

# How Perceived Price Discount Influence on the Impulsive Consumption in the Context of Online Limited-Time Promotion: Moderating Effect of Perceived Time Pressure\*

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## I. Introduction

According to the report released by CNNIC

(China Internet Network Information Center), as of June 2022, the number of Chinese netizens reached 1.051 billion, among which

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the number of online shopping users reached 841 million, accounting for 80.0% of the total netizens. The increasing perfection of e-commerce platform's services and the continuous improvement of the convenience of online shopping not only bring consumers a whole new shopping experience, but also bring a good opportunity for enterprises to further improve their efficiency. In order to effectively expand the market share through the e-commerce channel, enterprises have to strengthen their competitive advantages in terms of the product itself, marketing means and store services, and limited-time promotion is one of the effective marketing means for enterprises to increase sales volume.

The "economic man" hypothesis of traditional economics holds that human behavior is rational, and the purpose of their behavior is to pursue the maximization of their own interests. However, with the great abundance of material goods and the endless emergence of marketing means, the consumption psychology and consumption behavior of consumers in the process of purchase decision-making present diversity and complexity, and irrational consumption behavior is one of its concrete manifestations. Simon (1993) believed that people as decision-makers in real life only have bounded rationality, and their behavioral decisions are often based on satisfaction criteria rather than optimal criteria. In fact, compared with the

context of traditional offline shopping, the particularity of online shopping situation is more likely to make consumers have positive emotion and strong purchase desire for products, and then make them make impulsive consumption decisions dominated by individual intuition rather than rational control (Hoch and Loewenstein, 1991; Michael et al., 2009; Ruberg and Cullen, 2019).

As an important marketing means in e-commerce, limited-time promotion has been widely used in many occasions, including daily sales, festival promotion and so on. Each year on November 11, Taobao and Tmall will have a major limited-time promotion and the sellers on these platforms will set different price cuts for their products and provide more personalized after-sales service, which is only valid for one day. Meanwhile, the main marketing method used by anchors to sell goods in the hot e-commerce live streaming is also limited-time promotion, which attracts consumers by offering extraordinary discount within a limited time. Given the widespread usage of limited-time promotion as a marketing method for enterprises in the context of e-commerce, it is great meaningful to study and reveal the internal influence mechanism of limited-time promotion on consumers' impulsive consumption. Some scholars pointed out that the characteristics of limited-time promotion mainly include two aspects of time limitation and material incentives (Raghubir

and Corfman, 1999; Lee and Chen-Yu, 2018). Although there are many studies to reveal the internal influence mechanism of impulsive consumption behavior from the characteristics of limited-time promotion, few studies can reasonably explain the timing and form of time limitation in the process of impulsive consumption (Madhavaram and Laverie, 2004; Dawson and Kim, 2010; Xu and Huang, 2014; Chen and Wang, 2016). In view of this, in the context of limited-time promotion, this study will not only clarify the internal influence mechanism of perceived price discount on consumers' online impulsive consumption, but also further explore the timing and form of perceived time pressure as a moderating variable in the process of consumers' online impulsive consumption. On the one hand, this study can fill the knowledge gap in the field of e-commerce marketing; on the other hand, the relevant findings of this study can provide effective suggestions for practitioners in the e-commerce industry in the formulation of marketing strategies.

## II. Theoretical Background

### 2.1 Price Discount

Price promotion is the most important part of the marketing mix, which refers to the marketing method that merchants choose a

certain period to reduce the price of products or services or increase the quantity of products or services that can be purchased under the same price (Raghubir and Corfman, 1999). As an accelerator to induce consumers to purchase quickly, price discount is not only a marketing tool for enterprises, but also an important reference for consumers to make consumption decisions. Blattberg and Neslin (1989) argued that price promotion can reduce the number of consumers' product purchases and speed up the recovery of working capital for enterprises. Gupta and Cooper (1992) pointed out that price promotion has a significant promoting effect on consumers' purchase decision-making. Yadav and Seiders (1998) believed that price promotion essentially aims to increase sales by stimulating consumers' price perception of commodities. Studies have shown that price concession can best stimulate consumers to make impulsive purchases, and consumers have the strongest response to price discount in the face of different forms of promotion (Seibert, 1997). Liao et al. (2009) also indicated that promotional discount and product attractiveness have significant contribution to consumers' impulsive consumption behavior. In view of this, this study believes that in the context of e-commerce, the product's price discount set by merchant is an important source of stimulation for consumers to carry out impulsive consumption.

