

Research on the Price Discount Presentation on Consumers' Purchase Intention Under the Online Pre-sale Mode: An Empirical Study Based on SPSS

Shujing Wu*

School of Business Administration, Zhejiang Gongshang University, Hangzhou, Zhejiang, China

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Abstract: Online pre-sale activities frequently use deposit pre-sale promotion as a new e-commerce marketing concept. This essay is focused on the pre-sale scenario of internet buying. Four groups of 2×2 experiments were conducted to analyze the price discount presentation (dollar-based deals VS. percentage-based deals) on perceived value and purchase intention of consumers, and the moderating effect of product type (utilitarian product VS. hedonic product). The results show that consumers have greater perceived value and purchase intention for the dollar-based deals, and perceived value plays a mediating role. For utilitarian products, consumers prefer the dollar-based deals, while for hedonic products, consumers prefer the percentage-based deals.

1 INTRODUCTION

With the development and progress of Internet technology, online shopping is becoming more and more popular. People's consumption habits and concepts are constantly changing, and they are increasingly dependent on and cannot leave online shopping. At the same time, Taobao, Jingdong, Pinduoduo, and other Internet shopping platforms have risen rapidly, and a large number of merchants flood into the online market every year. In order to stand out in the fierce competition, platforms and businesses must use endless promotional means and marketing methods to attract consumers, pre-sale is one of the more widely used. The presale was originally a method used to estimate consumer demand in industries with certain supply but uncertain demand. An online pre - sale can predict demand, reduce inventory risk, reduce logistics pressure, and preheat for business publicity, but also ensure the availability of consumer goods, therefore, network pre-sale is loved by businesses and consumers, becoming a new e-commerce marketing model.

In recent years, the "double 11" shopping carnival adopts the pre-sale promotion mode of "deposit and balance", combined with price discount promotion, that is, consumers can directly book products by paying the deposit in advance and enjoying a certain

price discount. During the pre-sale period, the price information and discount information presented on the product sales page are often more complex and difficult than in the ordinary sales period. Merchants usually mark the original price, deposit, balance payment, discount, and final price of the pre-sale products. According to the framing effect, different ways of presenting the same information may make the information receivers process the information differently and have different cognition, thus leading to different attitudes and behaviors of the information receivers. The price discount information can usually be expressed by absolute value or relative value, that is, dollar-based deals and percentage-based deals. Equivalent price discounts presented in different ways will affect consumers' perceived value and purchase intention, thus affected the effect of promotion (Hao, Gao, Jia 2008). Therefore, if merchants want to attract more consumers and pursue better promotion effects within the limited promotion budget, they need to deeply understand how the two price discount presentation methods affect consumers' purchase intention.

The purpose of this paper is to explore the relationship between the presentation of price discounts, consumer perceived value, and consumers' purchase intention, as well as the mediating role of perceived value and the moderating role of product

type. This paper in combination with the practical background of the online booking; builds a price discount to present ways to influence customers' purchase intention model, by the methods of literature review, the experimental study method combines a questionnaire approach to investigate consumers, fully study relations between variables, to verify the hypothesis and analysis. Hope to provide useful advice and guidance for the future business advance sales promotion activities.

2 THEORETICAL BACKGROUND

2.1 Price Discount Presentation

At the moment, there are a variety of price discount presentation methods in the market, this paper discusses the more common numerical presentation methods: absolute number and relative number, that is, dollar-based deals (original price 500 yuan, save 125 yuan) and percentage-based deals (original price 500 yuan, save 25 %), the two have the difference in the form of calculation. The dollar-based deals, such as the original price of 100 yuan, are immediately reduced by 50 yuan, such price presentation mode allows consumers to use simple subtraction calculation can get the final price of goods. This presentation directly tells consumers the specific amount saved in the form of absolute value but does not reflect the relationship between the discount and the original price of goods, so it cannot directly represent the relative value of the discount to the original price. And the percentage-based deals, on the other hand, such as the original price of 100 yuan , 50% discount, or fifty percent discount, this presentation in the form of a relative value cannot let the consumer directly through simple addition and subtraction to calculate the amount of the discount and the final price, consumers want to know the specific discount amount will need to use more complex than addition and subtraction, a method to calculate, it lays more emphasis on the relative value and relationship between discount and original price of goods. It can make consumers intuitively feel the discount intensity of promotion.

