

A STUDY INTO THE EFFECT OF PRICE INCENTIVES ON CONSUMER EMOTIONS —TIME PRESSURE'S REGULATION



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Abstract

The rapid development of e-commerce live broadcasts has changed consumers' shopping habits which changes from traditional active purchases to passive purchases. With the changes in consumption patterns, it is difficult for consumers to resist the temptation of consumption, and more impulsive consumption tendencies have emerged. After the rapid development of China's online consumer market in recent years, the entire market has achieved a rapid growth. More and more brand manufacturers are beginning to join the online market to establish competitive advantages and win over consumers. Internet price incentives are a marketing method commonly used by more and more online merchants. Use the stimulation of online price promotions to induce fluctuations in consumers' emotions and achieve impulse purchases, thereby achieving the company's sales targets. Therefore, this article studies the impact of price incentives on consumer emotions in the context of online shopping and the regulatory effect of time pressure, and explores the inherent laws of consumers' online impulse purchases. Firstly it can guide companies to formulate reasonable online marketing strategies in different shopping environments and reduce the randomness and blindness of corporate decision-making, thereby increasing consumers' impulse buying intentions and providing a reference for Chinese companies to promote the online sales process. Secondly, while improving the business performance of merchants, it can formulate reasonable industrial policies for relevant departments, expand consumption, and play a positive role in promoting the overall performance of the industry.

Keywords: Price Incentives, Consumer Emotions, Online Purchasing

Introduction

Studies have found that traditional shopping situations have a strong inducing effect on consumers' impulse purchases, such as in-store color, in-store lighting, product placement, perfume smell, playing music, sales staff recommendations, physical contact, promotions and other marketing incentives. All have a certain impact on consumers' impulse purchases (Wang Li, 2016). S-O-R theory shows that environmental incentives can trigger strong emotional reactions in people (Mehrabian and Russell, 1974), but scholars also point out that when constructing marketing incentives, merchants should follow the Optimal Stimulation Theory

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and moderately stimulate consumers to avoid excessive stimulation. Some scholars believe that because there is a certain "barrier" between impulse buying intention and impulsive buying behavior, consumers with high purchasing propensity will not immediately engage in impulsive buying behavior, which also prevents the occurrence of purchasing behavior (Liang Chenglei & Li Xuirong, 2010). Therefore, there is a "buffering variable" (Rook & Fisher, 1995) between impulse buying intention and impulse buying behavior, which is consumer cognition. The above conclusion is drawn by scholars through research on traditional shopping environments. However, this kind of "consumer cognition" is also likely to exist in online shopping environments. When consumers are shopping online, because they cannot use touch or other methods to perceive the quality of goods, in this case, they are more likely to obtain product-related information through the Internet or other channels and process this information to obtain valuable information. This process may determine whether consumers engage in impulsive buying behavior through their perceptions. Therefore, understanding the role of consumer cognition in the process from consumer impulse purchase intention to impulse purchase behavior can better explain the formation mechanism of consumers' online impulse purchase intention, thus making up for the only empirical research on impulse purchase intention. It provides reference value for enriching relevant theoretical research on online impulse buying. Therefore, studying the effect of marketing incentives on purchasing emotions will help explain the mechanism of impulsive buying due to marketing incentives, and provide a theoretical basis for studying online consumer behavior. At the same time, it can also provide reference value and guidance for enterprises or e-commerce practitioners in formulating online marketing strategies.

Literature Review

1. Price Incentives

Marketing incentives include a wide range of content, including advertising, price incentives, sales promotion, etc. The marketing incentives defined in this article refer to the price incentives provided by online shopping platforms.

Lin (2006) believes that in shopping situations, price incentives are most likely to trigger consumers' impulsive buying behavior. At the same time, in marketing activities, price discounts are also the most commonly used marketing tools by merchants. This is mainly because merchants use price discounts to stimulate consumers' inner emotions and make consumers feel that "buying this is a good deal" to satisfy consumers' psychology.

