

The Role of Subjective Knowledge and Temporal Distance for Effective Preannouncing Strategy of IT Products

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Abstract

Recently, preannouncing strategy can be suggested effective in IT products. The aim of this study is to examine the effects of preannouncing strategies through the temporal distance and consumer' subjective knowledge level. For the purpose of this study, experimental methodology was used. 2(temporal distance: near, remote) $\times$ 2(subjective knowledge: low, high) between-subjective factorial design and 2-way ANOVA analysis were applied to analyze the effects of preannouncement. The dependent variable of this study was product judgment. 317 of undergraduate students in Seoul, Korea were selected as the sample in this study. Subjects were randomly assigned to 4 experimental conditions. There was an interaction effect between subjective knowledge and product judgment by temporal distance. In addition, this study conducted a simple effective analysis as a post-test to analyze the interaction effects between 2 independent variables in detail. As results, significant results were only found in remote future condition. The most important result of this study is that the preannouncing strategy of IT products can be influenced by variables such as the subjective knowledge of consumers. The preannouncing strategy of relatively remote future from the launch date

is more effective in a highly subjective knowledge group. It means that to preannounce information on abstract context and temporal distance from the launch date rather than on concrete information of product in persuading consumers. Consumers who are interested in preannouncing messages tend to have higher knowledge and involvement in IT products than the general public. But the results of this study are shown that their knowledge and involvement are likely to activate as motivational factors rather than ability.

Key Words : Preannouncing strategy, Subjective Knowledge, Temporal Distance, Product Judgment, IT Product.

1 INTRODUCTION

Recently, official announcements of information on new products prior to their release, mainly on IT products, are increasing. These announcements include information about the content, price, characteristics, and the timing of sales. This marketing communication strategy is called preannouncing (Eliashberg & Robertson, 1988). Preannouncing can be implemented through various channels such as newspapers, broadcasting, advertisements, publicity online, and SNS. It provides very useful information to general consumers as well as competitors and distributors. It has been being used as an important strategy in the high-tech market recently because of its role in delaying the purchase of consumers until the new product is realized.

Most of the previous researches focus on preannouncing as a strategic aspect of a firm, but there is lack of researches on the consumer reaction or decision process (Zaman & Arslan, 2014). Preannouncing strategies are used mainly for innovative products or high technology products, such as IT products, and are aimed to influence the purchasing decisions of early adopters (Christian, Torssten & Totzek, 2009). For this reason, a research on preannouncing based on characteristics of early adopters is necessary.

An important concern of a preannouncing strategy is the temporal distance. This takes into consideration the timing of the release or launching and the preannouncement date of a new product. For example, Samsung started the preannouncement of Galaxy S8 in November 2016, six months prior to the launching of the product

in April 2017. As a result, its preannouncement on its new product has attracted consumers' interest in the product. On the other hand, some companies, such as Apple, preannounce at the time of their product release. Such determinations of temporal distance are essential factors to convince customers. According to the construal level theory (CLT), one phenomenon can be interpreted differently depending on the temporal distance.

The aim of this study is to examine the effects of preannouncing strategies through the temporal distance (near future or far future) and consumer's subjective knowledge level (high or low). To achieve effectively the benefits from the preannouncing strategy, companies must pay attention to the characteristics of consumers who are well informed of their products. This study could contribute to establishing an effective messaging strategy for high technology products.

2 THEORETICAL BACKGROUND & HYPOTHESIS

A. Preannouncing

The high-tech industry, such as the IT industry, has a relatively short product life cycle, so it is very important to secure demands prior to the release of new products. Otherwise, it is difficult to earn profit early. Therefore, it is necessary to communicate the product-related messages to the consumers in advance so that the purchasers are able to postpone purchase until the product launch (Christian, Torssten & Totzek, 2009). The initial demand and profitability issues of the new products described above are related to the success of the preannouncing strategy (Brockhoff & Rao, 1993).

