The Influence of Temporal Distance on Consumer’s Responses in new products adoption: ART vs NON-ART

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\textbf{Abstract.} This study is to investigate the temporal distance influences consumer's uncertainty, preference, and purchase intention in new product adoption, which is based on the construal level theory (CLT). In particular, this study intends to empirically test the effects of the types of new products and art design in the process of making relationships among temporal distance, consumer's uncertainty, preference, purchase intention. Experiment validity was acquired through the preliminary tests in accordance with preliminary literature study, which was involved with Temporal distance (The Near Future vs The Distant Future), of the types of new products (Radical New Product vs Incremental New Product) and art design (Art vs Non Art). The third stage experiments including study 1 and study 2 were performed according to the scientific procedures.

\textbf{Key words:} Temporal distance, new products types, Art design, Uncertainty, Preference, Purchase intention

1 Introduction

Consumers are frequently confronted with innovations that require them to adopt new behaviors and/or discontinue past behaviors. The high rate of failure of innovative new products has led to call for more researches focused on them [1].

Throughout history, art has had the ability to stimulate the imagination and capture the attention. Therefore, it is not surprising that art images are often used to promote unrelated products, for example, by being displayed in advertisements [2]. It is clear that influential marketing practitioners believe that art somehow has to influence consumer perceptions.

In this article, we develop a temporal model for consumer perceptions of uncertainty, preference and purchase intention during the introduction and launch of new products. In addition, experiment validity was acquired through the preliminary tests in accordance with preliminary literature study, which was involved with Temporal distance (The Near Future vs The Distant Future the types of new products (Radical New Product vs Incremental New Product) and art design (Art vs Non Art). The third stage experiments including study 1 and study 2 were performed according to the scientific procedures. In study 1, we build up new product research on consumer's responses, and delineate how temporal distance to adoption influences
consumer’s responses about the types of new products. In study 2, we draw on theories of art design to verify consumer’s responses associated with new products. We distinguish between art design and non-art design on the basis of this distinction, suggest communication strategies for new products.

2 literature review

2.1 Temporal Distance, New products Type and Consumer’s Responses

Construal level theory [3] postulates that objects and events situated in the distant future are represented in more abstract, contextualized, and high-level terms, and are more concerned with why people do things, whereas those situated in the near future are represented in more specific, contextualized, and low-level terms, and are more concerned with how people do things [4]. Consumers are faced with uncertainty when predicting the value of new products. Such risk and uncertainty have been widely documented as barriers to innovation adoption. Recent work [5] has examined the attributes or dimensions along which uncertainty lies and, more importantly, has separated uncertainties associated with the drawbacks of adoption. Another study [6] shows that when product information at different construal levels is presented at different points, central information at a higher level is considered more important and has a greater impact on consumers’ purchase intention for the distant future, whereas peripheral information at a lower level is more relevant to and has a greater impact on purchase intention for the near future because of the fit between the additional product information and consumers’ natural mind-set.

Prior research has distinguished RNPs and INPs in terms of newness. Really new products are innovations that create a new product category rather than reallocation of market shares within an established one. Because RNPs typically represent one-of-a-kind products adopted by a small number of consumers, such products often have higher differentiated power. In contrast, INPs represent a refinement of established products used by the majority [7], and thus have moderate differentiated power. Thus, we propose the following hypotheses:

H1: compared when consumers are considering adopting a new product in the distant future with when they are considering adopting a new product in the near future they will focus more on the RNP than on the INP, such that they will have (a) higher uncertainty, (b) lower preference, (c) lower purchase intention.

2.2 Art Design and Consumer’s Responses

Various kinds of visual images are often used in advertisements and product design, and previous research has revealed that such images influence consumer evaluations of products [8]. If the art infusion effect involved the spillover of the specific content of the artwork, the impact of art on the products with which it is associated would not be a generalizable effect. Rather, it would depend on what content are and the
diversity of artwork. For example, the emotional appeal tied to the specific content of
the artworks is an arguably salient feature of art [9]. Therefore, it could be argued that
an art image with positively valence on with negatively valence content would cause
eegative product evaluations. Thus, we propose the following hypotheses:

H2: compared when consumers are considering adopting a new product in
the distant future with when they are considering adopting a new product in the
near future they will focus more on the RNP than on the INP, and focus more
on art than non-art, such that they will have (a) higher uncertainty, (b) lower
preference, (c) lower purchase intention.

3 Experimental design

Product select. We identified more than 8 products during the article search process.
A convenient goods of 8 products was selected as a first priority for smart phone,
followed by a notebook. These smart phones were then employed in study 1, and
notebook is employed in study 2.

