

The Effects of Situation, Customers' Emotion and Cognition on Purchase Intention under C2B Advance Selling in China

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Abstract: This paper uses the stimulus-organism-response framework to construct a conceptual model in which emotion and cognition of customers and situational factors affect purchase intention in C2B (Customer to Business) advance selling. Based on the data from 232 college students and some young white-collar workers, this study reveals that: (1) the perceived value is the key factor that influences customer's willingness to buy, and it completely mediates the influence of arousal and pleasure state on purchase intention. (2) Price discount and reserved quantity positively influence the arousal and pleasure. Both arousal and pleasure completely mediate the effects of price discount and reserved quantity on perceived value. The findings will help better understand the behavior of customers in C2B advance selling.

1. Introduction

With the intense homogenization in the B2C e-commerce and the ever-increasing price competition, a new type of customer-centralized e-commerce, namely C2B presale mode^[1], was started by T-mall in China. C2B advance selling has become a successful exploration of the e-commerce model^[1]. In C2B advance selling, a win-win situation will be achieved. Sellers can obtain more accurate information on customer demand, and accordingly produce a reasonable production and supply plan, so that they can reduce their risks and improve their business efficiency, while customers can acquire high-quality goods with lower price^[1]. Therefore, C2B advance selling has drawn the attention of e-commerce players. So far, e-commerce giants like Ali Baba, JDcom, Suning, Vipshop and Amazon China have either set up presale platforms or open up presale channels.

The success of C2B advance selling depends on whether the needs of a multitude of customers can be aggregated in a short period of time. This means a large number of orders should be obtained from customers in advance. Therefore, understanding and enhancing customers' willingness to purchase

presale products is the key to show C2B advance selling's advantage. Although C2B advance selling has been a great success, as the practice of C2B advance selling is ahead of theoretical research, there is still the lack of systematic research in this respect.

The aim of the paper is: (1) to confirm the key factors affecting customers' purchase intention in C2B advance selling; (2) to analyze how these factors impact customers' purchase intention.

2. Literature Review

2.1. Presale mode

Currently, most academic researches on presale mode are carried out from the perspective of sellers. The researchers analyze the applicable conditions of presale mode, operation strategies^[2], supply chain coordination mechanism under C2B advance selling^[1], etc.

These studies believe that customer behavior usually only take into account utilitarian factors. Under these assumptions, only presale price, spot price and maximum supply quantity can influence customers' purchasing decisions. However, in reality, customers' purchasing decisions are the result of a combination of factors, including objective factors such as product price and quality, as well as subjective factors such as customer emotion and cognition.

2.2. Customers' online purchase intention

Some scholars pay attention to the influence of the external environment on customers' purchase intention, especially the website environment^[3]. For example, web design quality, website atmosphere/experience, perceived informativeness, etc. With the rapid development of e-commerce, the design of e-commerce websites has become mature and stylized, and innovation changes are often a sales mode. The influence of the environmental factors closely related to the sales mode on customers' purchase intention has become more instructive on the design of sales strategies in a specific sales mode.

There are also some scholars have studied the influence of customers' cognition^[4] and emotion^[5] on their purchase intention. However, most of these studies have borrowed the basic idea from rational behavior theory, and believed that customers are rational and will integrate various types of information and make trade-offs and judgments before making decisions, placed more emphasis on the influence of cognitive information on customers' decision to buy or not. However, people are not always rational. Apart from cognitive information, they can also be greatly influenced in their decision by their emotional state at the time and may even make irrational decisions encouraged by some of the emotional factors. Moreover, the interaction between emotional and cognitive factors affects consumers' willingness to purchase.

3. Conceptual Model Development

This study constructs a conceptual model (shown in Figure 1) based on the S-O-R model (Stimulus-Organism-Responses). The S-O-R model suggests that stimuli (e.g., atmospheric cues in retail setting) as antecedents can influence organism (e.g., the emotional or cognitive state of customers), and their subsequent responses (such as purchasing behavior or purchase intention). The model was applied on online web stores^[6]. Considering the situational characteristics of C2B advance selling, this study used the three situational factors - price discount, reserved quantity, and time pressure - as an external stimulus, customers' emotion and cognition as their physical and mental changes, and purchase intention as their approach response.