## 2.2 Time Pressure

Time pressure refers to the sense of anxiety and stress that decision-makers experience as the deadline for completing a task gets closer and closer (Svenson and Edland, 1987). Svenson and Maule (1993) argued that time pressure is an external constraint that can stimulate consumers' emotional responses, which reflects the degree of anxiety that individuals perceive, when the deadline for task completion becomes shorter and shorter. Ariely and Zakay (2001) pointed out that time limitation can cause time pressure, which in turn affects individuals in terms of psychological and emotional changes. Szollos (2009) believed that time pressure includes both objective time shortage and subjective emotions such as urgency and anxiety, and such emotional experience can be both long-term and short-term.

In the field of consumer behavior, some scholars believed that time pressure is an important situational factor affecting consumers' purchase decision-making (Spears, 2001). By exploring the relationship between time pressure and impulsive purchase, Beatty and Ferrell (1998) found that consumers with limited shopping time are prone to time pressure, and the greater the perceived time pressure, the higher the probability of impulsive consumption. Kauffman et al. (2010) argued that time pressure would bring a sense of urgency to

consumers, which would make them pay more attention to positive information such as product promotion during the purchase process, and tend to ignore the potential risks brought by the purchase decision. Wu and Huan (2010) found that consumers are more likely to carry out irrational impulsive purchase behavior when they lack enough time to objectively evaluate and judge the product information. Inman et al. (1997) believed that adding the constraint condition of time limitation to enterprises' marketing process can effectively affect consumers' psychology of scarcity, and thus increase consumers' value perception of products or services provided by enterprises. In view of this, this study takes time pressure as an important moderating variable to be investigated, and argues that in the context of online limited-time promotion, time pressure will promote the generation of consumers' positive emotions by amplifying consumers' perception of positive information about products, and such emotional experience will exist in the whole process of consumers' consumption decision-making.

## 2.3 S-O-R Model

Mehrabian and Russell (1974) first proposed the S-O-R model (Stimulus-Organism-Response model) and applied it to relevant studies in environmental psychology. Subsequently, Jacoby (2002) extended the

S-O-R model to the research in the field of consumer behavior. Accordingly, stimulus is the external information which can cause consumers' cognitive and emotional changes during the shopping process. This study argues that in the context of online limited-time promotion, the perceived price discount of consumers is an important external stimulus, which will stimulate consumers to produce internal changes in mood and cognition.

Organism refers to the internal changes of an individual or an organization in response to external stimuli, and the changes of the internal state are the important antecedents of behavior. Donovan and Rossiter (1982) argued that the internal state of the organism includes two dimensions of emotion and cognition, among which pleasure and evoking sense belong to the category of emotion, while perceived risk and perceived value belong to the category of cognition. Emotion is a mental state that is transmitted without a certain purpose (Frijda, 1993). Individuals in different emotional states make significantly different judgments about the same thing, and the individuals with positive emotions are more likely to make positive judgments. Conversely, individuals with negative emotions are more likely to make negative judgments. Schwarz (2000) believed that emotions can influence consumers' decision-making behavior by affecting the level of their cognitive ability and judgment ability. Some scholars have pointed

out that the consumption behavior caused by the cognitive change intermediary is more rational, compared with the consumption behavior caused by the emotional feeling intermediary (Paul et al., 2007). Rook (1987) found that the stronger the positive emotions generated by consumers during the purchase process, the more likely impulsive consumption behavior would occur. In view of this, this study takes evoking sense and pleasure as the intermediaries of consumers' emotional feelings after forming the perception of price discount on commodities and before producing impulsive consumption.

Response refers to the changes of external behavior caused by the internal state changes of an individual or organization, which is the behavioral mapping of mental state. In summary, in this study, perceived price discount of consumers on commodities is external stimulus, evoking sense and pleasure of consumers are organismic variables, and impulsive consumption behavior of consumers is the response variable.

### **III. Research Model and Hypothesis**

#### **3.1 The Impact of Perceived Price Discount on Evoking Sense**

Price discount is a kind of inducement

factor, aiming to stimulate consumers to carry out immediate purchase behavior, and it is also a temporary and short-term marketing activity. Moore and Fitzsimons (2014) pointed out that when an individual's freedom is restricted or threatened, the individual would produce a state of high arousal to rebuild freedom, which in turn would increase the degree of desire for low-availability resources. Spies et al. (1997) experimentally verified that evocative emotions generated by physical environmental stimuli would affect the consumers' product selection results. LaRose and Eastin (1998) pointed out that the situational stimulation of online shopping can prompt potential buyers to have high emotions. Ghafour (2014) found that the price discount, relative price difference and preferential form in the context of live streaming e-commerce can stimulate consumers' excitement and prompt them to make impulsive purchases by satisfying consumers' psychological expectation of saving money. In view of this, this study argues that the higher the perception degree of price discount, the more likely consumers are to be excited, and proposes the following hypothesis:

H1: Perceived price discount has a positive impact on evoking sense.