The process for classifying a new products or existing products. First, smart phones
are presented as a virtual brand named 'GSU150-Phone', and except for functional
description (communication standards, LCD inches, specification, the memory, size,
color, and add-on), an image of the product and linguistical copies all in presented are
the same. Also, notebook are presented as a virtual brand name 'Blue-White', and
except for functional description(battery, the memory, LED display, Windows 7-8,
weight and portability) an image of the product and linguistical copies all in presented
are the same.

Art design. Art design needed for the selection process was carried out in study 2.
Except for Art design, major and related workers, 24 people participated in the
experiment. Under 5 of a art design was selected as a 'Yellow, Red, Blue' of Wassily
Kandinsky.

Scale measures (α). Temporal distance was measured in the near future as
'tomorrow' and to distant future as 'after six months'. And the type of a new product
was measured in RNP or INP. Art design was measured in the art design and non-art
design. Uncertainty was measured 2 items (uncertainty for benefits, uncertainty for
social impact, α = .89), preference was measured 3 items (useful, crush, more
preferred, α = .90), and purchase intention was measured 3 items (be inclined to
purchase, Purchase consider the possibility, interest in purchasing, α = .97). The
research has three dependent variables, each having multiple items that was measured
using a seven-point Likert-type scale (1 = strongly disagree and 7 = strongly agree).

4 Methodology

Study 1, 92 undergraduate students in Gyeongnam of Korea participated(56.6 % male,
43.4% fame). And personal interview technique was used at Gyeongnam province
from 14 July 2014 to 22 July 2014. And we used a one-way analysis of variance
(ANOVA) (time frame: near versus distant) between subjects design. And study 2,
168 undergraduate students in Gyeongnam of Korea participated (51.2 % male, 48.8% female). And personal interview technique was used at Gyeongnam province from 7 January 2015 to 14 January 2015.

Table 1. Results of hypothesis testing in study 1

<table>
<thead>
<tr>
<th>Type of new products</th>
<th>Temporal Frames</th>
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<th></th>
<th>Result</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Near Future</td>
<td>Distant Future</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncertainty</td>
<td>RNP</td>
<td>INP</td>
<td>RNP</td>
<td>INP</td>
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<td>H1a-Accepted</td>
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<tr>
<td>Preference</td>
<td>4.75</td>
<td>3.17*</td>
<td>4.79</td>
<td>2.40*</td>
<td>H1b-Rejected</td>
<td></td>
</tr>
<tr>
<td>Purchase intention</td>
<td>4.43**</td>
<td>3.04</td>
<td>5.76**</td>
<td>2.46</td>
<td>H1c-Accepted</td>
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<tr>
<td>Sample size</td>
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<td>23</td>
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Table 2. Results of hypothesis testing in study 2

<table>
<thead>
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<th>Type of Art</th>
<th>Temporal Frames</th>
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<th></th>
<th>Result</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Near Future</td>
<td>Distant Future</td>
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<td></td>
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</tr>
<tr>
<td>Uncertainty</td>
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<td>INP</td>
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<td>INP</td>
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<td>3.00</td>
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<tr>
<td>Preference</td>
<td>4.52**</td>
<td>3.67</td>
<td>4.00</td>
<td>2.70</td>
<td>3.07**</td>
<td>3.75</td>
<td>3.30</td>
<td>3.00</td>
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<tr>
<td>Purchase intention</td>
<td>4.83**</td>
<td>3.91</td>
<td>4.65</td>
<td>3.10</td>
<td>5.33**</td>
<td>4.13</td>
<td>4.26</td>
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<tr>
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</table>

Result | H2a-Accepted | H2b-Accepted | H2c-Accepted |

5 General discussion

Study 1 and study 2 showed higher uncertainty in the near future than the distant future, depending on the new product types and art design. This means that the importance and necessity of special management of the uncertainty of customers according to the temporal distance to considering the purchase of a new product. Study 1, the dependent variable of preference was expected to appear larger in the distant future than the near future in accordance with the new product types and temporal distance. But preference according to the temporal distance showed a similar result. These results are in accordance with dimension of product innovation, and are due to consumers’ estimation about the overall performance and functionality.

According to the results of study 2, the preference will appear larger in the distant future apply art in new product; consumers could know your preferred package...
should reflect the paintings or art image to the purchase decision factors. Finally, the purchase intention in both study1 and study2 had a positive impact in the distant future.

References

6. T. Manoj., S. Chandran., Y. Trope.: The Effect of Information Type and Temporal Distance on Purchase Intentions. working paper, Samuel Curtis Johnson Graduate School of Management, Cornell University