Anchoring Effect in Different Promotional Forms in the Consumption Field
Taking Price Discounts and Gift Discount Activities as Examples

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ABSTRACT
This paper is aimed at discussing the anchor effect in a promotional scenario. In this paper, the research statistically analyzes the consumers' choices of different promotion forms under different degrees of promotion and the impact of consumers' choices on their cognition of the price through the method of questionnaire survey. Based on the analysis of this paper, the following conclusions can be drawn. Firstly, people who go shopping frequently and pay attention to sales promotion account for the majority, and their preference for promotion changes linearly with the increase of the promotion degree; Secondly, the more consumers focus on the promotion, the less likely they are to change their preference for the promotion form by the increase of promotion intensity. At last, the form of gift promotion makes it easier for consumers to overestimate the original price of products compared to the form of discount promotion.

Keywords: Behavioral economics, Anchoring effect, Consumption.

1. INTRODUCTION

This article is aimed at the anchoring effect, a well-known concept in behavioral economics, and how it affects the consumption decisions of Chinese households. The most common anchor in the consumption field is the price of the commodity, which is the most intuitive commodity information for consumers to make consumption decisions based on. In consumption, prices change publicly when sales promotions are held to stimulate consumers. Price discount and gift discount are two common forms of sales promotion. Different consumers have different attitudes towards these two forms of promotion, and their preferences are often relatively fixed. Therefore, in a specific consumption scenario, the promotion form and content sets up our new "anchors" for consumers, affecting their decisions. The purpose of this paper is to discuss the anchoring effect of the form and degree of promotion on consumers in specific promotion scenarios.

Previous researches on the anchoring effect in consumption are extensive, however, they are mainly limited to the analysis of numerical price anchors, and lack of more specific consumption scenarios. In the consumption field, short-term changes in commodity prices are often not just numerical changes but accompanied by specific promotional scenarios. This paper discusses the anchoring effect in the sales promotion scenario in the consumption field and uses the method of a questionnaire survey to conduct an online survey of residents across China. The questionnaire makes respondents choose between two supermarkets with the same promotion degree yet taking gift discount or price discount respectively, and continuously increase the degree of discount to demonstrate the changes in the respondents' decision-making. Finally, respondents with different preferences are asked to give a judgment on the price of the commodity mentioned in the questionnaire under the anchor price given before.

This paper points out that the anchoring effect in consumption includes two mechanisms: knowledge accessibility and numerical effect. The former mechanism affects how the anchor effect happens, and the latter affects the specific degree of anchor effect. Besides, this article finds out that groups with different levels of attention to promotions also react differently to changes in discount degree. People who pay more attention to promotion are more resistant to the changes of discount degrees due to the knowledge accessibility of past prices. Moreover, under the same degree of
anchoring information, people who prefer gift discounts are more likely to overestimate the market price of goods, which is caused by the more direct numerical effect.

The significance of this article is to provide reference opinions for operators of supermarkets or e-shops in formulating promotion strategies. Regarding the discount promotion, this article points out that with a greater discount degree, more consumers will prefer gift discounts. Therefore, if the operator decides to adopt a discount promotion, they can give priority to the products with a higher promotion degree. In addition, this article also pointed out that customers who prefer gift discounts are more likely to overestimate the original price of the products. Therefore, supermarkets and e-shops operators can set gift discounts for some higher-priced products. To sum up, if the operator decides to adopt the promotional form of gift discount, then it can be considered to be used in clothing, home appliances, and other products with higher prices and higher promotion levels. Moreover, this paper points out that people who seldom pay attention to promotion are more sensitive to the change of discount degree. Therefore, operators can achieve price discrimination by advertising different degrees of discount promotional products to different types of customers to gain more profits. Overall, this paper can provide significant suggestions for actual economic management, which is its main contribution.