It is possible to build a technology-leading image by giving a technical image a notch above the competition (Jung, 2011), and to give consumers time to make decisions by making them more interested in new products (Wind & Mahajan, 1987). This can induce the word-of-mouth effect as well as a good image for the product. It also results to gaining a technical competitive edge and prevents the entry of competitors into the market.

On the other hand, it can give information on product development to competitors or induce excessive competition (Grewal et al., 1997). This means that preannouncing also plays a role

in motivating the development of competitors' technology. Consequently, consumers may perceive that the preannouncing information is somewhat exaggerated. If there is a difference between the preannouncing information and the actual product, consumers will be disappointed, and this may lead to a decrease in sales (Jung, 2011).

According to Farrell & Saloner(1986), sending preannounced messages can increase consumers' contact points to products, enhance consumer relationship, and promote the adoption of new products. Jung(2011) argue that the preannouncing message level feasibility of the message and the adoption of the consumer - determines consumers' willingness to delay purchasing products or not to buy products due to disappointment.

B. Effects of Preannouncing through Temporal Distance

In recent preannouncing studies, temporal distance has become an important variable to persuade consumers. This relates to persuasive communication since the aim of the preannouncing strategy is to attract more consumers and connect them to sales.

According to Trope & Liberman's (2000) Construal Level Theory, consumers make judgments and decisions according to their individual tendencies when purchasing products. In other words, some people have an abstract interpretation tendency on purchase decision while others have a specific interpretation tendency. Moreover, the temporal distance addressed in the message can also be recognized differently depending on the interpretation level of the individual.

Tope & Liberman (2003) clarified that if the temporal distance is remote from the present, the predictions, focusing on core attributes, will be more abstract. However, if it is closer to the present, the predictions, focusing on secondary properties, will be more specific

When interpreting future information, a more abstract and higher-level interpretation is performed for the remote future information, but for the near future information, a concrete and lower-level interpretation such as external and detailed characteristics is performed. For example, if one goes on a trip with his family a month later, people will have a positive interpretation at upper levels, such as 'leisure' or 'happiness' inherent in traveling, but if he travels with his family next week, he will have a negative interpretation at lower

levels such as 'costs'.

C. Knowledge

Before examining knowledge in a multidimensional structure, this study divides knowledge into two levels - high and low - as a two-dimensional structure, and investigates the difference between the two levels. In general, consumers with high product knowledge are known to have a greater amount of knowledge and a better organized knowledge structure (Alba & Hutchinson, 1987; de Bont & Schroomans, 1995; Fiske, Kinder & Larter, 1983; Marks & Olson, 1981). And they have more links between concepts and have been shown to promote a tendency to find a better product between closely organized units (de Bont & Schroomans, 1995). On the other hand, beginning with the study of Brucks (1985), many studies have been conducted to interpret knowledge as a two-dimensional basis of subjective knowledge and objective knowledge.

Park & Collages (1994) argued that information about the product category, product experience, and self-confidence in the product makes up subjective and objective knowledge. Product knowledge and product experience affect both objective knowledge and subjective knowledge. However, product knowledge affects objective knowledge more while product experience affects subjective knowledge more. On the other hand, self-confidence factor only affects subjective knowledge. Many researchers focus more on self-assurance, one of the components of subjective knowledge, which has shown a synchronous role in information processing (Alba & Hutchinson, 2000).

A person with a high level of subjective knowledge has a strong self-assurance and stronger "Feeling of Knowing" (Camerer & Johnson, 1991). When these emotions are strengthened, he becomes overconfident, and the more he becomes overconfident, the more likely he is not to process information. Overconfidence also interferes with the search for additional information to reduce uncertain knowledge (Alba & Hutchinson, 2000), as well as curiosity (Menon & Soman, 1999).

D. Hypothesis

Let's assign the preannouncing strategy to the Construal level theory of temporal distance. If a new product is released in the near future, consumers will judge the product based on specific and

unidimensional attributes of the product information introduced in the preannouncing. Otherwise, if a new product is released in the remote future, consumers will judge the product based on an abstract and high-level interpretation.