Kahneman & Tversky (1979) found that most consumers find it difficult to resist the temptation of price discounts. In situations where price discounts stimulate consumers' positive emotions to dominate, this will easily promote consumer impulse buying behavior. The marketing strategy of price discount has been tried and tested by merchants, and discount promotion has become the first choice for many merchants to market and promote their products. Currently, product discounts and promotions can be seen everywhere, but not all product discounts and promotions can arouse consumers' impulse purchases. This is mainly because consumers feel that these marketing methods are too common, and it is difficult to arouse consumers' desire to buy. However, sudden price discounts and limited discounts can easily promote consumers' impulse buying intentions. Therefore, in marketing activities, merchants can use sudden price discounts and limited discounts to minimize the use of consumers' already formed mental inertia that is immune to general price discounts. Since the consumer impulse buying process is sudden, rapid and low-cognition, merchants can develop marketing strategies based on these characteristics.

2. Consumer Emotions

Scholars also have different views on the definition of emotion, but most scholars agree that emotion is the process of emotion. Arnold (1960) believed that the essence of emotion is a connection between the feeler and the thing being perceived. Research by

Strongman (1978) shows that emotions are physiological changes that occur inside people after being exposed to certain external incentives. It can be seen that emotions are an individual's reaction and interpretation of the external environment, and are the body's reflection of one's own perception, resulting in actions (Bai Changhong et al, 2008). Emotions are what people feel subjectively, and can be divided into positive emotions and negative emotions. Positive emotions refer to the satisfaction of individual needs after being stimulated by the external environment, while the opposite is negative emotions. However, some scholars believe that emotions are not affected by the outside world and arise spontaneously by themselves. For example, scholar Stern (1962) believes that emotions are people's physiological phenomena and are subjective. Dube & Menon (2000) pointed out that emotion is a complex physiological phenomenon of the human body that is comprehensively affected by internal and external factors. Wu Congzhi (2008) pointed out that if consumers receive external stimulation, they will form their own emotional perceptions, which will influence consumers' subsequent purchasing behavior.

In the study of emotions during the shopping process, Russell & Mehrabian (1978) proposed the emotional Pleasure-Arousal-Dominance model (PAD model), which is used to express the degree of individual self-control. Donovan & Rossiter (1982) believed that through the analysis of research data, it was concluded that the dominance dimension has little impact on consumers, and this dimension should be deleted. The two dimensions of pleasure and arousal can be used to cover the consumer's feelings during the shopping process.

3. Time Pressure

Research by Congelosi & Dill (1964) found that time pressure (TP) can cause physiological reactions such as rapid breathing and accelerated heartbeat in individuals, but no research has been conducted on the impact of time pressure on individual psychology and emotions. Later, many scholars further explained time pressure from a psychological perspective. Liu Jinping and Li Hongfeng (2008) believed that time pressure is an unsettling emotion that is not only closely related to the individual's physiological response, but also to the individual's anxiety, Psychological responses such as urgency and stress are closely linked. According to Svenson & Maule (1993), time pressure refers to the degree of psychological anxiety that decision makers feel when task deadlines become increasingly urgent. In modern society, most people are faced with various time pressures, which brings considerable challenges to people's mental and physical health.

Regarding the sources of time pressure, scholars' research mainly includes two views: One view is that time pressure comes from time constraints. According to the research results of Ariely & Zakay, when people face time constraints, they will feel the urgency of time, thus Have an impact on an individual's psychology and emotions. This explanation distinguishes the meaning of time limit and time pressure. Time pressure is a sense of urgency and pressure that an individual has after perceiving a time limit. It is a psychological state. When an individual does not perceive a time limit. There will be no time pressure. Another view is that the generation of individual time pressure may not be very closely related to time constraints, but may be related to the opportunity cost caused by individuals giving up purchasing or delaying decision-making in time emergencies. Perception is closely related, and the perceived loss of opportunities will cause individuals to feel anxious, thereby forming time pressure. Therefore, combined with the research needs of this article, this article defines time pressure as the sum of comprehensive pressure caused by the above factors.