2. LITERATURE REVIEW

2.1. The meaning of anchoring effect

Anchoring effect refers to the phenomenon in which the results of judgment and decision-making approach the initial information or the initial value, that is, the "anchor" in the context of uncertainty, resulting in estimation deviations. In general, anchoring effects have been demonstrated using four different experimental paradigms: insufficient adjustment, conversational inferences, numerical priming, and mechanisms of selective accessibility, and the latter two are more valued.

The numerical priming means that the determinant of anchoring effects is the anchor value itself, which claims that anchoring effects may only be the effects of the anchor's numerical value. And the mechanisms of selective accessibility focus on the changes of the accessibility of knowledge about the target by the anchor value[1].

2.2. Anchoring effect in consumption

Jung, Perfecto, and Nelson reveal two main points:

First, the percentile rank gap between anchors in the payment is a much stronger predictor of anchoring emerging than merely the absolute gap between the anchors on a number line.

Besides, the anchors with lower value influenced payments more than that with higher value, and anchor precision, descriptive and injunctive norms can enhance the influence caused by anchors.[2]

2.2.1. The numerical priming in the consumption

The numerical priming in the consumption means that consumers' decision-making is more affected by the value of the price itself. Shan, Diao and et al. asserted the anchoring effect reacting on the consumption of organic food in China[3]. They claimed that consumers' judgment would be significantly influenced by presenting an anchor price in advertisements. And the lower anchor price induced a more favorable attitude and purchased intention than a high one. Besides, the consumers with less knowledge were more susceptible to anchoring effects.

Bassellier and Ramaprasad test the influence of the source and the level of reference prices on consumers' willingness to pay for the context of purchasing digital songs by a controlled lab experiment with 868 participants[4]. Their study showed that a low (high) reference price led to a lower (higher) willingness to pay than a user’s internal reference price.

2.2.2. The mechanisms of selective accessibility in the consumption

The mechanisms of selective accessibility in the consumption means that the mechanism by which the anchoring effect takes effect is that the anchored commodity information evokes consumers' knowledge of commodity historical information, and this accessibility of historical knowledge affects consumers' decision-making and judgment. Strack and Mussweiler (1997) proposed that people selectively accessed knowledge that was consistent with the hypothesis being true in a typical anchoring experiment that the target value was equal to the anchor. Information consistent with the provided anchor was thus differentially activated and therefore more readily accessible for subsequent use in the absolute estimation question. In support of the SA theory of anchoring, SA demonstrated in a series of studies that information consistent with the anchor value was more accessible than information that was not.

2.3. Methodology reference

Lombardi and Choplin (2010) used the questionnaire method to investigate the anchoring effect on alcohol consumption. Experiments found that estimates of
consumption were susceptible to anchoring effects when
an open answer and a scale-response format were used.

Jung, Perfecto and et al. formulate a field survey plan[2]. Customers were forced to consider an initial anchor and decide their payment. The experiment contained two-part: the price anchor, and "pay what you want". And the respondents separately pay the price they want to pay with or without the anchor price given before their decision. The researchers find out the anchor effect on the consuming willingness by this experiment.

In general, the anchoring effect is mainly manifested in the price effect in the field of consumption. People make decisions under the influence of anchoring price, which is supported by the field survey data. Besides, the knowledge about the price affects the decision in the process of consumption. When the consumer receives the anchor information, the knowledge about the historical price of the commodity is awakened.

3. METHODOLOGY

This article adopts the method of the questionnaire survey, and the questionnaire is in appendix 1. The respondents are residents around China, and they are mainly from Shanghai as well as Yinchuan. The questionnaire is spread through the Internet. The questionnaire will be designed to put the respondents in a familiar scene that they are buying the goods they purchase most frequently, and under this scenario, they choose whether to purchase the discounted goods or to purchase the goods with a gift discount promotion. Importantly, the degree of the two promotion forms is the same. In the first part of the questionnaire, respondents answer the questions about their age, the frequency of their shopping, and whether they focus on promotions. The second part is the main body of the questionnaire. In this part, respondents will be placed in a hypothetical scenario of purchasing rice. They will choose between the following two supermarkets with different promotion forms under three different discount degrees (20%, 40%, and 60%):

Supermarket A: A certain amount of rice will be gifted after purchasing a certain amount of rice.

