

Full Length Research Paper

Online shoppers' decision biases: The effect of response mode

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The transaction under electronic commerce context is full of uncertainty where the information collected by buyers is limited (that is, they can only obtain the information such as product pictures but cannot touch the products). The way how the information was presented to the consumers will influence people's decision. Framing effect and anchoring effect are both the human judgment decision biases induced by the presentation way of decision problems. In addition, how people respond to the decision problem is also one possible source in resulting in different decisions. There are three response modes discussed in the present study: choice, evaluation and bidding. This study is going to discuss the whether the influence of framing or anchoring messages on consumers' decision depends upon the way they respond to the decision problem. The experimental results confirmed this phenomenon in which different response modes determined whether the framing and anchoring effect occurred. Specifically, when the consumers respond in choice mode, both attribute framing effect and anchoring effect were observed. In addition, significant attribute framing effect occurred when the subjects respond by using evaluation task. Finally, anchoring effect occurred in bidding mode where high and low anchoring messages resulted in significantly different bidding prices.

Key words: E-commerce, framing effect, anchoring effect, experiment, response mode.

INTRODUCTION

When people are doing the online shopping, they have to rely on the product information of the Internet retailers' webpages as the main information source to make decisions. There are many ways to describe product information, such as emphasizing the key attribute of a product, emphasizing the outcome after purchasing the product, or compare with a reference price. It has been suggested that the way the information was presented will influence peoples' decision making. Two of the well known decision biases caused by information presentation are framing effect and anchoring effect (Tversky and Kahneman, 1974).

The issues that discussed in the framing effect studies mainly focused on that when the same decision problem was described in either positive or negative way, the decision makers' responses will be different (Krishnamurthy et al., 2001). For example, if the ground beef was described as "80% lean"(positive frame) or "20% fat" (negative frame), the decision-makers' choice or evaluation of the same ground beef might be different. On the other

hand, when consumers shop online, some other messages might also influence consumers' purchase decision. For example, the price of other product might be taken by the consumers as the reference point, or anchor point, and further influence their subsequent decisions. This phenomenon is called anchoring effect (Tversky and Kahneman, 1974). The anchoring effect proposes that if a certain number was provided as an anchor in the decision process, this number will affect decision makers' subsequent numerical estimates (Tversky and Kahneman, 1974; Wilson et al., 1996; Wong and Kwong, 2000).

Tversky et al. (1988) had proposed a compatibility hypothesis and pointed out that decision makers would determine the weight of attributes according to their response mode. For instance, if decision makers need to make a choice between two alternatives, most subjects will choose "high probability to win but lower profits" choice. However, when decision-makers need to answer the decision problem by asking them "how much money

would you willing to pay?” most of the subjects will focus on “winning higher profits but lower probability to win” alternative. If decision-makers put focus on the incompatible attribute of response mode, they need to pay more cognitive effort to make decision. Thus, the attribute which is compatible with the response mode will receive higher priority and be processed by the decision makers. It is believed that this procedure can reduce cognitive effort. Accordingly, the goal of current study is to examine the influence of response mode on the occurrence of framing effect and anchoring effect

LITERATURE REVIEW

Framing effect

There are many ways to present decision problems; the most common way is using positive/negative way to present the attribute of the options or the outcome of the decision. In general, positive frame will emphasize on the advantage of the option or the benefit one will get by taking some action. As for negative frame, it will emphasize on the disadvantage of the option, or the loss one will encounter by not taking some action. Most of the research that focus on the influence of positive and negative description suggested that when other conditions are the same, the option described in a positive way will result in more positive evaluation than in negative description (Marks, 1951; Irwin, 1953).