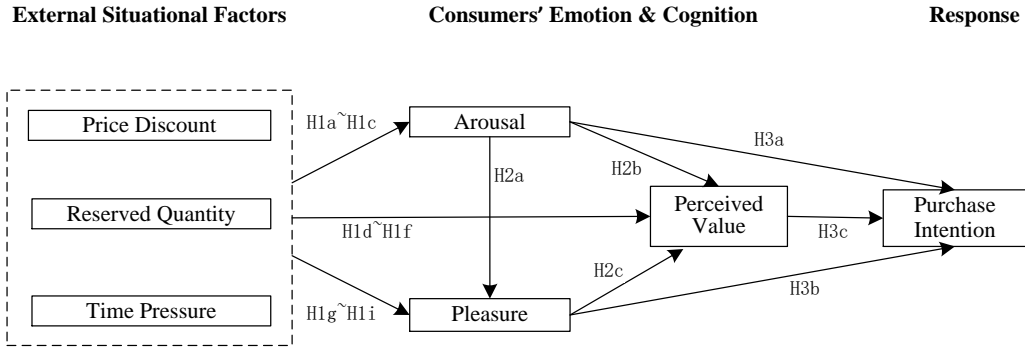


Figure 1: Conceptual model of customers' purchase intention in C2B advance selling

Price discount, time pressure and reserved quantity are prominent features of presale activities. Price discount refers to the price discount of presale goods in a specific presale activity; time pressure refers to the psychological pressure on consumption caused by the expected end time of a specific activity; and reserved quantity refers to the reserved quantity of specific presale goods. Larger price discounts are a major factor in attracting customers to buy presale products, while shorter remaining time will prompt customers to accelerate the decision-making process[7]. In C2B advance selling, customers are more likely to refer to other customers' opinions to ensure correct decisions in order to reduce the risk of decision-making in purchasing products that are harder to value. Less reserved quantity means more customers have chosen the presale goods. Reserved quantity tends to become an important reference factor for customers' decision-making.

Mehrabian and Russell^[8] used pleasure, arousal and dominance (PAD) to describe the human emotion' perceptions of physical environments. In the practical application of PAD model, scholars found that pleasure and arousal had an important influence on customers' purchase intention in the e-commerce environment, but there exist disagreements on the role of Dominance^[9]. So, we choose two dimensions (pleasure and arousal) as the emotional factors in C2B advance selling. Pleasure refers to whether the customer perceives the C2B presale activities as enjoyable or not, while arousal reflects the extent to which the C2B presale activities stimulates the customer.

When customers face different choices of products and services, usually they will look at their perceived value^[10]. The perceived value is defined as customers' overall evaluation on a presale product or service after weighing up the benefits perceived and the costs of acquiring it.

According to the basic assumptions of the S-O-R model, the situational factors will lead to changes in customer emotion and cognition, which will in turn influence their purchase intention. The studies about the online group-buying show that price discount and shopping crowds^[7] can increase customers' sense of pleasure and arousal, which in turn increases their purchase intention. Similar to group purchases, online presales often try to attract customers by offering large discounts, and display "reserved quantity" and "remaining time" on the page, forcing customers to make quick decisions. These factors may stimulate customers' nerves so that they get into a state of high excitement and pleasure, which helps to form positive cognition in the customer. Thus, we propose:

H1a~ H1i Price discount, reserved quantity and time pressure have significant positive effects on arousal, perceived value and pleasure, respectively.

H1j~H1o Arousal and pleasure mediates the impacts of price discount, reserved quantity, and time pressure on perceived value, respectively.

Emotion and cognition are two kinds of reactions that external stimuli produce on the body. Considering the situational characteristics of presale activities, this study believes that customer's different emotions interact with each other, arousal positively influences pleasure. At the same time, customers' emotions will precede cognitive formation. So, this study proposes the following

hypotheses:

H2a Arousal has a significant positive effect on pleasure.

H2b~ H2c Arousal and pleasure have significant positive effects on perceived value, respectively.

The psychological perspective holds that emotions and cognition are important factors that determine individual behavior. The PAD model was applied to study the customers' online purchase intention^[9]. The results showed that arousal and pleasure have a significant positive effect on customers' purchase intention. A large number of studies have confirmed that customers' purchase decisions are actually the result of trade-offs between expected benefits and costs. Their perceived value is a key factor in determining their purchase intention^[10]. Accordingly, we propose:

H3a~H3b Arousal and pleasure have significant positive effects on purchase intention, respectively.