Theoretical Basis and Research Hypothesis

1.Theoretical Basis

At present, mobile shopping is becoming increasingly popular, shopping methods are updated and iterated, and the frequency of impulse purchases by consumers is also increasing

accordingly. In previous studies, whether domestic or foreign, a variety of theories have been explored based on research purposes, including The Theory of Reasoned Action, the Theory of Planned Behavior and the Technology Acceptance Model are based on the assumption that consumers make purchases rationally, that is, rational consumption decision-making behavior. This is contrary to the reality that consumers are making impulse purchases more and more frequently.

Based on the S-O-R theoretical model of environmental psychology, this article will be based on the mobile shopping environment, combined with relevant theories such as economics, management, marketing, and environmental psychology, and on the basis of existing related research on impulse buying. By combining the unique characteristics of mobile Internet shopping, we will study how price incentives trigger consumers' emotional reactions and further influence impulse purchases. At the same time, establish the influence path of these factors on impulse buying behavior, and study how consumers undergo internal psychological changes and emotional reactions under external incentives, leading to the process of impulse buying behavior. In addition, this article sorts out the mechanism of consumer impulse buying and proposes an innovative theoretical model of consumer impulse buying in a mobile shopping environment in order to have a deeper understanding of this phenomenon.

2. Research Hypothesis

2.1 The impact of price incentives on consumer emotions

This article examines marketing incentives in an e-commerce environment by using the S-O-R model. Because impulse buyers often cannot control their emotions and intrinsic behaviors when visiting online stores, these emotions and behaviors are induced by marketing incentives (Donovan & Rossiter, 1982). From the perspective of impulse buyers, consumers will have a psychological state of sudden and unplanned purchase decision-making process, which is frequently obscure and difficult to understand (Moore & Small, 2007). Based on the "stimulus-response" theory of consumer purchasing behavior, consumer purchasing behavior is mainly influenced by two aspects: "marketing stimulus" and "psychological response". Among them, marketing stimulus includes marketing mix and marketing environment, and psychological response includes consumers' emotions. Characteristics and consumer psychology. Consumers are stimulated by marketing mix factors such as product, price, distribution and promotion, as well as marketing environment factors such as policy, economy, society and technology, combined with the complex effects of consumers' personal characteristics and social characteristics, as well as psychological reactions such as cognition and trust. Consumers generate purchase intention and then take purchasing behavior. Therefore, price incentives in marketing incentives have an impact on consumers' impulse buying intentions.

At the same time, among physical factors, consumer emotion is one of the important factors that influence impulsive buying. Since scholars have turned their research focus on impulsive buying to consumers, consumer emotion has become the focus of scholars' investigation.

Examining the emotional factors and divide them into two categories: pleasure and arousal based on the research of scholars. In Parboteeah et al.'s model, perceived pleasure is used as an affective response to the environment. However, Parboteeah et al.'s model cannot well explain the impact of marketing stimulus environments on consumer impulse buying behavior. Therefore, this paper adopts this division to further explain consumers' affective/emotional responses when stimulated by marketing environments.

Therefore, the following assumptions are proposed:

H1: Price incentives has a positive impact on consumer emotions

H1a: Price incentives has a positive impact on consumers’ emotional arousal

H1b: Price incentives has a positive impact on consumers’ pleasure emotions

2.2 The impact of consumer emotions on impulsive buying intentions

Existing research has shown that time pressure is an emotion related to psychological states such as anxiety, tension, and nervousness. Swenson and Maule's research shows that time pressure is a type of tension that decision makers feel as deadlines on a job become increasingly tight. Research by Ariely and Zakayf shows that time constraints can create time tension, which can have an impact on individuals' psychology and emotions.

E-commerce platforms often use limited-time promotions such as “flash sales” and “countdowns” to stimulate consumers and prompt them to make impulsive purchases (Wu Yue’e, 2014). Zhao Zhanbo et al. (2015) conducted an empirical study and the results showed that when time pressure is high, consumers are more likely to engage in impulsive shopping behavior.