In the field of marketing, due to the framing effect, the expression of promotional information, price information, and other statements used by operators in advertising may affect consumers' perception and purchase intention. The presentation of price discount means different expressions of price discount of the

same value (Min & Thomas 2006). Different presentation methods of price discounts will affect consumers' perceived value and purchase intention, and in the end affect the effect of promotion (Hao, Gao, Jia 2008).

2.2 Perceived Value

After a lot of research and analysis, experts and scholars at home and abroad have different definitions of consumer perceived value. Consumers' perceived value refers to their feelings and evaluations of products after weighing and comparing their costs and benefits (Zeithaml 1998). Consumers' perceived value is not only related to products; but also to the relationship between enterprises and consumers (Annika & Christian 1996). Enterprises can improve consumers' perceived value by developing sustained and good emotional connections with consumers (Annika & Christian 1996). Raquel and Ángeles (2007) (Raquel & Ángeles 2007) proposed that consumers' perceived value of products reflects the complex and diversified interaction between them, and perceived value is consumers' cognitive emotion toward products. Domestic scholars have also conducted relevant studies on the consumer perceived value. Zhang (2007) holds the view that perceived value refers to consumers' evaluation of whether the income they get meets their real needs in the purchase process. Perceived value reflects consumers' attitudes and evaluations of products. To sum up, previous scholars hold different views on the definition of perceived value. Based on the literature review, this paper defines consumer perceived value as the balance between perceived gains and perceived losses in the process of consumption.

According to the framing effect, consumers' perception and processing of price and discount information will be different when using different presentation methods of price and discount. Haim and Oliver (1993) (Haim & Oliver 1993) analyzed from the perspective of a psychological account and concluded that consumers' perceived value would be different due to different presentation methods of price discounts. Zeithaml (1988) believed that when consumers perceive more discounts, they will increase perceived value correspondingly. The dollar-based deals, show discounts intuitively in the form of absolute value, and consumers only need to use simple addition and subtraction to get preferential results quickly, while facing the percentage-based deals, consumers need to carry out more complex multiplication and division operations. Therefore, in general, dollar-based deals can generate more

perceived value. According to previous studies, perceived value promotes consumers' purchase intention (Dhruv, Monroe, Krishnan 1998). Perceived value is an important condition for the formation of purchase intention, and consumers' purchase intention will be affected by perceived value. When consumers perceive the strength of the discount well through the presentation of the price discount, they will have a greater perceived value of the product, and consumers will have a higher purchase intention and a greater probability and possibility to purchase the product when making purchase decisions (Zhang, Fan, Wang 2007). So we propose the following hypothesis:

H1: When confronted with dollar-based deals (VS. percentage deals), Consumers will generate more perceived value and purchase intention, and perceived value plays a mediating role in this model.

2.3 Product Type

From the perspective of consumer behavior, Haim and Oliver (1993) (Haim & Oliver 1993) believed that the Utilitarian and hedonism of goods would affect consumers' choice of goods. Due to the difference between Utilitarian and hedonism, consumers have different purchasing psychology and reaction to these two kinds of products in the process of price discount promotion.

Utilitarian products can provide consumers with practical functional value and meet the necessary needs of consumers in life. In the purchase process, consumers are generally rational and pay more attention to the practicability of products. Therefore, consumers usually have legitimate reasons to buy practical products (Kivetz & Simonson 2002). Therefore, in the face of price discount promotion of practical products, for rational consideration, consumers will prefer the presentation of price discount which is easy to calculate clear results. Compared with the multiplication and division method used in the presentation method of a percentage discount, the addition and subtraction method used in the dollar-based deals is easier to calculate, and it is easier to quickly calculate the specific amount of discount, which can reduce consumers' underestimate of price discount (Kivetz & Simonson 2002). In other words, the dollar-based deals expressed in absolute value will improve consumers' perceived value of practical products.