### 3.2 The Impact of Perceived Price Discount on Pleasure

Price discount is a marketing strategy commonly used by merchants to increase product sales and obtain potential consumers, aiming at stimulating consumer demand and encouraging consumers to buy products immediately (Etzel et al., 2001). Russel and Mehrabian (1976) believed that consumers are often stimulated by the environment or the product itself during the shopping process, which leads to the changes in their internal psychological state and influences their purchase decisions. Piron (1991) found that impulsive purchase behavior is mainly caused by the fact that consumers only pursue immediate pleasure without considering long-term interests, and price discount can just fulfill the psychological demand of consumers to pursue pleasure. Rahul and Anil (2017) believed that when consumers face price discount, they are more inclined to make impulsive purchases under the euphoric mood of expense saving and loss avoidance. In view of this, this study argues that the higher the perception degree of price discount, the more likely consumers are to be pleasurable, and proposes the following hypothesis:

H2: Perceived price discount has a positive impact on pleasure.

### 3.3 The Impact of Evoking Sense on Pleasure

Generally speaking, the emotional responses

elicited by external environmental stimuli can be divided into two dimensions: pleasure and evoking sense (Mehrabian and Russell, 1974). Donovan and Rossiter (1982) pointed out that pleasure and evoking sense are good predictors of customer behavior in the retail service environment. In the context of online shopping, consumers' evoking sense and pleasure are closely linked. Rafaeli and Reville (2006) empirically verified that high degree of vitality arousal has a positive effect on pleasure. And this finding has also been validated and supported by other scholars (Koo and Lee, 2011; Hsieh et al., 2014). In other words, the more arousing consumers are under the influence of external stimuli, the easier it is for consumers to have a pleasant experience. Hence, this study proposes the following hypothesis:

H3: Evoking sense has a positive impact on pleasure.

### **3.4 The Impact of Evoking Sense on Impulsive Consumption**

Evoking sense refers to the emotions of excitement, arousal and alertness generated by consumers in response to a specific stimulus. Weinberg and Gottwald (1982) pointed out that consumers, influenced by external environmental stimuli, would have a strong emotional response, which in turn stimulates consumers' desire to make impulsive purchases

of commodities. Youn and Faber (2000) pointed out that when consumers make impulsive purchases, they would experience a strong desire to buy, which is full of emotional response mainly based on evoking sense. Aiming at the internal influence mechanism of evoking sense on impulsive consumption, Rook and Gardner (1993) suggested that high arousal emotion helps consumers concentrate their energy and reduces their control over spontaneous consumption, thus leading to impulsive purchase behavior, while low arousal emotion depletes energy, so that consumers do not have enough energy to carry out impulsive purchase behavior. Sherman et al. (1997) found that the higher the evoking sense of shoppers, the more expenses they would spend on shopping, the longer their shopping would last, and the more commodities they would purchase. In summary, this study argues that in the context of e-commerce, the stronger the evoking sense of consumers are, the more likely they are to carry out impulsive consumption behavior, and proposes the following hypothesis:

H4: Evoking sense has a positive impact on impulsive consumption.

### **3.5 The Impact of Pleasure on Impulsive Consumption**

Pleasure is a kind of positive emotion produced by consumers in a specific

environment. Cunningham and Grev (1980) argued that impulsive purchase intention is the result of strong emotions. Weinberg and Gottwald (1982) believed that if the psychological state of consumers is irrational, they usually have an overhigh expectation of their own economic ability, while regarding potential risk as small, and carry out impulsive consumption behavior driven by pleasant emotion. Rook (1987) pointed out that impulsive purchase is out of control precisely because consumers are immersed in pleasant shopping experience. Rook and Fisher (1995) experimentally verified that happiness is the emotional state most likely to induce consumers to make impulsive purchase, followed by carefree and excited. In other words, when individuals are in the emotional state of happiness, pleasure and enjoyment, it will be easier for them to make impulsive purchase. In the context of online shopping, Adelaar et al. (2003) pointed out that there is a positive correlation between individual's emotion and impulsive purchase, and the pleasure and enjoyment consumers feel in the shopping environment will further stimulate their desire of impulsive purchase. In summary, this study argues that in the context of e-commerce, consumers with stronger sense of pleasure are more likely to have impulsive consumption behavior, and proposes the following hypothesis:

H5: Pleasure has a positive impact on

impulsive consumption.