Using positive/negative ways to present a problem can result in different behaviors because the focus of description might differ. In some situations, the positive description will produce better effect; on the other hand, negative description can bring out a better effect. There are two common types of framing effect: attribute framing and goal framing effect. The studies of these two kinds of framing effect are described below:

1. Attribute framing effect: In attribute framing, the object to be framed is a key attribute of decision problem. For example, if there are 50% of possibility to success and 50% of possibility to fail for a therapy, the “success rate” was used as an attribute of “treatment” (Krishnamurthy et al., 2001). Under this circumstance, Levin et al. (1998) pointed out that positive frame will have a stronger effect for that subjects are easily to induce a positive association when they are accepting a positive framing description and consider this description is more attractive than the negative framed message. In the most of the attribute framing effect studies, it had been suggested that people who were exposed to positive framing message will have a more positive preference to the described object/event (Levin et al., 1985; Johnson, 1987; Levin, 1987; Levin et al., 1988; Levin and Gaeth, 1988; Kramer, 1989; Dunegan, 1993; Dunegan et al., 1995; Dunegan, 1996; Krishnamurthy et al., 2001; Levin

et al., 2002; Wu et al., 2005).

2. Goal framing effect: In goal framing effect, the main focus of message framing is on the outcome of taking or not taking certain behavior. Goal framing effect is a common phenomenon in communication and negotiation studies (Levin et al., 1998). For example, Rothman and Salovey (1997) suggested that the action of breast self-examination can be described as a positive gain – if you conduct breast self-examination, then you can early detect the breast cancer. On the contrary, no action can become a loss – if you do not conduct breast self-examination, then you cannot detect breast cancer early.

Generally, the literatures had pointed out that negative framing message is more effective than positive framing message in the goal framing effect (Thaler, 1980; Brewer and Kramer, 1986; Meyerowitz and Chaiken, 1987; Robberson and Rogers, 1988; Tversky and Kahneman, 1991; Homer and Sun-Gil, 1992; Krishnamurthy et al., 2001). The main reason for this effect is the motivation. People have stronger motivation to avoid loss instead of maintaining the same amount of gain (Meyerowitz and Chaiken, 1987). Tversky and Kahneman (1991) proposed that loss is approximately equal to the value of twice gain. According to Levin et al. (1998), goal framing is not equal to attribute framing because they emphasize different focus. Goal framing effect highlights the outcome of performing or not performing of certain behavior, not the key attribute of the object itself.

Anchoring effect

According to Tversky and Kahneman (1974), people will start from an initial value and then form the final estimate by adjusting the initial value. The initial value, or starting point can be provided by embedding in the description of the question or as the result of partial calculation. In other words, different initial value will generate different estimates, this phenomenon is called anchoring effect (Tversky and Kahneman, 1974). In anchoring and adjustment, subjects need to use the giving anchor value to make initial judgment and determine whether the value is too high or too low. After that, the subjects need to make adjustment until they reach an acceptable value as the final estimate.

Most of the anchoring studies were brought out by Tversky and Kahneman (1974) in which the subjects were asked to compare “the percentage of African countries in the United Nations” with a certain number (the number was resulted from the spin of a wheel of fortune) and decide whether the number was higher, lower or equal to the anchor value (comparison question). After that, the decision makers need to make a final estimate of the correct percentage (judgment question). The results showed that the average estimate value of high anchor group and low anchor group are 45 and 25%

respectively. Basically, the estimate made in the high anchor group was usually higher than that in the low anchor group. This result had been supported by many studies (Northcraft and Neale, 1987; Wilson et al., 1996; Mussweiler and Strack, 1999; Wong and Kwong, 2000; Mussweiler and Strack, 2001). In addition, Wu et al. (2008) and Wu et al. (2010) discussed the effect of anchor point on online consumers' decision in electronic commerce environment, the result was also supported the above findings.

Response mode

The response mode is the type of response (questions) faced by decision makers. There are a variety of response modes, such as bidding and preference (Lichtenstein and Slovic, 1971; Goldstein and Einhorn, 1987). In general, choice and judgment (Payne et al., 1993) are two of the most common response modes. While using the choice mode, decision makers need to choose one favorite option from two or more than two choices. In judgment mode, the decision makers have to assign a value to each of the options. Sometimes the rating scale (ex, score 1-100) will be used in evaluation task. For example, in the case of winning possibility 32/36, winning profit \$4 lottery ticket, subjects were asked to evaluate the ticket's attraction in a 1-20 scale. Another judgment question was evaluated by the subject's willingness-to-pay (bidding mode). For example, how much money would subjects willing to pay to buy a winning possibility 4/36 of \$40 lottery ticket?

