The Impact of Hyperbolic Discount Tendency on Consumer’s Purchase Intention

Jaewook Jo

Department of Business Administration, Daelim University Collage, Korea
rino962727@gmail.com

Abstract

This study is important to prove the relationship between purchase intention and personal propensity under a new high-tech product market. Purchase intention appeared differently depending on the hyperbolic discounting tendency. Consumers with hyperbolic discount tendency tended to show higher purchase intention than those without hyperbolic discount tendency. Also, the moderating effect of the hyperbolic discount tendency was found between advertising types and purchase intention. People with hyperbolic discount tendency have higher purchase intention in case of low-level construal, whereas people who do not have hyperbolic discount tendency have higher purchase intention in case of high-level construal.

Keywords: hyperbolic discount tendency, purchase intention, CLT

1. Introduction

When new high-tech products are released, consumers can consider whether to buy it right away or not. This study suggests that the point of purchase and purchase intention may differ according to the personal propensity. Especially, this study focused on hyperbolic discount tendency of consumer’s purchase intention and moderating effect according to the advertising types based on CLT(construal level theory).

2. Backgrounds

2.1. Hyperbolic discounting

People put the large weight on immediate results in intertemporal choice, which is called hyperbolic discounting. In other words, people put the disproportionately large weight in the near future and the relatively small weight in the distant future. Strotz suggested hyperbolic discounting and individuals are more impatient when they make a short-term choice than when they make a long-term choice [1]. According to O’Donoghue and Rabin (1999) [2], Thaler (1981) [3], and Zauberman (2003) [4], individual was biased for the present in intertemporal choice. In this paper, hyperbolic discount tendency is defined as the inclination of people who have different weights in intertemporal choice based on the Strotz’s theory. Thaler’s questionnaire was used to divide into having hyperbolic discounting tendency and do not have hyperbolic discounting tendency [3]. It can be illustrated with the following simple example: [Table 1].

Article history:
Received (November 12, 2017), Review Result (December 21, 2017), Accepted (February 3, 2018)
The Impact of Hyperbolic Discount Tendency on Consumer’s Purchase Intention

Table 1. The example of hyperbolic discount tendency

<table>
<thead>
<tr>
<th>A. Choose between</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A.1) One apple today.</td>
</tr>
<tr>
<td>(A.2) Two apples tomorrow.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Choose between</th>
</tr>
</thead>
<tbody>
<tr>
<td>(B.1) One apple in one year.</td>
</tr>
<tr>
<td>(B.2) Two apples in one year plus one day.</td>
</tr>
</tbody>
</table>

The above instance describes the first step in an attempt to discover whether individuals choose in the manner in which Strotz suggested [1]. Specifically, the hypothesis to be tested is that the discount rate in choices will vary inversely with the length of time. Above these questions, most of the students select A.1 about first question (A), and B.2 about second question (B). Although the rate of discount is constant, their choice was not identical. In other words, preference reversal happened. In this case, we regarded as people with hyperbolic discount tendency. On the other hand, participants who selected other cases except A.1 and B.2 were regarded as people without hyperbolic discount tendency. Namely, individuals who had hyperbolic discount tendencies gave disproportionately large weight to immediate outcomes when making trade-offs in time and those who did not have hyperbolic discount tendencies gave large weight to the results in the distant future. Hyperbolic discount model showed that people gave up big profits in the future because they were obsessed by the current small profits.

H1: People who have hyperbolic discount tendencies are greater than people who do not have hyperbolic discount about purchase intention of high-tech products.

2.2. CLT (construal level theory)

CLT (construal level theory) is defined as individuals that construct mental representations differently about the same information depending on whether the information presented pertains to the near or distant future [5][6][7][8]. Temporal distance is defined as the length of time between the present and use occasion and influences consumers’ choices [5][6]. People who have hyperbolic discount tendency did excessive value discount for high-tech products in the near future and they choose them in the near future rather than the distant future. They are likely to buy high-tech products immediately in the near future. In terms of CLT, this phenomenon meant for them to represent low-level construal, when they are exposed to ‘how to ad’, purchase intention will be higher. Instead, people without hyperbolic discount tendency will make a decision to buy the new products in the distant future rather than in the near future. When they are exposed to ‘why ad’, purchase intention will be higher. Based on the theories, the following hypothesis was derived:
H2a: People with hyperbolic discount tendency have a higher purchase intention in case of low-level construal rather than high-level construal.

H2b: People who do not have hyperbolic discount tendency have a higher purchase intention in case of high-level construal rather than low-level construal.

3. Method and results

3.1. Method

We conducted T-test and ANOVA in order to verify the hypotheses. The study’s participants were university students in Seoul. They were between the age of 20 and 26 years old. All participants were paid extra credit for his or her effort. Firstly, participants were divided into two groups (with hyperbolic discounting tendency vs. without hyperbolic discounting tendency). Next, we randomly assigned ‘how to ad’ type questionnaire and ‘why to’ ad type questionnaire. Participants read each of the two scenarios (how to ad vs. why ad). To conduct an empirical study, questionnaires were used. The questionnaire based on the purchase intention for high-tech products according to with hyperbolic tendency and without hyperbolic tendency. The scale items were measured on a seven-point Likert scale (1=strongly disagree to 7=strongly agree). A between-subjects design was used, with the two different conditions of advertising in terms of construal level theory and hyperbolic discount tendency.