### 3.6 Moderating Effect of Perceived Time Pressure

In the context of e-commerce, perceived time pressure has a significant impact on consumers' emotion, cognition and behavior. Beatty and Ferrell (1998) pointed out that the greater the time limitation suffered by shoppers is during the purchase process, the greater the perceived time pressure of the shoppers will be, and the stronger the purchase intention of the shoppers will be. Rieskamp and Hoffrage (2008) empirically verified that the time limitation of decision-making causes decision makers to perceive the loss of relevant opportunities, which in turn affects the quality of decision-making by enhancing their perception of time pressure. Lin and Chen (2013) suggested that time pressure plays a moderating role between shopping motivation and shopping activity, and the greater the time pressure is, the stronger the influence of consumers' shopping motivation on their shopping activity will be. Aminilari and Pakath (2005) believed that the greater the perceived opportunity cost of consumers is, the greater the time pressure perceived by consumers will be, which in turn leads to the generation of consumers' emotion such as urgency, anxiety, regret of not purchasing, etc. In order to alleviate such emotion, consumers will choose

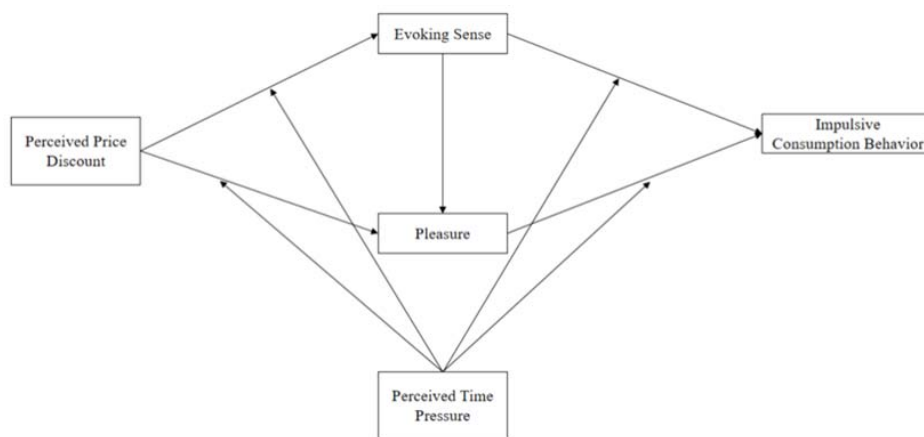


to make decisions based on their intuition, which is more likely to make them carry out impulsive purchase behavior. Based on the explanatory level theory, Trope and Liberman (2010) pointed out that time distance would affect peoples' value judgment. The weight people assign to the value associated with low level interpretation decreases with time, while the weight assigned to the value associated with high level interpretation increases with time. In other words, time distance can affect consumers' purchasing decisions to a certain extent. When the time limit is large, consumers tend to have a perception of close psychological distance with the purchase behavior due to the stronger time pressure. They are more inclined to pay attention to the explicit, local and specific information of the product, and thus are more likely to have impulsive consumption behavior. However, when the time limit is relatively small,

consumers tend to have a perception of far psychological distance with the purchase behavior due to weaker time pressure, and are more inclined to pay attention to the core, overall and abstract information of the product, so as to avoid impulsive consumption behavior. In the context of e-commerce, this study argues that the time pressure induced by limited-time promotion will make consumers pay more attention to the positive information of the product and exaggerate consumers' perceived benefits, thus stimulating consumers' emotional responses such as excitement and pleasure, and further triggering consumers' impulsive consumption behavior. Hence, this study proposes the following hypotheses:

H6a: Perceived time pressure plays a moderating role between perceived price discount and evoking sense.

H6b: Perceived time pressure plays a moderating role between perceived price



<Figure 1> Research Model

discount and pleasure.

H6c: Perceived time pressure plays a moderating role between evoking sense and impulsive consumption.

H6d: Perceived time pressure plays a moderating role between pleasure and impulsive consumption.

From the perspective of the characteristics of limited-time promotion, this study constructed a research model of consumers' impulsive consumption in the context of

e-commerce, as shown in Figure 1.

## IV. Empirical Analysis

### 4.1 Data Collection

In this study, consumers with impulsive consumption experience on the e-commerce platform of Taobao were investigated, as Taobao is the largest B2C e-commerce platform in China. And sample data were

<Table 1> Demographic Statistics

Characteristic	Description	Frequency	Percent
Gender	Male	126	40.8
	Female	183	59.2
Age	Under 18	64	20.7
	18~29	118	38.2
	30~39	76	24.6
	40~59	39	12.6
	Above 60	12	3.9
Education	Junior high school or below	43	13.9
	High school or technical secondary school	64	20.7
	Junior college or bachelor	171	55.3
	Postgraduate or above	31	10.1
Occupation	Student	101	32.7
	Teacher	23	7.4
	Government/public institution employee	42	13.6
	Enterprise employee	47	15.2
	Migrant worker/farmer	28	9.1
	Freelancer	39	12.6
	Retiree	29	9.4
Monthly Income	Less than 1000 Yuan	44	14.2
	1000~3000 Yuan	121	39.2
	3001~5000 Yuan	75	24.3
	5001~10000 Yuan	48	15.5
	More than 10000 Yuan	21	6.8
Monthly E-Commerce Cost	Less than 500 Yuan	86	27.8
	500~2000 Yuan	143	46.3
	2001~5000 Yuan	47	15.2
	More than 5000 Yuan	33	10.7