Supermarket B: There is a discount on the price of rice.

For example, the respondent needs to buy 10 kilograms of rice in the first question of the second part, which is a very daily consumption behavior. In supermarket A, the respondent buys 8kg rice and can get 2kg rice as a gift, while he/she can find the price of rice is reduced by 20% in supermarket B. Both supermarkets offered the same degree of discount so that the respondents can express their preferences without the influence of price. The purpose of the second part was to induce and observe changes in respondents’ choices by increasing the degree of promotion continuously and equally. The degree of promotion serves as the information anchor, and the anchoring effect is reflected in the change of respondents’ decisions.

For the respondents who always choose Supermarket A or Supermarket B, they will judge the price of rice in reality in the third part of the questionnaire. This paper assumes that the anchoring effect is also applicable to the respondents who do not change their consumption decisions. Therefore, the respondents will form a temporary judgment of rice price under the influence of the information anchor in the second part. As a result, the third part of the questionnaire will show the judgment results influenced by the anchoring effect. The market price of rice in the questionnaire is 3 yuan per kg. For the respondents who always choose supermarket A, they will answer how many kilograms of rice they can buy with 30 yuan in reality, because they are more concerned about the purchased quantity of rice. For respondents who always choose supermarket B, they will directly answer the price of rice in reality. In this way, this paper can get the influence of the price anchor in the second part on the judgment of respondents.

4. RESULT

4.1. Fundamental data

From the questionnaire, the age of the main respondents is evenly distributed between 18-55 years old. The age distribution is shown in table 1.

Moreover, it is shown from the questionnaire that most of the respondents often go shopping and pay attention to the sales promotion. Therefore, this paper can assume that the survey reflects the attitude of ordinary people towards sales promotion. Table 2 shows the specific situation.
In part 2, the respondents are led to select Supermarket A with a volume-break discount or Supermarket B with a price discount. As the table shows, more respondents are choosing Supermarket B, which provides a certain percentage price reduction. Besides, with the rise of discount degrees, the proportion of people who choose Supermarket increases, from 31.6% for 20% discount to 38.3% for 60% discount. The detailed data is shown in table 3.

For the 45 respondents who choose Supermarket three times, they will answer the question that how much rice they can buy with 30 yuan in reality. Most of the respondents think that they can only buy less than 10 kg. Table 4 reveals the answer of these respondents:

For the 107 respondents who choose Supermarket firmly, they need to give the actual price of rice in their minds. The survey tells that the respondent’s responses tend to be like normal distribution: most people choose the middle option. The data of respondents’ answers are shown in the table 5:

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4.2. Detailed data

Based on the data from Table 2, this paper divides the respondents into two groups: active group and control group. The active group consists of the people who often go shopping and pay attention to sales promotion. While the control group includes
respondents who seldom go shopping or who do not follow sales promotions. Table 6 shows the situation.

After dividing the respondents, this paper focuses on the answer of the different groups. For the active group, the ratio of the number of people who choose Supermarket A to the number of people who choose Supermarket B is about 1:2 under the discounts of 20% and 40%. But when the degree of discount increases to 60%, the number of people who choose Supermarket A rises significantly. Table 7 is the data of the active group.

For the control group, the trend of data changes is not obvious. On the whole, the number of people choosing Supermarket A also increased with the discount increasing. Besides, this upward trend occurs earlier compared to the active group: it appears when the discount increases from 20% to 40% and the number rise from 21 to 29. Table 8 is the data of the control group.

It is worth noting that over half of the active group respondents (73 people) choose Supermarket B three times, and the proportion of people who choose “About 2.5 yuan” rises a bit. On the contrary, there are only 32 respondents always choose Supermarket A. Table 9 and Table 10 cite the data of the active group’s choice.