Consumer understanding and interpretation of messages are influenced, not only by the message itself, but also by their personal characteristics. Especially with high-tech products such as IT products, knowledge and involvement in related fields are considered as important variables influencing the processing of information on external messages.

Brucks (1985) argued that there is a difference in information search level concerning subjective knowledge. In a group with high subjective knowledge, the information throughput is lower as a result of focusing on internal information search rather than the search for additional information. In a group with low subjective knowledge, the information throughput is high because they are not confident about their inner knowledge and tend to increase the search for external information. Park & Lessing (1981) also argued that a person with high subjective knowledge heuristically processes external information by using the knowledge he already has in store, rather than searching for additional information. On the other hand, a person with low subjective knowledge has a low belief in one's self and is not confident about his internal knowledge. As a result, he tries to be confident on his judgment by increasing the amount of the search for external information.

From the previous researches, it can be concluded that people who have higher subjective knowledge focus more on their internal knowledge rather than the search for external information on product attributes when they are exposed to messages. In other words, it is more likely for a person to have an abstract and contextual thought that he knows, and not to concentrate on the details of the message or the actual attributes of the product. In addition, it can be inferred that messages about a remote future ultimately influence a person, leading to abstract and high-level information processing, compared with messages about a near future that focuses on the detail and secondary information. On the other hand, people with low subjective knowledge are expected to focus more on the messages of the near future conditions. These conditions lead to the consideration of contextual and specific attribute infor-

mation due to the increasing search volume of external information. Based on these assumptions, the study hypotheses are set as follows.

Hypothesis 1: A person with low subjective knowledge judges a product relatively positive than with high subjective knowledge when he is exposed to preannouncing in a near future.

Hypothesis 2: A person with high subjective knowledge judges a product relatively positive than with low subjective knowledge when he is exposed to preannouncing in a remote future.

3 METHODOLOGY

The aim of this study is to verify empirically the difference of product judgment according to individual subjective knowledge level on the company' preannouncing temporal distance - near future or remote future. In this study, 2(temporal distance: near, remote) $\times$ 2(subjective knowledge; low, high) between-subjects factorial design and two-way ANOVA analysis were applied to analyze the effects of preannouncement of a company.

A. Stimulus Message

For the purpose of this study, a preliminary study was conducted to select product and features of that product. As a product, tablet PC was selected familiar to subjects and considering the characteristics of preannouncing. In order to control the possibility of confounding effect, a new brand name which is not familiar to the subjects was used. In addition, in order to identify the main attributes of the product, a list was made by searching research related data. With the list, the functional and practical attributes of tablet PC was evaluated by focus group interview (FGI) with 10 subjects and experimental manipulation was prepared.

The preannouncing information was made in the form of an article and different in the two temporal distances (① near future, ② remote future). Next, in order to verify a manipulation of the temporal distance of the preannouncing message, the following question, measured on a 7-point Likert scale: "After reading the above article, how far do you feel the release date of the product?" (1=feel closer the release time, 7= feel farther the release time). As a re-

sult verification of experimental manipulation of the preannouncing temporal distance, the difference between the two groups (near future: $m = 3.00$, $sd = 1.42$; remote future: $m = 5.47$, $s = 1.05$) was statistically significant ($t = 13.94$, $df = 174$, $p < .01$). Therefore, the manipulation of the temporal distance of the preannouncing message has been successful.

B. Participants

Undergraduate students were selected as the sample in this study. This study conducts a survey of 317 university students living in Seoul, Korea.

C. Experimental Procedure

Prior to the experiment, participants were instructed that the purpose of the study. After that, the experiment required each participant to read a preannouncement article of a company that was randomized. These articles were published in the form of online news articles and experiments were conducted with subjects accessing this information online. All subjects were asked for checking questionnaire after reading the reports.

D. Measurement

The concept of subjective knowledge in this study was based on the concepts identified by Park et al (1994) and used the subjective knowledge measure items defined by Flynn & Goldsmith (1999). It is composed of 5 items and 7 points scale. In the study by Flynn & Goldsmith (1999), the items of subjective knowledge were mixed positive and negative in order to avoid the unanswered answer of the subject. Therefore, in the actual coding, items 2, 4 and 5 are reverse-coded and the higher the number, the more positive. As a result of the reliability test for this question, the Cronbach's α value was as high as .89 and all the items were used for the analysis.