collected through an online questionnaire survey platform called “Questionnaire Star” from August 21 to September 16, 2022. A total of 324 questionnaires were collected, among which 309 questionnaires were valid, with an effective recovery rate of 95.4%. Meanwhile, this study used SPSS 22.0 and SmartPLS 4.0 to statistically analyze the sample data, and the descriptive statistics of the sample data was arranged in Table 1. In terms of gender, 59.2% of respondents were female (n=183) and 40.8% of respondents were male (n=126). In terms of age and education, respondents aged 18~39 accounted for 62.8% (n=194), and 65.4% of respondents with a college degree or above (n=202). In terms of occupation, student took the largest proportion (n=101, 32.7%), followed by enterprise employee (n=47, 15.2%) and government/institution employee (n=42, 13.6%). In terms of monthly disposable income, respondents with 1000~3000 yuan accounted for the largest proportion (n=121, 39.2%), followed by respondents with 3001~5000 yuan (n=75, 24.3%) and respondents with 5001~10000 yuan (n=48, 15.5%). In terms of monthly e-commerce cost, respondents with 500~2000 yuan accounted for the largest proportion (n=143, 46.3%), followed by respondents with less than 500 yuan (n=86, 27.8%) and respondents with 2001~5000 yuan (n=47, 15.2%).

## 4.2 Measurement Model

Firstly, the multicollinearity of each structure in the research model was detected, and the VIF of each structure was obtained by SPSS 20.0. Since the VIF of each structure was less than 5, it indicated that the degree of redundancy among the structures was low and there was no multicollinearity problem. For the reliability detection of measurement scale, Cronbach’s  $\alpha$  and composite reliability (CR) are widely used in the academic circle. Hair (2006) suggested that Cronbach’s  $\alpha$  between 0.70 and 0.90 would reflect a high level of reliability for the measurement scale. As shown in Table 2, except perceived price discount (0.884), Cronbach’s  $\alpha$  of each construct was greater than 0.90, and composite reliability of each construct was greater than 0.80, indicating that the measurement scale had good reliability. In order to verify the convergent validity of measurement scale, it is common to use standardized factor loading and average variance extracted (AVE) in the academic circle. KMO and Bartlett’s test of sphericity is an important method to determine whether the sample is suitable for factor analysis. The value of KMO for the sample data was 0.869 with a significance level of 0.000, indicating that the sample was suitable for factor analysis. As shown in Table 2, the standardized factor loading for each construct item was greater than 0.80, and the AVE of

<Table 2> The Results of Reliability & Convergent Validity Analysis

Construct	Items	Standardized Factor Loading	Cronbach's $\alpha$	CR	AVE
Perceived Price Discount	PPD 1	0.087	0.884	0.889	0.727
	PPD 2	0.840			
	PPD 3	0.839			
Perceived Time Pressure	PTP 1	0.927	0.950	0.960	0.858
	PTP 2	0.948			
	PTP 3	0.943			
	PTP 4	0.886			
Evoking Sense	ES 1	0.893	0.960	0.917	0.786
	ES 2	0.898			
	ES 3	0.868			
Pleasure	PE 1	0.912	0.959	0.930	0.816
	PE 2	0.918			
	PE 3	0.880			
Impulsive Consumption	IC 1	0.873	0.962	0.920	0.742
	IC 2	0.878			
	IC 3	0.842			
	IC 4	0.852			

<Table 3> The Results of Discrimination Validity Analysis

	Mean	STDEV	PPD	PTP	ES	PE	IC
PPD	3.566	0.835	0.853				
PTP	3.430	1.145	0.205**	0.926			
ES	3.180	0.989	0.333**	0.296**	0.887		
PE	3.399	1.104	0.462**	-0.292**	0.422**	0.903	
IC	3.108	1.207	0.469**	0.229**	0.611**	0.456**	0.861

\*\* Correlation is significant at the 0.01 level (2-tailed)

each construct was greater than 0.70, indicating that the measurement scale had good convergent validity.

In this study, the correlation coefficient and the square root of AVE were used to verify the discriminant validity of the measurement scale. It is generally believed that the measurement scale has good discriminant validity if the correlation coefficient between any two

constructs is less than the square root of AVE in the same peer and the same column (Fornell and Larcker, 1981). According to Table 3, the correlation coefficient between any two constructs was less than the square root of AVE in the same peer and the same column (the value on the main diagonal), indicating that the measurement scale had good discriminant validity.