Past studies had pointed out that using different response mode would cause different decision making behavior (Slovic and Lichtenstein, 1983; Billings and Scherer, 1988; Tversky et al., 1988; Slovic et al., 1990; Westenberg and Koele, 1990; Westenberg and Koele, 1992; Bailey and Billings, 1994; Montgomery et al., 1994; Ganzach, 1995; Bailey, 1997). For instance, judgment encourages more thorough decision behavior than choice (Billings and Scherer, 1988; Bailey and Billings, 1994). Other studies had also suggested judgment and choice were not always consistent, which means people will not always choose the most attractive option.

The main reason for the difference between judgment and choice in the decision outcome might because that compared with judgment, choice implied a commitment of taking a certain action (Janis and Mann, 1977; Beach and Mitchell, 1978; Einhorn and Hogarth, 1981). In addition, Slovic et al. (1990) and Tversky et al. (1988) had used two options which contain two attributes to explain the difference between choice and judgment. They purpose that when the two options had similar attractiveness, decision makers tend to choose the one that perform better in the important attribute. Therefore, they brought out the idea of "important attribute has a stronger influence in choice than in judgment." In addition, Tversky

et al. (1988) proposed a compatibility hypothesis to explain the difference between choice and judgment decision. They suggested that decision makers will determine the weight of stimulate attribute according to response mode, the attribute which is compatible with response mode will be given a higher weight.

For example, if there are two lottery tickets: (1) winning possibility: 32/36, winning profits: \$4, (2) winning possibility: 4/36, winning profits: \$40. Most of the subjects will choose the first option because the possibility to win is higher. However, if decision makers use a bidding mode, their willingness to pay would be higher for the second option because most decision makers will put the focus on the option which can win a higher profit no matter that the possibility is smaller. The point of the information process at this time is on the attribute of "how much money I will get?" instead of "how many possibility to win?" (Lichtenstein and Slovic, 1971; Lindman, 1971). This was because if decision-makers put focus on the attribute which is not compatible with the response mode, they need to pay more cognitive effort to make a decision; therefore, in order to reduce cognitive effort, the attribute that is more compatible with the response mode will process by the decision-makers in a high priority while making decisions.

The past studies of choice mode studies were mainly using "choice from more than two options" as the main response mode (Slovic and Lichtenstein, 1983; Billings and Scherer, 1988; Tversky et al., 1988; Slovic et al., 1990; Westenberg and Koele, 1990; Westenberg and Koele, 1992; Bailey and Billings, 1994). However, consumers might also facing a decision problem of "buy/no buy" (Tversky and Shafir, 1992; Dhar, 1997; Dhar and Simonson, 2003; Dhar and Nowlis, 2004). Dhar and Nowlis (2004) had further pointed out that the choice of buy/no buy will cause the decision makers to use different evaluation process in which they will tend to use alternative-based evaluation (examining particular alternatives across attributes), while in the choice mode, the decision makers tend to use attribute-based evaluations (examining particular attributes across alternatives). Because both attribute and goal framing messages focus on the positive or negative description of the same object, rather than describing two different objects, the present study is going to use the choice mode of "buy/no /buy" as one of the response mode.

Lichtenstein and Slovic (1971) suggested that different response mode will lead to different information processing behavior. In the choice mode, the process of information is mainly dimensional, in which people will compare one of the dimensions in one option with other options. Take gambling game for example, mostly people would take the opportunity of win or lose as the main dimension to compare. In the studies of framing effect, different framing effects that proposed by Levin et al. (1998) has different response modes. Among that, the goal framing effect is measuring whether subjects will

