

The Impacts of Customer Perceived Value on Impulse Purchase Intention: Evidence from China

Yue Wang^{1,*}

¹ *School of Beijing University of Posts and Telecommunications, Beijing, China*

^{*} *Corresponding author. Email: 2019213585@bupt.edu.cn*

ABSTRACT

With the rise and development of live streaming, consumer behaviour under the mode of live streaming shopping has become a hot topic. In the complex and diverse consumer behaviour, it is witnessed that the phenomenon of impulsive purchase becoming more and more common. In this paper, the impacts of customer perceived value on impulse purchase intention will be investigated empirically. Specifically, three dimensions (perceived functional value, perceived emotional value and perceived social value) will be discussed based on the data collected from questionnaire. The design of the questionnaire has taken into considerations of live streaming in China in terms of the stimulus-organism-response (SOR) framework and the theory of consumer perceived value. According to the results, the raise of perceived value will positively affect consumers' impulsive purchase intention, which is in line with the hypothesis. These results offer a guideline for e-commerce enterprises to optimize the management strategy and obtain higher profits.

Keywords: *Consumer perceived value, living e-commerce, impulse purchase, purchase intention.*

1. INTRODUCTION

With the popularization of the Internet, the mutual penetration as well as integration of e-commerce and online live broadcasting, a new business model of online live broadcasting, namely, living e-commerce, has become a hot spot in current shopping. Since the launch of Taobao Live broadcasting in 2016, marking the birth of live broadcasting, the number of commercial households of live streaming has reached 388 million by the end of 2020, with the total scale exceeding 1.2 trillion yuan [1]. The rise of live streaming e-commerce makes impulsive purchasing a more common phenomenon. According to the Online Survey Report on Consumer Satisfaction of Livestream E-commerce Shopping released by the China Consumers Association in 2020, more than 40% of consumers believe that they have serious impulse purchase problems [2].

Impulse buying is a kind of unplanned, spontaneous and sudden behaviour stimulated by shopping environment. The cognitive and positive emotions generated by consumers in the process of shopping under the impact of the external environment eventually led to impulsive buying behaviour. Such cognitive and positive emotions are the subjective perceived value of products/services. So far, scholars have conducted researches on perceived value and impulsive

consumption based on the SOR framework, but few of them focus on the traditional shopping mode. The current academic circle is lack of breakthrough under the live streaming shopping mode.

In terms of the summary of literature, combined with the characteristics of live streaming in China based on the SOR framework and the theory of consumer perceived value, this paper discusses live streaming characteristics influence to consumer impulse buying mechanism from three dimensions of perceived functional value, perceived emotional value and perceived social value. Questionnaire was designed by referring to the mature scale and distributed through the network platform. Software SPSS 25.0 was used for data analysis. Structural equation model was used to analyse and verify the theoretical framework and assumptions, so as to enrich the research results in the field of live streaming e-commerce and impulse purchasing.

“Livestreaming e-commerce” is a new online application that promotes related products through online livestreaming platforms or livestreaming software and enables the audience to understand the performance of the products so as to purchase the products. Different from traditional e-commerce, it is characterized by a more direct display form and stronger social attributes.

Therefore, livestreaming e-commerce is a social shopping mode aimed at improving user experience.

The prominent feature of impulse purchasing is “unplanned”, i.e., consumers have no clear intention to buy the goods before they see them, but decide to buy them on the spot after receiving relevant incentives. SOR model is an important model for consumer behaviour analysis. Customer perceived value refers to customers’ subjective cognition of the value of products or services provided by enterprises, including the comparison and trade-off between customers’ perceived gains and perceived losses. At present, there are researches work on network marketing based on SOR model [3-7], perceived value and impulsive purchasing [8-11], the influencing factors of live broadcast marketing [12-14]. However, there is a lack of relevant studies on the influencing factors of impulsive consumption from the perspective of perceived value under the emerging mode of live broadcast delivery. This paper will discuss and analyse the above problems.