For the control group, only one-sixth of respondents choose Supermarket in all three questions, and the number of people who always support Supermarket B is less than half of the control group. Besides, the focus on intermediate options has also weakened in terms of price judgment. Table 11 and Table 12 are the answer of the control group.

Some respondents change their choice with the discount degree rising. Part of respondents favor Supermarket B at first while choosing Supermarket A in the end, and the other part of respondents get in the opposite situation. As far as the change of choice is concerned, more people are changing from Supermarket B to Supermarket A than the opposite part, which is 31:17. Moreover, the change of choice both occurred between questions 4 and 5, and between questions 5 and 6. This paper calls the former abbreviated as ABB or BAA, and the latter abbreviated as AAB or ABB. Table 13 and Table 14 indicate the change of respondents of different groups:

**Table 12. The answer of the control group for the price of rice**

<table>
<thead>
<tr>
<th>Option</th>
<th>Less than 2 yuan</th>
<th>About 2.5 yuan</th>
<th>Over 3 yuan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number &amp; Percentage</td>
<td>7(20.6%)</td>
<td>17(50.0%)</td>
<td>10(29.4%)</td>
</tr>
</tbody>
</table>

**Table 13. The change of choice from Supermarket A to Supermarket B**

<table>
<thead>
<tr>
<th></th>
<th>A-B-B</th>
<th>A-A-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active group</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Control group</td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

**Table 14. The change of choice from Supermarket B to Supermarket A**

<table>
<thead>
<tr>
<th></th>
<th>B-A-A</th>
<th>B-B-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active group</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Control group</td>
<td>9</td>
<td>5</td>
</tr>
</tbody>
</table>

From the review above, key findings emerge that the number of people who choose supermarket B is more than the number of people who choose supermarket A, and the gap decreases as the degree of discount increases. In addition, only when the degree of price reduction increases from 40% to 60%, the choice of people who often go shopping and pay attention to sales promotion will significantly change. A further finding is that respondents who prefer volume-break discounts are more likely to overestimate the price of rice than those who prefer price discounts.

**5. DISCUSSION**

The results indicate that the consumers prefer direct price discounts indeed, which reflect the ratio of 1:2 approximately. Besides, it is demonstrated that the influence of discount change on respondents’ choice is stronger from 40% to 60% than that from 20% to 40%. Therefore, it’s worth discussing how this influence occurs.

According to whether often shopping and whether focusing on promotions, the respondents can be divided into four categories: active group, people often shopping yet paying little attention to sales promotion, people seldom shopping but noticing promotion, and people neither shopping regularly nor caring about promotion. And below are the choices of these four groups:
Table 15. The answer of the active group

<table>
<thead>
<tr>
<th>Degree of discount</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarket A</td>
<td>45</td>
<td>46</td>
<td>54</td>
</tr>
<tr>
<td>Supermarket B</td>
<td>93</td>
<td>92</td>
<td>84</td>
</tr>
</tbody>
</table>

Table 16. The answer of people seldom shopping but noticing promotion

<table>
<thead>
<tr>
<th>Degree of discount</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarket A</td>
<td>8</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Supermarket B</td>
<td>15</td>
<td>15</td>
<td>19</td>
</tr>
</tbody>
</table>

Table 15 and table 16 reflect the situation of people who pay attention to promotions, while table 17 and table 18 count the preferences of the others. The decision of those concerned about the promotion hardly changed when the degree of promotion rises from 20% to 40%. But with the degree of promotion increasing from 40% to 60%, some of these people would change their choices regardless of whether they often go shopping. On the contrary, people who do not focus on sales promotion are significantly affected when the promotion rate rises to 40%, yet there is little difference between 40% discount or 60% discount. In summary, people who are concerned about promotions are more resistant to changes in the degree of promotion, which can be explained by selective accessibility. For people who do not pay attention to promotions, a 40% discount is already an uncommon choice. Under the influence of such a price anchor, they are likely to change their inherent preferences. For those who are concerned about promotions, the 40% discount is still in the daily range of options, so it is not enough to change their decision.