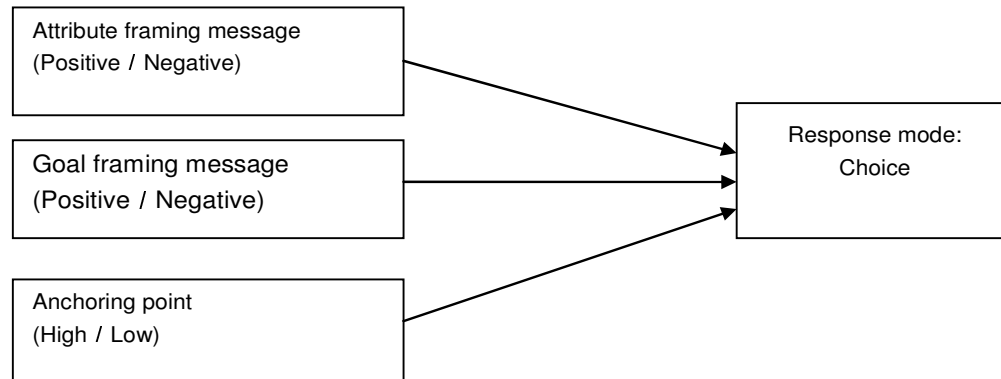


Figure 1. Research framework (Experiment 1).

take that action after they had read a certain framing message, which is similar to the choice mode (choose whether to take a certain action) discussed in this study. In addition, bidding mode was considered as a process which will lead to the information processing of “anchoring and adjustment”. In bidding mode, people were usually taking a certain value as an anchoring point, and then get the final estimate value by adjusting the anchoring point. Due to the insufficient adjustment (Lichtenstein and Slovic, 1971; Tversky and Kahneman, 1974), it is easier to lead to anchoring effect. Finally, in the evaluation mode the subjects need to consider the attractiveness of a certain alternative, which is consistent with the focus in attribute framing effect in which subjects need to evaluate the preferences of a given option.

To sum up, the present study is going to discuss will decision makers be influenced by different (framing and anchoring) messages when they were asked to making decisions under different response modes. Current study predicted that decision makers who need to use the choice mode will be affected by goal framing message; while the one using evaluation mode will be affected by attribute framing message. Further, decision makers who are going to use the bidding mode (to estimate the value of target product) will be affected by anchoring points.

METHODOLOGY

Laboratory experiments were used to examine the effect of framing messages and anchoring points on consumers' decision under three different decision response modes (choice mode, evaluation mode and bidding mode). According to the research objective, the present study uses three experiments to test the effect in which the response modes considered in three experiments are choice mode, evaluation mode and bidding mode respectively.

Experiment 1

Experiment 1 used laboratory experiment to examine the effect of framing message and anchoring point on the decisions when subjects use choice mode as the response mode. The research framework was illustrated in Figure 1.

There are three independent variables in this experiment, attribute framing message, goal framing message and anchoring point. Attribute framing message and goal framing messages were described in either positive or negative way, while anchoring point contains two levels: high anchor and low anchor. Dependent variable was the response mode of choice in which the subjects were asked to decide whether they will choose to buy the product or not.

Hypotheses

Based on the above literature review, positive attribute frame can induce more positive attitude and higher behavior intention than negative attribute framing message (Levin et al., 1998; Krishnamurthy et al., 2001). Moreover, negative goal framing message can induce higher behavior intention than positive goal framing message. Therefore, the present study proposes the following hypotheses:

H_{1a}: Under the positive attribute framing condition, the number of subjects who choose to purchase the target product will be higher than that under the negative attribute framing condition.

H_{1b}: Under the negative goal framing condition, the number of subjects who choose to purchase goal product will be higher than that under the positive goal framing condition.

In anchoring effect, the most common result was that subjects who received a high anchoring point will make higher estimate than those exposed to low anchor point because high anchoring point will raise subjects' reference point and make the price of the purchasing product become lower. Therefore, under the situation of high anchoring point, the number of subjects who choose to purchase the target product will be more than subjects who were under low anchoring point condition. Thus, the present study proposes the following hypothesis:

H_{1c}: Under the condition of high anchoring point, the number of subjects who choose to purchase goal product will be more than that under low anchoring point condition.