Hedonic products emphasize the enjoyment value of products and bring consumers a good experience of feeling and emotion. Consumers tend to be more casual and emotional in the purchase process. This enjoyment value is harder to measure explicitly than

the functional value of utility; Hedonic products do more to improve the quality of life of consumers than to satisfy their essential needs. Therefore, when faced with the price discount promotion of hedonic products, it is difficult for consumers to find a legitimate reason to buy hedonic products, and thus they tend to feel guilty (Hooman 2003). At this point, to avoid guilt and want to get a more fuzzy price perception, consumers will be more inclined to the presentation of a percentage discount, the particular reason for the circumstance is this kind of price discount presentation method can not let consumers directly through simple addition and subtraction to calculate the amount of discount and the final price to pay; In addition, the form of relative value conveys to consumers more the relative value and relationship between discounts and the original price of goods. It can make consumers intuitively feel the discount intensity of promotional goods, to help consumers persuade themselves to buy hedonic products properly. To sum up, this paper proposes the following hypotheses:

H2: Product type moderates the effect of the price discount presentation on consumers' perceived value.

H2a: For utilitarian products, the dollar-based deals in the form of absolute value bring higher perceived value to consumers.

H2b: For hedonic products, the percentage-based deals in the form of relative value bring higher perceived value to consumers.

3 METHOD

3.1 Design and Participants

The formal experiment adopts the experimental design of 2 (price discount presentation: dollar-based deals VS. percentage-based deals) \times 2 (product type: utilitarian product VS. hedonic product), and a total of 4 experimental groups are set up. One hundred forty undergraduate students participated in the experiment and were randomly assigned to one of the four cells, The participants read the target print ad at their own pace and then filled out the questionnaire. After excluding invalid questionnaires, there were One hundred nineteen valid questionnaires with effective recovery of 92. 23 %. Among them, 42. 64 % were male and 57. 36 % were female.

3.2 Stimuli

The gender of the subjects will affect the acceptability of the product and brand to some extent. Therefore,

sportswear that is easily accepted by men and women is selected as experimental material in this study. Before the formal experiment, the product type was pre-tested. Forty subjects were divided into two groups on average. They read the situational simulation materials of utilitarian sports apparel and hedonic sports apparel respectively, and then completed 10 questions about the product type (Voss, 2003). The results showed that the utilitarian score ($M = 5.70$) was higher than the hedonic score ($M = 3.97$), and the difference was significant ($P < 0.05$). The utility score of the hedonic sports clothing group ($M = 3.07$) was significantly lower than that of the hedonic sports clothing group ($M = 5.57$) ($P < 0.05$). Thus, situational materials for utilitarian sportswear and hedonic sportswear have been successfully manipulated.

In this experiment, the original price of the sportswear is set at 200 yuan, the deposit is 20 yuan (10%), the payment is reduced by 50 yuan (25%), the final payment is 130 yuan (65%), and the hand price is 150 yuan (75%) (Please refer to the appendix for specific stimulus materials). After participants read the stimuli, the perceived value was assessed by a three-item 7-point scale (i.e., In this promotional situation, I think this product is well worth buying) ($\alpha = 0.88$) (Dodds, Monroe Grewal 1991). Purchase intention was assessed on a three-item 7-point scale (i.e., In this promotional scenario, the likelihood that I will consider buying this product is high) ($\alpha = 0.97$) (Dodds, Monroe Grewal 1991). Product type was assessed on a ten-item 7-point scale, too. ($\alpha = 0.82$) (Voss, 2003). The product type scale was used to extract effective questionnaires to increase the effectiveness of the experiment. In the utilitarian situation, subjects considered the described products to be utilitarian, and this questionnaire was effective, as well as hedonic products. As well as the quality satisfaction test item: "I am satisfied with the quality of this sports clothing", and finally the subjects are asked to fill in the basic personal information.

4 DATA ANALYSIS

4.1 Manipulation Check

For utilitarian sportswear, the score for utilitarianism ($M = 5.75$) was higher than that of hedonism ($M = 3.06$), and the difference was significant ($P < 0.05$). The utility score of the hedonic sports clothing group ($M = 3.12$) was significantly lower than that of the hedonic sports clothing group ($M = 5.98$, $P < 0.05$). As a result, situational materials for utilitarian sportswear

and hedonic sportswear have been successfully manipulated.

The quality satisfaction of experimental products was manipulated, and the results were as follows: utilitarian sportswear dollar-based deals group $M = 6$, utilitarian percentage-based deals group ($M = 5.66$) ($P > 0.10$); Hedonic sports clothing dollar-based deals group ($M = 5.89$), hedonic percentage-based deals group ($M = 5.93$, $P > 0.10$). There was no significant difference in product quality satisfaction between the two control groups, and the manipulation test of quality satisfaction was successful.