In order to cater to the current trend of living e-commerce, this paper investigates influencing factors of impulsive purchasing willing under this mode. To be more specific, this paper mainly discusses the impact of customer perceived value from three dimensions on impulsive purchasing willing under livestreaming shopping mode in China. The rest part of the paper is organized as follows. The Sec. 2 will construct a theoretical framework. The Sec. 3 will mainly include research hypothesis and questionnaire design. The Sec. 4 will present the empirical analysis. Eventually, a brief summary will be given in Sec. 5.

2. THEORETICAL FRAMEWORK

The SOR model and consumer perceived value is utilized as the theoretical framework to analyze the influencing factors of impulsive consumption from three value perception dimensions.

2.1. SOR model

The SOR model was first applied in the field of environmental psychology, and also used in consumer behavior analysis later. According to the theory, consumers are subjected to a series of stimuli in the context of e-commerce live broadcast, which will cause changes in consumers’ emotions and then affect consumers’ behavior, namely purchase intention. For consumers, the characteristics and situational factors of e-commerce live broadcast are classified as external stimuli, while the perceived value is expressed as their subjective feelings about the product. In the process of watching the live broadcast of e-commerce, consumers will improve their cognition of the product, generate feelings of joy and excitement, and believe that the product quality is guaranteed, which will cause emotional

changes of consumers, and then affect their purchase intention.

2.2. Perceived Value Theory

The perceived value theory was first proposed by Zeithaml in 1988. From the perspective of consumers’ psychological state, it proposed a new definition for consumers’ perceived value, i.e., the overall evaluation of the utility of products or services after customers’ perceived benefits were weighed against the cost they paid in obtaining products or services. From the perspective of customers, other scholars believe that perceived value is a decision made by customers comprehensively in many aspects, thus perceived value includes five dimensions of social, emotional, functional, knowledge and situation, among which functional dimension is the most important in customers’ purchasing behavior [15]. However, with the rapid development of economy in China and the improvement of national income level and consumption ability, what matters in the act of purchase is no longer only price-performance. When buying a product or service, satisfaction, social attribute of convergence, and specific shopping scene, will affect the customer’s shopping psychology and value judgment, which are likely to lead to impulsive consumption intention. This paper mainly discusses the three dimensions of customer perceived value - functional, emotional and social.

Table 1. Measurement Scale

Dimension	Questions
Perceived Functional Value	F1. I’m more likely/inclined to make impulse purchases when the live product has good visibility (e.g., color, texture).
	F2. I’m more likely/inclined to make impulse purchases when the live product is authentic. F3. I’m more inclined to make impulse purchases when livestreaming products are more cost-effective than similar products or offer better deals than usual.
	E1. I’m more likely/inclined to make impulse purchases when I think the host is trustworthy. E2. I’m more likely/inclined to make impulse purchases when I have a good interactive experience. E3. The snapping up atmosphere makes me more prone to impulse buying.

Perceived Social Value	S1. The buying behavior of other people in the studio makes me more prone to impulse buying. S2. When watching livestreaming with family or friends, I tend to make impulse purchases more easily. S3. I'm more inclined to make impulse purchases if items are recommended by others.
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3. METHODOLOGY

3.1. Questionnaire design

This questionnaire is designed on the professional questionnaire creation platform Wenjuanxing. According to the research model constructed in this paper, the questionnaire should include three parts of perceived functional value, perceived emotional value and perceived social value, and each part has one general hypothesis and three sub-hypotheses. The design of the questionnaire scale referred to the relevant scales of other scholars in China. The questionnaire includes two aspects of personal information and scale questions. The social demographical variables of consumers including gender, age, education level, monthly disposable income, whether consumers have shopping experience in live broadcast, etc. Likert 5-level scale is used to measure all indicators in the questionnaire scale, which was divided into five levels from strongly disagree to strongly agree (1-5 points correspond to strongly disagree, disagree, uncertain, agree and strongly agree). The measurement scale is given in Table. 1.