H3c Perceived value has a significant positive effect on purchase intention.

H3d~ H3e Perceived value will mediate the influence of arousal and pleasure on purchase intention.

4. Research Method

4.1. Measures and Instruments

Discount rates are divided into two categories of high level and low level^[11], with low discount of 10% off and high discount of 50% off of the original price. Likewise, reserved quantity and time pressure are also divided into two levels. This paper uses situational questionnaires to set a total of 8 scenarios, including 2 levels of discount (high discounts * low discounts), 2 levels for pre-ordered number (large* small) * 2 levels of time pressure (high* low time pressure).

To ensure content validity, the measures for the rest constructs used in this study were employed from the literature. This study adopts 5 items for measuring arousal, 6 items for pleasure^[8]; 6 items for perceived value^[10]; 4 items for purchase intention^[12]. For constructs unique to the model, multiple operational measures based on field interviews were developed.

4.2. Sample and Data Collection

According to "China Online Shopping Market Survey Report" published by CNNIC (China Internet Network Information Center), college students have always been the main customer group of online shopping. As people who were born after 1990 start working, their driving force for the online shopping market is also growing. Therefore, the research was targeted mainly at college students including both undergraduates and postgraduates, and some young white-collar workers. Questionnaires were distributed in the following ways, either offline or online: (i) Use Wechat, QQ and other social media to push the questionnaire to the target; (ii) Place questionnaire in jg.com.cn, use bonus to attract user to fill out the questionnaire; (iii) Give out questionnaires offline, for example, in front of universities' dormitory, cafeteria, offering small gifts to attract them.

232 valid questionnaires were collected, including 203 copies collected from online channels, 29 copies collected from offline channels. 61.2% of the respondents were female, and 38.8% were male. Most of them are aged 21-25, and 88.8% are under age of 30. Most of the respondents received a good education, 95.3% of them having bachelor degree or above. Most of the respondents are students who accounted for 73.7%, while young white-collar workers accounted for 26.3 %.

5. Analysis and Results

5.1. Measurement validity and reliability

The model in this study included both reflective and formative constructs. Price discount, reserved quantity, and time pressure are formative constructs, others are reflective constructs. SmartPLS can fits perfectly to handle both reflective and formative constructs.

All constructs Cronbach's α and Composite reliability CR value are around 0.9, above the normal value 0.7, which means the model's reliability is very good; factor loading values of all measurement indexes is all higher than 0.7 and significant. The average variance extracted (AVE) values of all latent variables are around 0.7, greater than 0.5, so the model has good convergence validity.

The discriminant validity test adopts the following criteria: For reflective constructs, the square root of the AVE values of each construct should be greater than the correlation coefficient between constructs; For the formative constructs, the correlation coefficient between constructs should be less than 0.7. The test results show that the model has good discriminant validity.

Moreover, the R^2 value for arousal, pleasure, perceived value, and purchase intention is 0.278, 0.681, 0.633, and 0.622 respectively, the model can explain 62.2% of the variance of variable "purchase intention". The GOF (goodness of fit) value is 0.636, which shows that the model has excellent goodness of fit.

5.2. Structural Relationships

5.2.1. Direct influence path and hypothesis analysis

The results of the analysis for the hypothesized relationships including the standardized regression weights and level of significance can be found in Table 1.

Table 1: Path Analysis Results

Path/ Hypothesis	Regression Weight (Standardized)	T Statistics	P-Value	Results
H1a: PD -> AR	0.366	5.264	0.001***	Supported
H1b:RQ -> AR	0.232	3.538	0.001***	Supported
H1c:TP -> AR	0.030	0.487	>0.05	Not Supported
H1d:PD-> PV	0.046	0.792	>0.05	Not Supported
H1e:RQ -> PV	0.056	1.118	>0.05	Not Supported
H1f:TP -> PV	-0.013	0.305	>0.05	Not Supported
H1g:PD -> PL	0.286	5.825	0.001***	Supported
H1h:RQ -> PL	0.156	3.103	0.01**	Supported
H1i:TP -> PL	0.095	2.219	0.05*	Supported
H2a: AR -> PL	0.527	8.781	0.001***	Supported
H2b: AR -> PV	0.342	3.988	0.001***	Supported
H2c: PL -> PV	0.448	4.753	0.001***	Supported
H3a:AR -> PI	0.111	1.210	>0.05	Not Supported
H3b: PL -> PI	0.049	0.667	>0.05	Not Supported
H3c: PV -> PI	0.666	8.491	0.001***	Supported