5.1. Active group

The discount’s increase from 20% to 40% can hardly change the choices of the active group respondents, while a significant change will only occur when the discount increases from 40% to 60%. The reason is that the sales promotion is familiar to the respondents in the active group, and they have formed stable preferences. In this way, the discount of 20% or 40% belongs to the usual promotion field, in which this increase will not change their consumption decisions. However, a discount of 60% is very rare for a stable commodity like rice, which is known by the members of the active group. The member of the active group meets difficulty maintaining their preferences, as a result, when the price discount reaches 60%. Therefore, the increase of discount from 40% to 60% can make an effective impact on the consumption decision of the active group. This impact results from that the information anchor exceeds the scope of the respondents’ knowledge and experience. In summary, the anchoring effect acts on the respondents’ consumption decisions through knowledge accessibility.

The perspective of numerical effect can also explain this phenomenon: the percentage of price reduction is greater when the discount increases from 40% to 60%, although the reduction is the same. A larger percentage of price changes stimulated members of the active group so that some people changed their choices. However, this explanation has a certain problem: the numerical effect cannot explain why the discount has almost no effect on the active group respondents’ choice when the discount increases from 20% to 40%. In the subsequent analysis, the limitations of the numerical effect will be further discussed.

Table 17. The answer of people often shopping yet paying little attention to sales promotion

<table>
<thead>
<tr>
<th>Degree of discount</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarket A</td>
<td>10</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>Supermarket B</td>
<td>18</td>
<td>14</td>
<td>13</td>
</tr>
</tbody>
</table>

Table 18. The answer of people neither shopping regularly nor caring about promotion

<table>
<thead>
<tr>
<th>Degree of discount</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarket A</td>
<td>3</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Supermarket B</td>
<td>16</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

5.2. Control group

The result shows that the control group's choices under different discount levels are irregular. In addition, the control group includes groups that either seldom go shopping, or do not care about promotions, even both. Therefore, this paper discusses these three groups deeply.

Among the three groups of people, the choice of those who rarely shop but pay attention to promotions is the most unusual: when the degree of promotion changes from 40% to 60%, the number of respondents who choose Supermarket A decreases. This is also the reason why the number of people in the control group choosing supermarket A is the most when the discount is 40% instead of 60%. On the other hand, the trends in the consumption decision of the other groups are
roughly the same. However, it is worth noting that respondents who frequently shop but do not pay attention to promotions are worth noting. It is the group with the highest proportion of people who choose Supermarket A: the proportion of people who choose Supermarket A even exceeds 50% when the discount rises to 60%. Besides, those who neither shop regularly nor pay attention to promotions behave very regularly, in line with the conclusions drawn in the previous discussion. Overall, the irregularity of the control group originates from people who rarely shop but care about promotions. Their decision-making rules are contrary to those of others. And those who do not pay attention to promotions have relatively regular decisions: the breakpoints of decision-making changes are earlier than those who care about promotions.

5.3. The judgments on the price

People who choose different supermarkets also have different judgments on the price of rice. In China, the price of rice is between 2.5 yuan and 3.5 yuan per kilogram. People who prefer Supermarket A will overestimate the price of rice, thinking that they can only buy less than 10 kg of rice by 30 yuan. For those who prefer Supermarket B, their estimate of the price of rice is lower. They suggest that the price of rice is around 2.5 yuan per kilogram. This difference reflects the anchoring effect in consumption: people who choose different supermarkets focus on different information, and the different information as an anchor influences their consumption decision.