Research design

The independent variables manipulated in the present study were: attribute framing message, goal framing message and anchoring point. The experiment was a 3 (information types: attribute framing message/ goal framing message/ anchoring message) × 2 (Positive/Negative or High/Low) between-subjects factorial design and resulted in six experimental conditions.

Dependent variables measurement

The variable that measured in the present study was: whether subjects choose to buy or not.

Procedure

Current study built up an experimental website and recruited volunteer subjects to participate the experiment. After subjects entered the computer laboratory, researchers introduce the purpose of the experiment, the way to conduct, and other necessary information to the participants. Subjects then were instructed to enter the experimental website and started the experiment. When entering the website, subjects will be assigned randomly into one of the six experimental conditions. The first page of the website is the description of the virtual store, and the second page is the description of the task, in which the attribute framing, goal framing message and anchoring point were manipulated and presented. After the subjects read all the product information, they were instructed to proceed to make the choice of whether to buy it or not. The final page is the acknowledgement of the subjects' participation. The whole process lasts about 20 minutes, and each subjects will receive a NT \$50 (about USD 1.6) McDonald's coupon as the reward.

Experiment 2

Another laboratory experiment was conducted to examine the effect of the message framing and anchoring point on consumers' decision making when the evaluation mode was used. The research framework was similar to that in experiment 1, the only difference is the dependent variable where choice mode in experiment 1 was replaced by the evaluation mode.

Similarly, the experiment included three independent variables, attribute framing message, goal framing message and anchoring point message. The attribute and goal framing message were described in a positive or negative way, while anchoring point message included two manipulated levels, high anchor point and low anchor point. The dependent variable was the participants' evaluation of the target product.

Hypotheses

Based on previous studies (Levin et al., 1998; Krishnamurthy et al., 2001), positive attribute framing message can induce more positive attitude than negative attribute framing message. Moreover, negative goal framing message can induce more positive attitude than positive goal framing message. Therefore, the present study proposes the following hypotheses:

H_{2a}: Under the positive attribute framing condition, the subjects' evaluation will be more positive than subjects in negative attribute framing condition.

H_{2b}: Under the negative goal framing condition, the subjects' evaluation will be more positive than subjects in positive goal framing condition.

In anchoring effect, subject exposed to high anchor point will have higher willingness to pay than subjects who received a low anchor point. That was because the anchoring message would affect subjects' reference point and made subjects came up with different evaluation of the target product. Furthermore, many researches had pointed out that consumers would form product beliefs base on the product attribute (ex. price) (Huber and McCann, 1982). Current study predicted that when consumers were exposed to high anchor

point, higher price would make decision-makers infer that the target product has a higher quality, and evaluate the product in a more positive way. Therefore, the study proposes the hypothesis:

H_{2c}: Under the condition of high anchoring point, the subjects' evaluation will be more positive than that under low anchoring point condition.

Experimental design

The design of the experiment was similar to that in experiment 1. The manipulated independent variables were: attribute framing message, goal framing message and anchoring points. The experiment is a 3 (information types: attribute framing message/ goal framing message/ anchoring message) × 2 (Positive/Negative or High/Low) between-subjects factorial design.

Dependent variables measurement

The dependent variable measured in experiment 2 was the subjects' attitude toward the target product. The measurement used 7 point semantic differential scale of three pairs of expressions: "good/ not good", "attract me/ do not attract me" and "like/ unlike".

Procedure

The procedure of experiment 2 was similar to that in experiment 1. The only difference was that after subjects finished reading the product information, the measurement in the third page was to invite subjects to provide their attitude toward the target product.

Experiment 3

Experiment 3 used laboratory experiment to test the framing and anchoring effect when the bidding mode was used as response mode. The research framework was similar to that in experiment 1. The only difference is the response mode in which the choice mode in experiment 1 was replaced by bidding mode in experiment 3. Again, the experiment included three independent variables, attribute framing message, goal framing message and anchoring point. The attribute and goal framing message were described in a positive or negative way, while anchoring point included two manipulated levels, high anchor point and low anchor point. The dependent variable was the participants' willingness-to-pay of the target product.