3.2. Hypothesis

Combined with SOR theory, it is found that stimulation (including content presentation, information transmission, product display and interaction with users) in the context of livestreaming e-commerce is carried out in the form of livestreaming. Organism refers to the internal psychological changes produced after consumers are stimulated, i.e., consumer perceived value. Response refers to the impulse purchase intention generated when such internal psychological change breaks through a certain threshold. Through literature review and theory of perceived value and impulse purchase intention, there is a positive correlation between consumers' perceived value and impulse purchase intention. Considering the characteristics of livestreaming e-commerce mode, the three dimensions of perceived functional value, perceived emotional value and perceived social value are incorporated into the theoretical model of impulsive consumption behavior. Accordingly, the theoretical framework is constructed as shown in Figure 1.

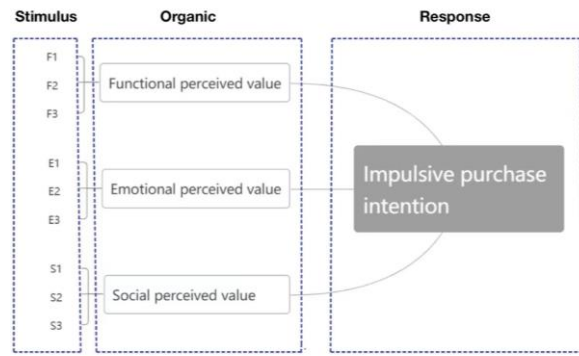


Figure 1 Theoretical Framework.

3.2.1. Hypothesis of Perceived Functional Value

H1: Consumers' perceived functional value positively affects impulsive purchase intention. Livestream e-commerce is characterized by visibility and authenticity, which can help consumers form functional perception of goods. Visibility refers to the visual accessibility, which refers to the attractiveness of live broadcast content to live broadcast users. The visibility of online live shopping is mainly reflected in the visualization of shopping scenes, sales process and information exchange. For example, some apparel live scenes are directly set in factories, while fruit and vegetable live scenes are set in plantations. In addition, the transparency of the sales process and the interesting bullet-screen information are the embodiment of visibility, which helps consumers to establish a comprehensive functional perception and thus generate impulsive purchasing intention.

Authenticity refers to the fact that the product display in online live shopping is more realistic to consumers than the traditional online shopping mode, and therefore product expectation is more realistic. Authenticity can also be verified by the feedback of others in the live broadcast room. The real and visual display of goods helps consumers form functional perception, and then influences impulse buying.

High quality and low price, high cost performance is an important aspect of function perception dimension. Preferential promotion is a commonly used marketing method in the live streaming mode of e-commerce. It forms a significant price advantage through preferential activities such as low price, exclusive gifts, ultra-high discounts, and full reduction of gift certificates, so as to stimulate customers' impulse purchase intention. Accordingly, three more specific hypotheses in the dimension of perceived functional value can be put forward:

- H1a: Good visibility of livestreaming will positively affect impulsive purchase intention.

- H1b: Authenticity of goods in livestreaming will positively affect impulsive purchase intention.
- H1c: Significant price advantage will positively affect impulsive purchase intention.

3.2.2. Hypothesis of Perceived Emotional Value

H2: Consumers’ perceived emotional value positively affects impulsive purchase intention. According to consumer trust theory, trust can reduce consumers’ worries about risks and uncertainties. When consumers do not trust anchors, they will have doubts and uncertainties about the commodities recommended by anchors and the information provided by anchors [14]. This sense of doubt and uncertainty will make consumers doubt, worry, vigilance, vigilance and other negative emotions. When consumers trust anchor and broadcast content, attention can be paid more on the commodity itself and the interaction of the air. Additionally, the study of Liu found that when consumers believe that the information provided by the host to be true, to be able to experience a higher pleasure and awakening, which will have contributed to the formation of impulsive purchase intention [16].