On this basis, it was found that under sufficient shopping time, customers will choose more store products. This type of browsing behavior not only directly stimulates their desire to shop, but also triggers their positive emotions. This positive emotion will stimulate consumers' impulse buying intentions and behaviors (Beatty and Ferrell, 1998). On the contrary, if there is not enough time for shopping, the user's browsing behavior will become less and less, and the user will also become negative and depressed due to time pressure. Therefore, consumers’ impulse buying behavior is inhibited (Kwon and Armstrong, 2002).

In general, time pressure will cause psychological changes in customers when shopping, thereby affecting customers' emotions. In this paper, we will discuss how consumption situation factors influence customers' emotions, and study the mediating effect of time pressure.

Research by Beatty and Ferrell (1998) shows that when consumers have ample shopping time, they are more likely to spend more time browsing products. Conversely, when shopping time is limited, consumers tend to reduce browsing activity. Sufficient browsing time can make consumers feel relaxed, making it easier to stimulate their emotions and improve their shopping pleasure.

Therefore, the following assumptions are proposed:

H2: Time pressure has a moderating effect on the impact of price incentives on consumer emotions.

H2a: Time pressure plays a moderating role in the impact of price incentives on consumers' arousal emotions.

H2b: Time pressure plays a moderating role in the impact of price incentives on consumers’ pleasant emotions.

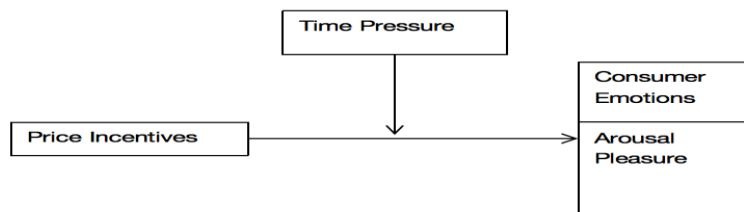


Figure 1 Structure of theoretic

Research Design and Hypothesis Testing

In order to conduct an effective and in-depth analysis of the influencing factors of price incentives on consumers' own emotions, however, it is difficult to analyze the factors affecting marketing stimulation through price incentives and a series of complex emotional changes related to consumers. There is information to obtain relevant data. Therefore, this article mainly obtains relevant data through questionnaire survey method and analyzes it. This article builds on previous research exploring related fields and clearly defines relevant variables to ensure the reliability and accuracy of measurement results.

Through a comprehensive analysis of relevant domestic and foreign literature, this article selected a scale suitable for the research purpose and measured the research variables. The final scale formed is as follows:

Table 1: Variable Measurement

Variable	Dimension	Question	Reference source
Price Incentives		You will affected by various price promotions	Lin, Chuang, Kung (2005); Lu Kaixuan (2015); Zhao Jianbin, Jing Fengjie and Tao Jianrong (2016); Wang Qiuzhen, Yao Qian and Ye Ying (2014)
		You will prefer price promotion methods such as full discounts and gifts	
		You would think that discounted price promotions have the greatest impact on consumer behavior	
		You buy goods or services you don't need because of price promotions	
		You believe certain price promotions are false or misleading	
Consumer Emotions	Pleasure	happy	Pappas I(2017) Peck J(2006) Xiong Suhong (2009)
		satisfy	
		excited	
		relieved	
	Arousal	I can't help feeling excited when I see a product	
		I feel relaxed when I see a product	
		Seeing a certain product will arouse a strong desire to buy in the heart	
Time Pressure		Seeing a product makes one feel clear-headed	Rieskamp J (2008); Zhang Yuan (2017); Wang Jing (2012)
		Shopping sprees and time constraints stimulate my desire to buy	
		Discounts make me make impulsive purchases without thinking	
		Every time you shop, you have a clear goal and complete it in one go	
		Shopping decisions are rarely well thought out	
		Select the centerpiece product and place your order immediately	
Strong desire to buy when under pressure			

1. Pre-questionnaire survey

Follow the steps of the questionnaire survey, and conduct a pre-survey on the basis of examining the reliability and validity of the questionnaire. The first is the determination of sample size. Different scholars do not have a unified view on the number of sample sizes. They all have a relatively unified view on the number of main factors, that is, the number required for factor analysis is 5-10 times the number of variables. The data source of this article is mainly in the form of online distribution. A total of 550 pieces of data were collected. After excluding invalid data, the total number of valid questionnaires was 524, and the effective questionnaire rate was as high as 95.27%. The following is a test of the reliability and validity of the data.