<Table 4> The Results of Hypothesis Test

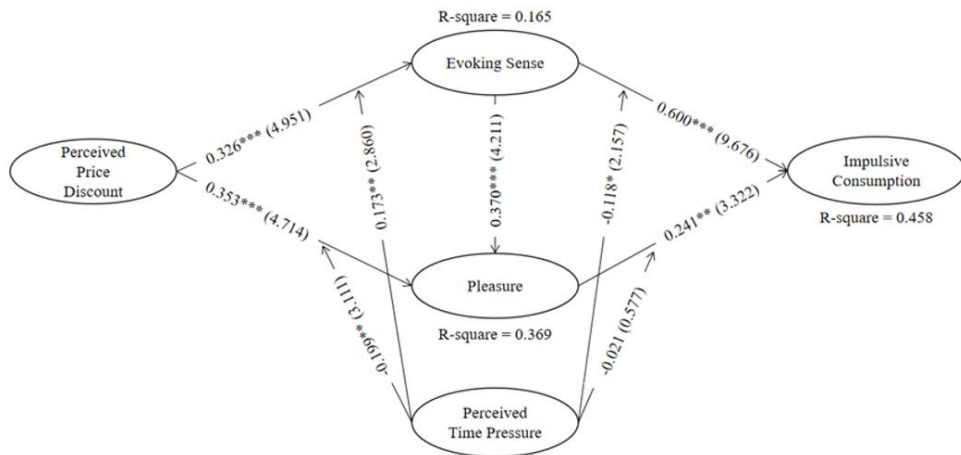
Hypothesis	Relationship	Path coefficients	SD	t-value	p-value	Results
H1	PPD → ES	0.326	0.066	4.951	0.000	Accepted
H2	PPD → PE	0.353	0.075	4.714	0.000	Accepted
H3	ES → PE	0.370	0.088	4.211	0.000	Accepted
H4	ES → IC	0.600	0.062	9.676	0.000	Accepted
H5	PE → IC	0.241	0.072	3.322	0.001	Accepted
H6a	PTP*PPD → ES	0.173	0.060	2.860	0.004	Accepted
H6b	PTP*PPD → PE	-0.199	0.064	3.111	0.002	Accepted
H6c	PTP*ES → IC	-0.118	0.055	2.157	0.031	Accepted
H6d	PTP*PE → IC	-0.021	0.037	0.577	0.564	Rejected

### 4.3 Structural Model

In this study, 309 valid sample data were used for model fitting and the significance of the path coefficients of the structural equation model was verified by the bootstrapping algorithm of SmartPLS 4.0 (subsamples =1000). A summary of the results is shown in Table 4.

Bootstrapping aims to calculate standard errors (t-values and p-values) of coefficient estimates by repeating random sampling to verify the statistical significance of the structural equation model path (Vinzi et al., 2010). As shown in Table 4 and Figure 2, perceived price discount has a significant positive impact on both evoking sense (0.326\*\*\*) and pleasure (0.353\*\*\*), thus hypotheses H1 and H2 are accepted. Evoking sense has a significant positive impact on both pleasure (0.370\*\*\*) and impulsive consumption (0.600\*\*\*), thus hypotheses H3 and H4 are accepted. Meanwhile, pleasure has

a significant positive impact on impulsive consumption (0.241\*\*), thus hypothesis H5 is accepted. In the verification of the moderating effect of perceived time pressure, perceived time pressure (0.173\*\*) plays a positive moderating role between perceived price discount and evoking sense, thus hypothesis H6a is accepted. In addition, perceived time pressure (-0.199\*\*) plays a negative moderating role between perceived price discount and pleasure, thus hypothesis H6b is accepted. Meanwhile, perceived time pressure (-0.118\*) also plays a negative moderating role between evoking sense and impulsive consumption, thus hypothesis H6c is accepted. It is worth noting that there is no significant moderating effect of perceived time pressure (-0.021) between pleasure and impulsive consumption, thus hypothesis H6d is rejected.



<Figure 2> The Hypothesis Test of the Research Model

## V. Conclusion

### 5.1 Summary of Results

Based on the S-O-R model, this study explored the internal influence mechanism of perceived price discount and perceived time pressure on impulsive consumption in the context of online limited-time promotion, and verified the related hypotheses through empirical analysis. First of all, regarding the effects of environmental stimuli on organismic factors, the research results show that consumers' perception of price discount on commodities can contribute to the formation of their evoking sense and pleasure. Meanwhile, consumers' evoking sense can further contribute to the formation of their sense of pleasure. Therefore, as an immediate benefit available to consumers, the price discount provided by merchants can play a positive role

in the change of consumers' inner emotions in the process of consumption decision-making. Secondly, regarding the effects of organismic factors on response, this study found that both evoking sense and pleasure of consumers can effectively induce consumers' impulsive consumption behavior. However, compared with pleasure, evoking sense plays a much stronger role in inducing consumers' impulsive consumption behavior, indicating that evoking sense is the key emotion to induce consumers' impulsive consumption behavior. Finally, in terms of the moderating effect of perceived time pressure, this study found that perceived time pressure had a positive moderating effect between perceived price discount and evoking sense. However, perceived time pressure had a negative moderating effect between perceived price discount and pleasure. It is worth noting that such negative moderating effect does not simply weaken the influence of the pathway,