Interactivity refers to the interaction, communication and information exchange between consumers, anchors and other consumers in online live shopping and the formation of emotional connection. Different from the independent shopping behavior of traditional e-commerce, livestreaming e-commerce provides an interactive shopping platform. Consumers can obtain product information through communication with anchors and other consumers during live broadcast shopping, which not only makes up for consumers’ lack of product information, but also strengthens their immersion experience and sense of trust.

In the mode of live broadcast shopping, the phenomenon of limited time and limited amount of products occurs frequently, especially in the well-known livestreaming rooms and shopping festivals. The atmosphere is easy to make consumers feel nervous. Words such as "flash buying" bring adrenaline surge. The sense of achievement and frustration of not getting it urge consumers to keep participating in it and trigger impulse consumption. Accordingly, three more specific hypotheses in the dimension of perceived emotional value can be put forward:

- H2a: Customers’ trust in live broadcast content has a positive impact on impulsive purchase intention.
- H2b: Good interactive experience will positively affect impulsive purchase intention.
- H2c: Snapping up atmosphere will positively affect impulsive purchase intention.

3.2.3. Hypothesis of Perceived Social Value

H3: Consumers’ perceived social value positively affects impulsive purchase intention. Livestreaming is essentially an extension of the “social economy”. With the rapid development of the Internet, from product economy to experience economy, the communication between people has become closer and more convenient. Compared with offline gatherings, consumers prefer to post content on social platforms to promote emotional exchanges between circles. This social relationship inspires young people to share and recommend products to each other, i.e., produce shopping intention or behaviors. In addition, acquaintances purchasing in the same livestreaming (or mutual recommendation) will promote impulsive purchase. Accordingly, three more specific hypotheses in the dimension of perceived social value can be put forward:

- H3a: The buying behavior of others has a positive impact on impulsive purchase intention.
- H3b: Watch live broadcasts with acquaintances will positively affect impulsive purchase intention.
- H3c: Links to products shared by others will positively affect impulsive purchase intention.

3.3. Data Descriptions

In this study, questionnaire was designed and released on the Platform Wenjuanxing. The formal survey began in January 2022 and distributed through QQ, wechat and other social platforms. There were 79 questionnaires collected in total, among which all of the 79 were valid. The participates come from Shandong, Shanghai, Jilin, Anhui, Hebei, Jiangxi, Beijing, Tianjin and other provinces, which means the regional coverage is wide. Most of them have bachelor degrees and are the main users of e-commerce. The distribution of demographic characteristics of the survey is shown in Table 2.

Table 2. Descriptive statistics of the sample

Sample characteris	classification	sample	
		numb	percent
gender	male	29	36.71%
	female	50	63.29%
age	<18	1	1.27%
	18~25	66	83.54%
	26~35	7	8.86%
	36~45	1	1.27%
	46~55	3	3.80%
	>56	1	1.27%
	High school and	2	2.53%
	Associate degree	4	5.06%

Education level	Bachelor degree	66	83.54%
	Master degree and <3000	7	8.86%
Monthly income	3000~6000	47	59.49%
	6000~10000	20	25.32%
	>10000	5	6.33%
whether have	Yes	7	8.86%
	No	56	70.89%
		23	29.11%

4. EMPIRICAL ANALYSIS

4.1. Reliability and Validity

4.1.1. Reliability Test

In order to test the extent to which the questionnaire data reflected the actual situation, SPSS 25.0 was used to conduct internal reliability test on the questionnaire data to test the internal consistency and reliability of the questionnaire. Cronbach’s α values of all scales exceeded the standard requirement of 0.7, indicating that the questionnaire is consistent and reliable. The results are shown in Table 3:

Table 3. Reliability test of scale

Dimension	N of	Cronbach's
Perceived functional	3	0.935
Perceived emotional	3	0.865
Perceived social value	3	0.87

Table 5. Total variance interpretation of the scale

element	Total variance interpretation								
	Initial eigenvalue			Extraction Sums of Squared			Sum of squares of rotational		
	total	Percentage of	cumulative %	total	Percentage of variance	cumulative %	total	Percentage of variance	cumulative %
1	5.578	61.981	61.981	5.578	61.981	61.981	4.039	44.876	44.876
2	1.387	15.409	77.390	1.387	15.409	77.390	2.926	32.514	77.390
3	0.534	5.932	83.322						
4	0.512	5.691	89.013						
5	0.325	3.616	92.629						
6	0.226	2.506	95.135						
7	0.170	1.894	97.029						
8	0.158	1.753	98.782						
9	0.110	1.218	100.000						

Extraction method: principal component analysis.