Hypotheses

Based on previous studies (Levin et al., 1998; Krishnamurthy et al., 2001), positive attribute framing message can induce more positive attitude and higher behavior intention than negative attribute framing message. Described the target product with positive message can raise consumers' perceived quality (Levin and Gaeth, 1988), and willingness-to-pay can also be raised (Howard and Salkeld, 2009). Moreover, negative goal frame can induce higher behavior intention than positive goal framing message. Therefore, the present study suggested the following hypotheses:

H_{3a}: Under the positive attribute framing condition, the subjects' willingness-to-pay for the target product will be higher than that under the negative attribute framing condition.

H_{3b}: Under the negative goal framing condition, the subjects' willingness-to-pay for the target product will be higher than that under the positive goal framing condition.

Table 1. Chi-square test analysis result of choice mode.

| Independent variable | | Dependent variable: Choice (Number of people choose to buy) | | Chi-Square value |
|----------------------|----------|--|--------------|------------------|
| | | Purchase | Not purchase | |
| | | Attribute Framing message | Positive | |
| | Negative | 65 | 95 | |
| Goal Framing message | Positive | 63 | 84 | 0.907 |
| | Negative | 81 | 87 | |
| Anchoring point | High | 61 | 91 | 3.689* |
| | Low | 83 | 80 | |

*p<0.05

In addition, many studies of anchoring effect had all suggested that the estimate made by subjects who received high anchoring point will be higher than the value made by subjects who received low anchor (Northcraft and Neale, 1987; Wilson et al., 1996; Strack and Mussweiler, 1997; Mussweiler and Strack, 1999; Wong and Kwong, 2000; Mussweiler and Strack, 2001). Therefore, the experiment proposed the following hypothesis:

H_{3c}: Under the condition of high anchoring point, the subjects' willingness-to-pay of the target product will be higher than that in the low anchor condition.

Experimental design

The design of the experiment was the same as experiment 1. The manipulated independent variables were: attribute framing message, goal framing message and anchoring point. The experiment is a 3 (information types: attribute framing message/ goal framing message/ anchoring message) × 2 (Positive/Negative or High/Low) between-subjects factorial design.

Dependent variables measurement

The dependent variable measured in this experiment was: the participants' willingness-to-pay of the target product. The measurement used an open-ended question to collect subjects' willingness-to-pay.

Procedure

The procedure of the experiment was similar to the above two experiments. The only difference was that after subjects finished reading the product information, the measurement in the third web page was an open-ended question to collect the subjects' willingness-to-pay of the target product.

RESULTS AND ANALYSES

Experiment 1

The purpose of experiment 1 is to examine the framing effect and anchoring effect when participants use the choice as response mode. Because the measurement of

dependent variable is the subjects' choice of buy or no buy, a chi-square test analysis was used. The result was shown in Table 1 in which significant attribute framing was observed and this result supported H₁₋₁. Table 1 indicated that more people are willing to purchase the product when using positive way to describe the attribute of product (N_{Positive}=79 vs. N_{Negative}=65). On the contrary, if the negative attribute framing message was used to describe the product attribute, more people will choose not to buy (N_{Positive}=76 vs. N_{Negative}=95).

Another significant effect observed is the anchoring effect although the direction is opposite to the hypothesis. Specifically, the result revealed that there are more people willing to purchase the product when the anchoring point was lower (N_{Low}=83 vs. N_{High}=61). By contrast, when the anchoring point was higher, more people choose not to buy the target product (N_{Low}=80 vs. N_{High}=91).

Experiment 2

The focus of experiment 2 is to discuss whether subjects' attitude will be different when they were exposed to different framing or anchoring messages. Three independent analysis of variance (ANOVA) analyses were used to test the hypotheses in which the attribute framing message, goal framing message and anchoring point served as independent variables, and the subjects' attitude was the dependent variable. The result was shown in Table 2.

The result in Table 2 showed that only attribute framing effect was observed when participants used evaluation as response mode. Specifically, compared with negative framing message, the positive description resulted in more positive attitude (Att_{Positive}=5.12 vs. Att_{Negative}=4.64). The result supported hypothesis H_{2a}.