People who choose Supermarket A pay attention to the amount of rice they can buy with 30 yuan, as well as how many kilograms of gifts they can get. Considering from a numerical point of view, both the purchased rice and the gift rice weigh less than 10 kilograms. In particular, the amount of consumption is linked to the purchased goods while the gifted part is relatively independent in the minds of consumers for the promotional form of gifting. Therefore, those who choose Supermarket A suppose that they spent 30 yuan buying less than 10 kilograms of rice, and they got a few kilograms of free rice as a discount. Under the intuitive numerical influence, people who prefer Supermarket A are more likely to link 30 yuan corresponds to less than 10 kilograms of rice. As a result, the numerical anchor effect influences these respondents’ judgment on the price of rice.

Those respondents who prefer Supermarket B, intuitively accepted the price information of rice in the questionnaire, price in the questionnaire of rice is 3 yuan, 2.4 yuan, 1.8 yuan, and 1.2 yuan. However, most of the surveyors who insist on choosing Supermarket B still believe that the price of rice is around 2.5 yuan, which is close to reality, not to the questionnaire. In addition, the choices of respondents who often shop are more focused on the 2.5 yuan option, as Table 19 shows. For this situation, this paper believes that the anchoring effect still exists and shows a certain attenuation characteristic: the respondents use the initial price of 3 yuan as an anchor for judgment when they see it at first. And considering the sales promotion in reality (usually during the 10%-30% period), respondents who frequently shop will get a psychological price of about 2.5 yuan. Therefore, the anchoring effect composed of the numerical effect and knowledge accessibility affects the judgment of the respondents. Moreover, the knowledge accessibility mainly affects the respondents often shopping for their more sufficient information about prices and promotions.

In the end, this paper believes that it is meaningful to study the consumption behaviour and anchoring effect in the promotion scenario, because it can reflect the behaviour of consumers in more specific consumption scenarios, thus showing the different mechanisms of numerical effect and knowledge accessibility. This paper suggests that further research can focus on analysing promotional data from large shopping malls and platforms so that they can draw more detailed conclusions from a larger sample. In addition, this paper still has some limitations, mainly for the sample size and the questionnaire option setting.

6. CONCLUSION

This paper draws relatively significant conclusions through the method of questionnaire survey. First, consumers prefer the promotion form of discount to the form of gift, and this preference is more obvious when the promotion degree is lower. Secondly, when the degree of the promotion increases, the number of consumers who choose the promotion form of the gift will increase accordingly. Besides this increase occurs when the promotion degree increases to a high degree for the group who often shop and focus on promotion. In addition, the preferences of people who pay attention to promotion are less affected by changes in promotion degree. Finally, consumers who prefer gift promotion are more likely to overestimate the price of goods compared to consumers who prefer discounts.

The anchoring effect is reflected in the following aspects in the questionnaire: firstly, the anchor effect is inconsistent for people who whether pay attention to a promotion or not. For those who focus on the promotion, the degree of promotion can only become an effective anchor when it is high enough, which is due to the mechanism of knowledge accessibility. Secondly, due to the numerical effect consumers are more likely to overestimate the original price of goods with the form of gift compared with the form of direct discounts. The anchoring effect in the field of promotion includes two mechanisms: knowledge accessibility and numerical effect. The former affects the situation in which the
anchor takes effect, and the latter affects the specific effect of the anchor.

For supermarket operators, the study also has significance. First of all, although it is well known that most people prefer the price discount, this paper points out that the number of people who prefer gift discounts increases at a higher degree of promotion. Therefore, supermarkets can increase the proportion of gift discounts for goods with a larger discount. Besides, this article also pointed out that customers who prefer gift discounts are more likely to overestimate the original price of the products. For this reason, higher-priced products are more before participating in gift discount promotion activities. Moreover, this paper points out that people with different attention to promotion reflect promotion degree different. Therefore, operators can advertise promotional products with different degrees of discount to different types of customers to achieve first-degree price discrimination and gain more profits. In general, the research focusing on the anchoring effect is significant for realistic sales operations.

REFERENCES