***P<0.001; **P<0.01; *P<0.05; NS: not significant

5.2.2. Mediating effect analysis

The results of the mediation test are presented in Table 2. To assess the magnitude of the indirect effects, the VAF (variance accounted for) was calculated.

Table 2: Mediating effect test

Relationship	Path Coefficient P-Value	Mediated Relationship	Sobel Statistic	Std Error	P-Value	VAF
PD→PV	>0.05	PD→AR→PV H1j supported	3.238	0.040	<0.01	0.731
PD→AR	<0.001					
AR→PV	<0.001					
RQ→PV	>0.05	RQ→AR→PV H1k supported	2.663	0.031	<0.01	0.601
RQ→AR	<0.001					
AR→PV	<0.001					
TP→PV	>0.05	TP→AR→PV H1l supported	Not supported			
TP→AR	>0.05					
PD→PV	>0.05	PD→PL→PV H1m supported	3.631	0.034	<0.001	0.723
PD→PL	<0.001					
PL→PV	<0.001					
RQ→PV	>0.05	RQ→PL→PV H1n supported	2.583	0.026	<0.01	0.556
RQ→PL	<0.001					
PL→PV	<0.001					
TP→PV	>0.05	TP→PL→PV H1o supported	2.035	0.02	<0.05	0.733
TP→PL	<0.05					
PL→PV	<0.001					
AR→PI	>0.05	AR→PV→PI H3d supported	3.661	0.064	<0.001	0.659
AR→PV	<0.001					
PV→PI	<0.001					
PL→PI	>0.05	PL→PV→PI H3e supported	4.069	0.072	<0.001	0.869
PL→PV	<0.001					
PV→PI	<0.001					

6. Conclusions and implications

This paper reveals the formation mechanism of customers' purchase intention in C2B advance selling from the external environment and customers themselves. The findings of this study will help better understand the behavior of customers in C2B advance selling and how advance selling rules influence customers' purchase intention.

First, this paper further develops an understanding of how customers' emotion and cognition interact to impact on customers' purchase intention. The results show that perceived value is a key factor in determining customers' purchase intention, and it has a very significant positive effect on purchase intention. This indicates that customers' purchasing decisions strongly depend on their perception of the value that presale activities can bring to themselves. The greater the value perceived by customers, the greater their willingness to purchase. At the same time, perceived value is influenced by customers' emotional states (arousal and pleasure). When customers' arousal is higher and pleasure is stronger, their perceived value will be higher, which is exactly in line with what the perceived value is. In addition, perceived value plays an entirely mediating role in the influence of arousal and pleasure on purchase intention. This shows that customers' emotional states cannot directly influence their purchase intention, but by changing customers' psychological cognition (perception of value) in presale activities, it can influence their purchase intention indirectly.

Second, we conceptualize price discount, reserved quantity and time pressure as the three situational factors, which can reflect the presale rules of C2B advance selling and the social pressure of referencing groups who participate in presale activities. Results show that all three situational elements of the presale mode have no direct and significant impact on the perceived value of customers, but they indirectly influence customers' cognition by changing customer's emotions. Price discount is the main external driving force, combined with reserved quantity, has a positive influence

on customers' arousal and pleasure. Time pressure only influences customer's pleasure and its influence is weak. Both arousal and pleasure play a role in mediating the effects of price discount and reserved quantity on perceived value, while pleasure fully mediates the influence of time pressure on customers' perceived value.

There are a number of limitations in this study. First, this paper only considers the impact of price discount on customers' emotions, but from the actual experience of the researchers in this study, the amount of deposit money has a great influence on customers' purchase intention in C2B advance selling. However, there is no research and analysis about that in this paper. Second, further tests will be needed in larger samples to evaluate the research results.

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