Experiment 3

Experiment 3 aims to discuss the effect of attribute framing, goal framing and anchoring point on participants'

Table 2. The ANOVA analysis result of evaluation mode (Experiment 2).

| Independent variable | | Dependent variable: Attitude | F |
|---------------------------|----------|------------------------------|-----------|
| Attribute Framing message | Positive | 5.12 (1.07) | 11.888*** |
| | Negative | 4.64 (1.31) | |
| Goal Framing message | Positive | 4.77 (1.27) | 1.910 |
| | Negative | 4.97 (1.17) | |
| Anchoring point | High | 4.88 (1.20) | 0.006 |
| | Low | 4.87 (1.24) | |

*** $p < 0.001$.

Table 3. The ANOVA analysis result of bidding mode (Experiment 3).

| Independent variable | | Dependent variable: Willingness-to-pay | F |
|---------------------------|----------|--|-----------|
| Attribute Framing message | Positive | 6244.23 (6301.20) | 2.405 |
| | Negative | 5207.75 (5341.49) | |
| Goal Framing message | Positive | 5840.81 (5971.69) | 0.114 |
| | Negative | 5613.64 (5971.69) | |
| Anchoring point | High | 8421.45 (6938.59) | 77.761*** |
| | Low | 3141.51 (2727.54) | |

*** $p < 0.001$.

decision when they used a bidding mode. Three independent ANOVA analyses were used to test the hypotheses. Attribute framing message, goal framing message and anchoring point served as independent variable and subjects' willingness-to-pay was the dependent variable. The result was shown in Table 3.

The result showed that when the subjects used the bidding mode, only the anchoring effect occurred. Specifically, compared with low anchoring point, the subjects' willingness-to-pay high anchoring condition was significantly higher than that in low anchoring point condition. The result supported hypothesis H_{3c}.

Conclusion

The purpose of current study is to examine whether the occurrence of attribute framing effect, goal framing effect and anchoring effect depends on the online consumers' response mode. Based on past studies, different response modes will cause different decision process and result in different decisions (Slovic and Lichtenstein, 1983; Billings and Scherer, 1988; Tversky et al., 1988; Slovic et al., 1990; Westenberg and Koele, 1990; Westenberg and Koele, 1992; Bailey and Billings, 1994; Montgomery et al., 1994; Ganzach, 1995; Bailey, 1997). However, most of those studies simply discussed the

relationships between response mode and decision outcome. The academic contribution of the present study is to consider whether different response modes make difference on the occurrence of framing effect and anchoring effect. The experimental results showed framing effect and anchoring effect depend on the response mode taken by the decision makers. Specifically, attribute framing effect and anchoring effect were observed when subjects use choice mode, while goal framing effect was not observed. Further, only the attribute framing effect occurred when the evaluation mode was used. Finally, in the bidding mode, there was a significant anchoring effect.

The result of this study supported the "compatibility hypothesis" proposed by Tversky et al. (1988) in which the main focus of information processing would differ based on the response mode used. In other words, the attribute which was compatible with the response mode would get more attention and therefore get higher weight and cause a greater effect. In the present study, significant attribute framing effect and anchoring effect happened while the response mode was choice mode. This indicated that the attribute of product and price are both the evaluation focus when the decision makers are deciding whether to buy or not. Second, when decision makers used bidding mode as the response mode, the decision focus might be the reference price (anchoring

point), and caused a significant anchoring effect.

In addition to the academic contribution, the present study also had a contribution in practice. In the electronic commerce environment, the decision mode might be differed for different consumers. Some consumers collected information as the basis of product evaluation; some might entered into choice phase or deciding their willingness-to-pay. According to the result of the present study, consumers who used different response mode might be influenced by different advertising messages. Positive attribute framing message can induce a significant effect on consumers who were evaluating or choosing the product, the higher reference price can raise the willingness-to-pay of the consumer. Additionally, compared with attribute framing message and reference price, the goal framing message does not have significant effect.

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