3.2. Hyperbolic discount tendency

In order to manipulate the concept of HDT (hyperbolic discount tendency) proposed by Thaler [3], participants were asked to choice the questionnaire. Based on the Thaler’s questionnaire, those who choose A.1 in the first question and B.2 in the second question [Table 1] were operationally defined having hyperbolic discount tendency. On the other hand, participants who selected other cases except A.1 and B.2, were regarded as people without hyperbolic discount tendency.

3.3. Purchase intention

Based on the purchase intention measurement scale developed by Mackenzie, Lutz, and Belch that is considered to be more relevant to purchase occasion, three items were measured with seven-point Likert scales [9]. To verify whether the experimental manipulation was successful, a confirmatory factor analysis [Table 2] of the three items was conducted. In this analysis, three items measuring purchase intention were explained by one factor: the factor loading was more than 0.8, and Cronbach’s alpha was 0.9. Therefore, the analysis was performed under the assumption that purchase intention was measured with three items as one variable [Table 3].
Table 2. Factor analysis

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase intention 1</td>
<td>.935</td>
</tr>
<tr>
<td>Purchase intention 2</td>
<td>.928</td>
</tr>
<tr>
<td>Purchase intention 3</td>
<td>.882</td>
</tr>
</tbody>
</table>

Table 3. Test of reliability

<table>
<thead>
<tr>
<th>Purchase intention</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cronbach's Alpha if Item</td>
</tr>
<tr>
<td>Purchase intention 1</td>
<td>.828</td>
</tr>
<tr>
<td>Purchase intention 2</td>
<td>.909</td>
</tr>
<tr>
<td>Purchase intention 3</td>
<td>.840</td>
</tr>
</tbody>
</table>

3.4. Advertising types based on CLT

Based on the CLT, we manipulate the ‘how to Ad’ and the ‘why Ad’ in terms of the type of construal level. Stimuli are divided into ‘how to Ad.’ and ‘why Ad.’. ‘How to Ad’ describes how to use the product and to provide as many as details as possible. While ‘why ad’ describes products’ purpose and desirability. In order to understand whether the experiment’s respondents accurately recognized each experimental scenario, we asked them the following question: “What do you think about this advertising?” To understand the respondents’ recognition of the advertising type through a seven-point Likert scale, on which ‘why Ad.’ was 1 and ‘how to Ad.’ was 7.

3.5. Results

Consumers who have hyperbolic discount tendency are greater than those with hyperbolic discount tendency about purchase intention of high-tech products. There was a significant difference between the purchase intention of subjects without hyperbolic discount tendency and that of subjects with hyperbolic discount. Thus, Hypothesis 1 was supported.

H2a and H2b were verified through the 2 x 2 analysis of variance with type of advertising and hyperbolic discounting tendency as independent variables, and purchase intention as a
dependent variable. H2a showed that the purchase intention of people who have hyperbolic discount tendency has a higher in case of low-level construal (M=3.7) rather than high-level construal (M=3.3). H2b showed that the purchase intention of people who do not have hyperbolic discount tendency has a higher in case of high-level construal (M=3.2) rather than low-level construal (M=2.9). The main effect in accordance with type of advertising on CLT was not statistically significant. The main effect in accordance with hyperbolic discount tendency was statistically significant. Interaction effect was statistically significant. This result means that the type of advertising does not directly influence purchase intention, and there exists an interaction effect between advertising type and hyperbolic discount tendency. In terms of interaction effect, it was verified that the effect of purchase intention is higher on people with hyperbolic discount tendencies with low-level construal than high-level construal.

Thus, the result of H2a and H2b’s interaction effect was statistically supported.

4. Discussion and conclusion

This paper suggested concepts from hyperbolic discounting tendency and the decision-making for purchase examining the effect of CLT. Specifically, this research examined how the types of advertising from the purchase intention affects the trade-offs in case of having hyperbolic discounting tendency and do not have hyperbolic discounting tendency.

An empirical study investigated the importance of considering hyperbolic discounting tendency based on the construal level theory about customer’s purchase intention. The moderating effect of personal disposition on the impact of advertising types on purchase intention was conducted. The result was that hyperbolic discounting tendency has a moderating effect on advertising types and purchase intention. Interaction effect of the type of advertising and hyperbolic discount tendency was significant. This study examined the phenomenon of consumer’s purchase intention with HDT perspectives. Company can manage purchase intention of consumers through advertising communications strategy based on construal level. To promote purchase intention, company can use ‘Why Ad.’ for consumers who do not HDT.

References

The Impact of Hyperbolic Discount Tendency on Consumer’s Purchase Intention