumer perceived cost has no significant effect on their satisfaction (H3b); and perceived ease of use has no significant impact on the continues purchase intention (H4). The reason may be that with the rapid development of e-commerce, online shopping is more and more convenient. In the process of shopping in the pre-sale mode, consumers perceived difficulty while shopping. The degree of difficulty or ease may not be much different from the general shopping mode. Perceived usefulness has no significant effect on consumers' continued purchase intention. The reason may be that most of the respondents in this study are college students, who have limited economic ability. Under the pre-sale mode, most of them chose to discounted pre-sale products. However, compared with the use of coupons, group purchases, participation in promotions, etc., consumers thought that it cannot save a lot of money when shopping through pre-sale. Therefore, perceived ease of use does not greatly affect its continuous purchase intentions. Perceived cost has no significant effect on satisfaction, which may be because consumers' perceived cost when shopping in online shopping pre-sale mode is not high, therefore, they may ignore cost factors, so users' satisfaction with costs is low.

6.2 Management practice significance

This research has important practical significance for online retailers in e-commerce platforms. Online retail competition is fierce, especially on holidays. Therefore, only when retailers have a clear understanding of the influential factors of the consumer's continuous purchase intention using the online shopping pre-sale mode and only when they respond accordingly, can they win in the fierce competition. Therefore Online shopping retailers need to pay attention to the following points.

First, satisfaction has the greatest impact on consumers' intention to purchase. Retailers can increase consumer satisfaction through coupons and improve service quality.

Second, retailers need to make decisions in terms of increasing the degree of consumer's expectation confirmation, perceived usefulness, and perceived ease of use in the process of participating in pre-sale. This is an important way to improve consumers' continued purchase intentions.

6.3 Research limitations and future research directions

Although this study successfully illustrates the main influential factors of the consumer's continuous purchase intention using the online shopping pre-sale mode, there are still many factors that is limited the study and need to considered in future research. For example, the survey sample of the study has limitations, so it is necessary to be cautious in interpreting the conclusion of the study. Similarly, the study did not take into account the effects of age, gender, education level, etc, therefore, these factors can be considered to adjust variables in future studies.

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