4.2 Principal Effect Test

Two experimental groups with utilitarian product types were selected for analysis, and the effects of dollar-based deals and percentage-based deals on perceived value and purchase intention were compared. Taking the presentation mode of price discount as the independent variable and the perceived value and purchase intention as the dependent variable, the results of variance analysis show that the presentation mode of price discount has a significant impact on the perceived value and purchase intention, and the perceived value and purchase intention under different presentation modes of price discount have significant differences. Specifically, for perceived value, the dollar-based deals ($M = 17.42$) brought higher perceived value than the percentage-based deals ($M = 13.16$), and the difference was significant ($P < 0.001$). As for purchase intention, the dollar-based deals ($M = 16.94$) brought higher purchase intention than the percentage-based deals ($M = 13.34$), and there was a significant difference ($P < 0.001$).

4.3 Mediating Effect Test

In order to further study the impact of price discount presentation and perceived value on purchase intention, as well as the mediating role of perceived value between price discount presentation and purchase intention. First of all, with perceived value as the dependent variable and the price discount presentation method as the independent variable, regression analysis was conducted. The analysis results showed that the presentation method of price discount had a significant positive impact on perceived value. Secondly, with purchase intention as the dependent variable and price discount presentation as the independent variable, regression analysis was conducted. Finally, with purchase intention as the dependent variable and price discount

presentation and perceived value as the independent variables, regression analysis is conducted. The results of two-step regression analysis. The results show that price discount presentation has a significant positive impact on purchase intention. The results of Model 2 show that, based on the Model 1, the goodness of fit of the model is significantly improved after the perceived value is incorporated into the regression model ($\Delta R^2 = 0.768$, $F = 99.235$, $P < 0.001$), and the perceived value has a significant positive impact on purchase intention. At the same time, after the addition of perceived value, the effect of the price discount presentation on purchase intention is no longer significant. Based on the regression analysis results, it can be concluded that perceived value positively affects consumers' purchase intention; Perceived value plays a complete mediating role between the presentation of price discount and purchase intention. In summary, H1 is verified.

4.4 Moderating Effect Test

With perceived value and purchase intention as dependent variables, and price discount presentation mode and product type as independent variables, the results of variance analysis showed that the interaction between price discount presentation mode and product type of these two dependent variables reached the level of statistical significance. Specifically, for perceived value, the presentation of price discount has significant interaction with product type ($F = 33.036$, $P < 0.001$). In terms of purchase intention, the price discount presentation has significant interaction with product type ($F = 23.378$, $P < 0.001$). The samples were further divided into hedonic product groups and utilitarian product groups according to the product type. Within the group, the influence of the price discount presentation on perceived value and purchase intention was statistically analyzed.

In terms of perceived value, for hedonic products, the perceived value brought by the percentage-based deals ($M = 16.586$) was higher than that brought by the dollar-based deals ($M = 14.741$), and there was a difference ($F = 5.693$, $P < 0.05$). However, for utilitarian products, the perceived value brought by the percentage-based deals ($M = 13.156$) and the perceived value brought by the dollar-based deals ($M = 17.419$) were lower and significantly different ($F = 34.210$, $P < 0.001$).

In terms of purchase intention, for hedonic products, the purchase intention caused by the percentage-based deals ($M = 16.241$) was higher than

that caused by the dollar-based deals ($M = 14.667$), and there was a difference ($F = 4.100$, $P < 0.05$). However, for utilitarian products, the purchase intention caused by the percentage-based deals ($M = 13.344$) and the purchase intention caused by the dollar-based deals ($M = 16.935$) were lower and significantly different ($F = 24.023$, $P < 0.001$).

The above analysis results show that product type moderates the impact of the price discount presentation on perceived value and purchase intention. For hedonic products, the percentage-based deals make consumers have higher perceived value and purchase intention than that amount discount. For utilitarian products, the dollar-based deals make consumers have higher perceived value and purchase intention than the percentage-based deals. It is assumed that H2, H2a, and H2b are verified.