4.1.2. Validity Test

Exploratory factor analysis was used to examine the consistency between the theoretical model and the questionnaire data, i.e., to test the structural validity. The prerequisite of factor analysis is to pass KMO test and Bartlett spherical test.

Validity test of the scale. The validity test results of the scale are shown in Table 4, where the KMO index is 0.86, and Bartlett spherical is less than 0.001. Therefore, there is a good correlation between the test items in the scale, which is suitable for further factor analysis.

Table 4. Validity test of scale (KMO and Bartlett spherical test)

Kaiser-Meyer-Olkin measure of sampling	0.86
Bartlett spherical test	The approximate chi-square Freedom degree 36.000
	Notable degree 0.000

Then, principal component analysis (PCA) was used to interpret the total variance of the scale as summarized in Table 5. The interpretation of independent variables by factors reached 77.390%, higher than the minimum standard value 50%.

Table 6. The rotated component matrix

	component 1	component 2
F1	0.875	
F2	0.908	
F3	0.894	
E1	0.693	
E2	0.796	
E3	0.583	0.576
S1		0.878
S2		0.884
S3		0.788

Extraction method: principal component analysis.
 Rotation method: Kaiser normalized maximum variance method. The rotation converges after 3 iterations.

Finally, the rotation component matrix is obtained by using the maximum variance method. Seen from Table 6, the factor loading values are all higher than 0.5, indicating good consistency between variables and variable data and good structural validity.

4.2. Hypothesis testing

A single sample T-test is used in this study. As the total amount of current samples is too small and the samples have similar social backgrounds, they are not widely representative and lack of good generalization performance. Further data collection is required.

4.2. Limitation

After validity test, only two factors were extracted, which were inconsistent with the three dimensions of the initial hypothesis. The reason may be that the number of items set in each dimension was too small and the total number of samples was too small, which required further discussion on the rigor of the hypothesis.

5. CONCLUSION

In summary, this paper investigates the impacts of customer perceived value on impulsive purchase intention based on Chinese live streaming shopping mode. According to the results, the improvement of

perceived value can lead to higher impulsive purchase intention, which is in line with common sense. Specifically, the improvement of visualization and authenticity, as well as the formation of more significant price advantage contribute to higher functional perceived value. High credibility, benign interaction and the tension of snapping up atmosphere can enhance the emotional perceived value. Social behavior (e.g., purchasing and recommending) can definitely improve the social perceived value of products. The improvement of any dimension of perceived value will positively affect consumers' impulsive purchase intention.

Nevertheless, this study also has some limitations. First of all, there are other dimensions based on customer perceived value that affect impulsive buying besides functional, emotional and social perception. Therefore, more comprehensive research is needed to put forward comprehensive business suggestions. Furthermore, impulse consumption may not be the end of a shopping activity. After impulse consumption, consumers may apply for after-sales refund and other services to terminate the transaction, and their shopping behavior may become more cautious and rational. Therefore, it is difficult to have good generalization ability or predict future consumption based only on the study of impulse consumption. Therefore, in subsequent studies in the field of livestreaming e-commerce, the influencing factors of impulsive consumption and rational consumption as well as changes in consumers' emotions ought to be compared for formulating better business strategies.

Anyway, there are some general suggestions to be put forward. Primarily, it is necessary to optimize livestreaming performance from aspects of authenticity, visibility and interaction. In addition, formulating reasonable market strategies or market mix to form price advantages is also helpful. Last but not least, one can use multi-platform strategy to generate publicity. Overall, these results shed light on formulating better business strategies.

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