but provides the possibility of influence substitution. Time pressure can affect consumers' perception in a manner similar to the positive emotions that material incentives bring to consumers. When a limited-time promotion is approaching the end of the sale, consumers are prone to thinking that they are missing the best time to buy, and the resulting time pressure will exaggerate the perceived benefit and weaken the perceived risk, which in turn leads to a positive emotion of consumers. Meanwhile, perceived time pressure also played a negative moderating role between evoking sense and impulsive consumption, which is still a substitution effect in essence. In contrast, there was no significant moderating effect of perceived time pressure between pleasure and impulsive consumption. This finding is reasonable considering the anxiety and urgency that perceived time pressure may bring to consumers during the decision-making process.

## 5.2 Implications and Discussions

### 5.2.1 Academic Implications

This study can provide the following two theoretical enlightenments for the study of enterprise marketing strategies in the context of e-commerce. First of all, this study not only verified that perceived price discount was one of the effective external stimuli to induce consumers to make impulsive consumption, but

also further clarified that consumers' emotional feeling played an important intermediary role in their irrational consumption decision-making process. Through structural equation model, this study found that consumers' evoking sense and pleasure had 45.8% explanatory power on the variation of their impulsive consumption behavior, while consumers' perceived price discount and evoking sense had 36.9% explanatory power on the variation of their sense of pleasure, both of which were at an acceptable explanatory level. Considering the ongoing impact of COVID-19 on domestic and international economies, consumers' online shopping behavior is becoming more rational, and the price of commodities is no longer the only reference factor.

Secondly, this study explored the timing and form of perceived time pressure as a moderating variable in the process of impulsive consumption. The results indicated that perceived time pressure, as an important characteristic of the limited-time promotion, participated in the whole process of consumers' decision-making as a moderating variable. Specifically, perceived time pressure played a positive moderating role between perceived price discount and evoking sense, indicating that with the same degree of consumers' perception of commodity price discount, the greater the perceived time pressure is, the stronger the ensuing evoking sense will be. Perceived time pressure played

a negative moderating role between perceived price discount and pleasure, which is a substitution effect in essence. In other words, when consumers' perception of price discount is relatively low, they can still generate higher level of pleasure under the substitution effect of higher perceived time pressure. However, when consumers' perception of price discount is relatively high, even if consumers' perception of time pressure is relatively low, the effect of perceived price discount on pleasure will not be weakened. Meanwhile, perceived time pressure also played a negative moderating role between evoking sense and impulsive consumption, which is still a substitution effect in essence. In other words, when consumers' evoking sense is relatively weak, they can still generate strong impulsive purchase intention under the substitution effect of higher perceived time pressure, which in turn causes their impulsive consumption behavior. However, when consumers' evoking sense is strong, even if consumers' perception of time pressure is relatively low, the effect of evoking sense on impulsive consumption behavior will not be weakened.

### **5.2.2 Practical Implications**

This study can provide the following enlightenments for enterprises' marketing strategy optimization in the context of e-commerce. First of all, the concrete price discount is the most powerful and the most

direct marketing means. In the context of online promotion, the greater the consumers' perception of the discount degree, the stronger their purchase desire will be. In fact, in the current environment of online shopping, consumers' cost of obtaining the information they need is constantly decreasing, and product prices are becoming more transparent, which leads to the increasing price competition among enterprises for similar products. Therefore, enterprises need to accurately grasp the pricing of product promotion. On the premise of not overly reducing product profit, enterprises can trigger consumers' interest in buying products through attractive price and stimulate their purchase behavior. But in real life, some enterprises adopt the marketing method, which maliciously raise the original price and then greatly cut the price. Although such marketing method can increase the sales of products in the short term, but in the long run, it will not only cause disorder in the online trading market, but also cause consumers to question the value of corporate products and brands, which is not conducive to the long-term survival and development of enterprises. In view of this, enterprises should provide real and reliable information of product price discount in promotion activities, and make consumers feel the value of money through the real transfer of benefits to promote consumers to purchase products, so as to achieve the benefits for both buyers and



sellers.