5 CONCLUSION

This paper studies the influence of the price discount presentation on consumers' perceived value and purchase intention in online shopping pre-sale mode by the experimental method, and introduces a product type as a moderating variable. According to the analysis of experimental data, the following conclusions are drawn:

First, in online shopping, consumers will have different perceived values and purchase intentions when they are presented with different price discounts on pre-sold products. In general, compared with the percentage-based deals, the dollar-based deals can make consumers generate more perceived value and purchase intention.

Second, perceived value plays a mediating role in the influence of the price discount presentation on consumers' purchase intention. In pre-sale promotion, consumers will have higher perceived value in the face of dollar-based deals, and then stimulate higher purchase intention; However, when presented with a percentage discount, consumers have lower perceived value and purchase intention.

Third, product type plays a moderating role in the effect of the price discount presentation on consumers' perceived value and purchase intention. As consumers have different purchasing psychology and reaction to different types of products, for hedonic products and utilitarian products, the presentation of price discounts has a different influence on consumers' perceived value and purchase intention. When consumers buy utilitarian products, they pay more attention to the functional value of the product. For rational consideration,

consumers prefer the amount of discount when promoting utilitarian products. While hedonic products emphasize enjoyment value, consumers who buy such products tend to be more emotional and prone to feelings of guilt. In order to escape from feelings of guilt, consumers are more inclined to present the way of percentage discounts when promoting hedonic products.

The conclusion of this paper has implications for e-commerce operators to design more effective price promotion activities. Price discount presentation affects consumer purchase intention, and perceived value plays an intermediary role, therefore when making product prices, business operators need to carefully consider what kind of price discount presentation, to increase the perceived value of the consumer, in turn, increase consumers' willingness to buy, finally achieve better promotion effect. Product type plays a moderating role in the influence of price discount presentation mode on consumers' perceived value and purchase intention. Therefore, operators should select price discount presentation mode according to specific product types. When the product is a utilitarian product, the dollar-based deals mode should be selected. When the product is a hedonic product, choose the percentage-based deals.

Although the experimental results in this paper prove the research hypothesis, there are still some deficiencies. First of all, the average effective data of each experimental group in this paper are about 30 people, and the representativeness and stability of experimental results are limited. Secondly, this paper adopts the experimental method, and there may be some differences between the performance of the subjects in the experimental conditions and the real online shopping. Further research using more realistic experimental scenarios can provide more useful reference information for e-commerce operators. In addition, sports clothing was selected as the stimulus in this experiment to draw a conclusion. Whether this conclusion is also applicable to other product needs to be further studied.

APPENDIX

Please read the material and imagine the following scenario: you are buying a set of pre-sale sportswear in an online shop, the sportswear meets your quality requirements, it wears comfortable, has good air permeability, not easy to deformation; Appearance design, image sensing, and fashion sense are relatively ordinary. According to the pre-sale page of the sportswear, the original price is 200 yuan, the

deposit is 20 yuan, the payment is 50 yuan less, and the final payment is 130 yuan, so the purchase price is only 150 yuan.

Please read the material and imagine the following scenario: you are buying a set of pre-sale sportswear in an online shop, the sportswear meets your quality requirements, it wears comfortable, has good air permeability, not easy to deformation; Appearance design, image sensing, and fashion sense are relatively ordinary. According to the pre-sale page for the sportswear, the original price is 200 yuan, the deposit is 10 %, the final payment is 25 % less, and the final payment is 65 % of the original price.

Please read the material and: you are buying a set of pre-sale sportswear in an online shop, the sports clothes meet your quality requirements, this set of sports clothes has beautiful appearance, fashion design, the image sensor is very good, can bring you a happy feeling; Comfort, workmanship and air permeability are relatively ordinary. According to the pre-sale page of the sportswear, the original price is 200 yuan, the deposit is 20 yuan, the payment is 50 yuan less, and the final payment is 130 yuan, so the purchase price is only 150 yuan.

Please read the material and imagine the following scenario: you are buying a set of pre-sale sportswear in an online shop, the sports clothes meet your quality requirements, this set of sports clothes has a beautiful appearance, fashion design, the image sensor is very good, can bring you a happy feeling; Comfort, workmanship and air permeability are relatively ordinary. According to the pre-sale page for the sportswear, the original price is 200 yuan, the deposit is 10 %, the final payment is 25 % less, and the final payment is 65 % of the original price.

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