1.1 Reliability Test

Reliability test is defined as the possibility of using the same observation method to obtain the same observation data results for the same object. As for the article itself, stability, equivalence and consistency are often used to test whether the survey respondents fill it out carefully. The internal consistency split-half method and Cronbach's α coefficient method are usually used to test. After reviewing relevant literature, it was found that for the reliability evaluation standard, 0.7 is the most convincing. When the α coefficient is greater than 0.7, it indicates that the scale has good reliability, and vice versa.

Table 2: Reliability test of each variable in pre-investigation

variable	number of questions	Cronbach Alpha
Price Incentives	5	0.961
Pleasure	5	0.945
Arousal	3	0.952
Time Pressure	6	0.977

As the table shown above, the reliability coefficient value is 0.979, which exceeds 0.9, which indicates that the reliability quality of the research data is very high.

1.2 Validity Test

The validity of the pre-questionnaire data was tested through exploratory factor analysis. The principal component analysis method was used to extract factors and criteria with eigenvalues greater than 1 were selected, and the variance maximal orthogonal rotation method was used for rotation to obtain the factor analysis results. This paper conducts factor analysis on the scale measurement issues of the questionnaire, mainly using the kmo test and Bartlett's sphericity test to determine whether the scale is suitable for factor analysis measurement. The results are as follows.

Table 3:Scale measurement item factor analysis results

variable	Kmo	Spherical test		
		approximate chi-square	degrees of freedom	companion probability
Price Incentives	0.869	1808.905	10	0
Pleasure	0.867	1131.835	6	0
Arousal	0.853	1253.538	6	0
Time Pressure	0.933	3536.392	28	0

Table 4: KMO and Bartlett's test

KMO Sampling Suitability Quantity		.707
Bartlett's sphericity test	approximate chi-square	29008.206
	degrees of freedom	630
	salience	.000

The test results show that the KMO values of these 4 variables are all greater than 0.7. At the same time, the correlation probability of their Bartlett's ball test is 0.000, passing the Bartlett's ball test, indicating that these eight variables are suitable for factor analysis.

2. Hypothesis Testing

This article uses multiple linear regression method to verify the model. In addition, the multiple regression model can also interact with variables and can also be used as

intermediate variables to fit. In order to process relevant data, this article still chooses to use spss25 software.

Table 5: Summary Table of model regression coefficient test

Model regression coefficient test							
X	→	Y	Unstandardized path coefficient	SE	z (CR value)	p	standardized path coefficient
Price Incentives	→	Arousal	0.501	0.047	10.643	0.000	0.501
Price Incentives	→	Pleasure	0.397	0.056	7.048	0.000	0.397

Remarks: →Indicates path influence relationship

3. Results

H1: Price incentives has a positive impact on consumer emotions

The marketing stimulation methods proposed in this article include price incentives, which will have an impact on consumers' emotions, including arousal and pleasure. Therefore, it is necessary to first analyze the relationship between price incentives and consumer sentiment. As can be seen from the above data table:

H1a: Price incentives has a positive impact on consumers' emotional arousal

According to the data analysis results, the standardized path coefficient value of H1a is 0.501, indicating that price stimulation has a positive impact on arousal. The significance level of this path is 0.01 ($z=10.643$, $p=0.000<0.01$), so it can be concluded that price stimulation has a significant positive impact on arousal, thus supporting the hypothesis of this article. Based on this result, it can be concluded that as the intensity of marketing stimulation increases, such as discounts, promotions, etc., consumers' sense of stimulation will also increase, thereby triggering consumers' emotional resonance and attracting their attention.

H1b: Price incentives has a positive impact on consumers' pleasure emotions

The standardized path coefficient value of H1b is 0.397, indicating that price incentives have a positive impact on pleasure. The significance level of this path is 0.01 ($z=7.048$, $p=0.000<0.01$), so it can be concluded that price stimulation has a significant positive impact on pleasure, thus supporting the hypothesis of this article. Based on this result, it can be concluded that as the intensity of price incentives for consumers increases, consumers will be more happy and actively pay attention to related products or services.