Secondly, the promotion time setting should be reasonable and the time pressure should be moderate. Enterprises need to realize that too long promotion time setting is unable to achieve the continuous increase of product sales, because consumers' emotional experience and purchase intention show an obvious downward trend over time. At the same time, this study found that the promotion of consumers' perceived time pressure on consumers' positive emotions and purchase intention is limited, because the moderating form of perceived time pressure is mainly to compensate the influence of price discount on the path of weak ties, rather than blindly promote. In other words, in a real e-commerce situation, once the time pressure perceived by consumers exceeds a certain threshold, it will not continue to enhance consumers' purchase intention, but will reduce consumers' positive emotions due to the increasingly obvious sense of anxiety and urgency, and thus reduce consumers' purchase intention. Since the function of perceived time pressure is mainly to compensate the influence of price discount, enterprises should focus on the reference of price discount intensity of products in the setting of promotion time, and strive to maximize the marketing effect through the reasonable setting of price discount and promotion time. In other words, when setting the price discount, the enterprise can stimulate

the online impulsive purchase behavior of consumers by setting a relatively long promotion time, under the condition that the discount is equal to the competitive product. In the case of offering bigger discount than competing product, a relatively short promotion time can be set up to stimulate consumers' online impulsive purchase behavior.

### 5.3 Limitations and Future Research

Although this study has many contributions, it also has some limitations. First of all, this study explored the internal influence mechanism between two characteristics of limited-time promotion, including price discount and time pressure, and consumers' impulsive consumption, but other potential characteristics of limited-time promotion such as promotion form and promotional quantity limitation are not covered in this study, resulting in some limitations in practical application of the findings in this study. Secondly, based on the S-O-R model, this study verified that consumers' emotional feelings serve as the powerful intermediaries between the characteristics of limited-time promotion and consumers' impulsive consumption, but the absence of cognitive shift mediators such as perceived value and perceived risk caused this study to be difficult to fully reveal the internal influence mechanism between limited-time

promotion and consumers' impulsive consumption. Follow-up studies should address these limitations with additional validation.

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#### 라 위 의 (Luo, Weiyi)



중국대학교 일반대학원 국제비즈니스협동과정에서 석사 및 박사학위를 취득하고 현재 중국 호남인문과학기술대학에 재직 중이다. 정보시스템 연구, 인터넷전자상거래 연구, *Information Systems Review* 등에 논문을 게재하였다. 주요 연구 분야는 전자상거래, 소비자 행동분석 등이다.

#### 이 영 찬 (Lee, Young Chan)



서강대학교에서 경영학사, 동 대학원에서 경영과학 전공으로 석사 및 박사학위를 취득하였으며, 현재 동국대학교 WISE캠퍼스 경영학부 교수로 재직 중이다. 주요 연구 분야는 다기준의사결정, 데이터 마이닝, 기업성과측정, 시스템 다이내믹스, 핀테크 등이다.

<Abstract>

## **How Perceived Price Discount Influence the Impulsive Consumption in the Context of Online Limited-Time Promotion: Moderating Effect of Perceived Time Pressure**

Luo, Weiyi · Lee, Young Chan

### **Purpose**

In the current environment of online shopping, the cost for consumers to obtain the information they need is decreasing, and the price of products is becoming more transparent, leading to increased price competition among enterprises for similar products. Given the widespread usage of limited-time promotion as a marketing method for enterprises in the context of e-commerce, it is great meaning to study and reveal the internal influence mechanism of limited-time promotion on consumers' impulsive consumption.

### **Design/methodology/approach**

Based on the S-O-R theory, this study constructs a model of consumers' impulsive consumption in the context of e-commerce from the perspective of perceived price discount, with evoking sense and pleasure as mediating variables and perceived time pressure as moderating variables.

### **Findings**

The results show that perceived price discount has a significant positive impact on evoking sense and pleasure. Evoking sense has a significant positive impact on pleasure. Both evoking sense and pleasure have a significant positive impact on consumers' impulsive consumption. Meanwhile, perceived time pressure plays a significant moderating role between perceived price discount and evoking sense, between perceived price discount and pleasure, and between evoking sense and consumers' impulsive consumption. Finally, based on the above findings, this study provides effective suggestions for e-commerce participants in the formulation of limited-time promotion strategies.

**Keyword:** Limited-Time Promotion, Perceived Price Discount, Perceived Time Pressure, Evoking Sense, Pleasure, Impulsive Consumption

**〈Appendix〉 Questionnaire items**

Perceived Price Discount
The price reduction of the product is significant.
The price reduction of the product is acceptable.
The price reduction of the product is beyond my expectation.
Perceived Time Pressure
The promotion time is relatively short.
The promotion time forces me to make a purchase decision in a short period.
The promotion time is not enough to think carefully about my purchase decision.
I purchase the product near the end of the promotion.
Evoking Sense
I feel excited during the shopping process.
I feel thrilled during the shopping process.
I hardly keep my inner peace during the shopping process.
Pleasure
I feel pleased during the shopping process.
I feel satisfied during the shopping process.
I feel relaxed during the shopping process.
Impulsive Consumption Behavior
I will purchase the product without considering whether I need it or not.
I will purchase the product without much thought.
I will purchase the product without pre-planned.
I have an intense desire to purchase the product.

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