H2: Time pressure has a moderating effect on the impact of price incentives on consumer emotions.

Based on the above table, three different models can be derived to describe the moderating effect. In the first model, only the independent variable (price stimulus) is included. The second model introduces a moderator variable (time pressure) based on the first model, while the third model adds an interaction term (the product term of the independent variable and the moderator variable) based on the second model.

For the first model, the purpose is to study the impact of the independent variable (price stimulus) on the dependent variable (arousal) without considering the moderating variable (time pressure). As can be seen from the table above, the independent variable (price stimulus) is statistically significant ($t=28.385$, $p=0.000<0.05$), which means that price stimulus has a significant impact on arousal.

The goal of the study is to analyze the impact of the independent variable (price stimulus) on the dependent variable (pleasure) without considering the moderating variable (time pressure). According to the data table, the independent variable (price stimulus) shows significance ($t=120.077$, $p=0.000<0.05$), indicating that price stimulus has a significant impact on arousal.

H2a: Time pressure plays a moderating role in the impact of price incentives on consumers' arousal emotions.

The interaction term between price stimulus and time pressure is statistically significant ($t=-2.002$, $p=0.046<0.05$), which means that when considering the impact of price

stimulus on arousal, the moderator variable (time pressure) varies in different ways. There will be significant differences in levels.

Therefore, H2a: Time pressure plays a moderating role in the impact of price incentives on consumers' arousal emotions is established.

H2b: Time pressure do not play a moderating role in the impact of price incentives on consumers' pleasant emotions.

According to the data table, the interaction term between price stimulus and time pressure did not show significance ($t=-0.510$, $p=0.611>0.05$). At the same time, according to Model 1, it can be seen that the independent variable X affects the dependent variable Y. This means that when price incentives have an effect on pleasure, the magnitude of the effect of the moderator variable (time pressure) remains consistent across different levels.

Therefore, H2b: Time pressure plays a moderating role in the impact of price incentives on consumers' pleasure emotions is not established.

Discussion and Conclusion

This study explores the impact of price incentives on consumers' emotions. By using a questionnaire survey, a model of the impact of price incentives on consumers' emotions was established, and the S-O-R mechanism transformation process of consumer purchase intention was revealed. Research results show that price incentives has a positive impact on consumer emotions and time pressure partially play a role in impacting consumer emotions.

Merchants or app developers should enhance stimulation in a targeted manner. With the continuous advancement of technology, mobile device display forms are emerging in endlessly. For consumers, if they want to be willing to buy, the first step is to collect and analyze shopping data, and then launch targeted products that the consumer is interested in.

In real life, different app platforms often adopt limited-time sales strategies. Therefore, this article proposes a time pressure variable. Combining previous relevant research and questionnaire data, the time pressure variable is used as a regulating variable for the impact of price stimulation on consumer emotions. Through analysis It is learned that time pressure plays a moderating role in the impact of price incentives on consumers' arousal emotions. Time pressure is a means of promotion by merchants, offering some discounts within a limited time to attract consumers' desire for impulsive consumption.

Specifically, it mainly uses limited time and combines it with relevant price incentives (such as flash sales, promotions, full discounts or deposit payment activities) to attract users. When time is limited, promotional recommendations can effectively reduce the time consumers hesitate to buy and can point to the target audience more accurately. Within a limited time, this method can increase many consumers to visit. Combined with the limited time, it can guide consumers to make impulse purchases. For example, a store uses marketing strategies that create time pressure on consumers. The shorter the time, the more nervous consumers are, and the easier it is for them to lose themselves in the merchant's pre-sales service, and the easier it is for them to have impulse consumption desires. Therefore, the above is a reference for merchants and app developers. In addition, after data analysis, it was found that consumers' self-control plays a moderating role in the impact of consumers' arousal emotions and pleasant emotions on online impulse buying intentions.

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