The product judgment scale introduced by Meyers-Levy & Maheswaran (2004). The individual subjective judgment was measured by 5 questions with 7-point Likert scale. As a result, the more the overconfidence of individual, the higher the judgment score of individual, while the lower the confidence of the individual, the lower the judgment score of the individual. As a result of the reliability test for this question, the Cronbach's α value was as high as .82 and all the items were used for the analysis.

4 RESULTS AND DISCUSSION

A. Results

To test the proposed hypotheses, 4 experimental conditions were further analyzed via ANOVA on measures of product judgment about the preannounced product. Table 1 shows descriptive statistics on product judgments (dependent variable) by subjective knowledge and temporal distance (two independent variables). Table 2 shows that there was an interaction effect between subjective knowledge and product judgment by time distance (F ratio = 9.69, D.F. = 1, $p < .05$). In addition, this study conducted a simple comparison as a post-test in order to analyze the interaction effects between two independent variables in detail.

TABLE I
DESCRIPTIVE STATISTICS BY GROUP(N=317)

Dependent Variable	Independent Variable		Number of Samples	Mean	Standard Deviation (Std)
	Level of Subjective Knowledge	Temporal Distance			
Product Judgment	Low	Near Future	96	4.43	.95
		Remote Future	76	4.47	.71
	High	Near Future	77	4.31	.95
		Remote Future	68	4.96	.72

TABLE II
ESTIMATE RESULTS OF THE 2-WAY ANALYSIS OF VARIANCE (ANOVA)
(N=317)

Source	Sum-of-Squares(S.S)	Degrees of Freedom(D.F)	Mean Squires(M.S)	F ratio
Main Effect				
Subjective Knowledge	2.77	1	2.77	3.77*
Temporal Distance	9.16	1	9.16	12.46*
Interaction Effect				
SK $\times$ TD	7.13	1	7.13	9.69*
Error	230.29	313	.74	
Total	6750.92	317		

Note: $p < .05^*$

First, pairwise comparisons analysis was conducted in order to clarify statistical significance of the effect of the control variable in each group of independent variables. As shown in Table 3, the level of subjective knowledge on preannounced information in the remote future has a statistical significance. As shown in Table 3, the interaction effect of the remote future condition and subjective knowledge of preannouncing is statistically significant.

As shown in Table 4, when the temporal distance of the preannounced information is remote future, F ratio = 11.76, DF = 1, $p < .05$, and the difference in the level of subjective knowledge is statistically significant.

The results verified that there is an interactive effect between subjective knowledge and temporal distance, but only the remote future of temporal distance has a significant difference between high subjective knowledge and low subjective knowledge. Therefore, Hypothesis 2 was supported, but Hypothesis 1 was not.

TABLE III
ESTIMATION RESULTS OF PAIRWISE COMPARISONS (N=317)

Temporal Distance	(I) Level of Subjective Knowledge	(J) Level of Subjective Knowledge	Mean Difference (I-J)	Std Error	Sig ^a	95% Confidence Interval for Difference	
						Lower Bound	Upper Bound
Near Future	Low	High	.114	.131	.386	-.144	.372
	High	Low	-.114	.131	.386	-3.72	.144
Remote Future	Low	High	-.491 [*]	.143	.001	-.773	-.209
	High	Low	.491 [*]	.143	.001	.209	.773

Based on estimated marginal means

Note 1: * refers to the significance of mean difference less than .05

Note2: The Bonferroni correction is used to counteract the problem of multiple comparisons.

TABLE IV
ESTIMATION RESULTS OF UNIVARIATE ANALYSIS

Temporal Distance		Sum of Squares (S.S)	Degrees of Freedom (D.F)	Mean Square (M.S)	F ratio	Significant	Partial Eta Squared
Near Future	Contrast	.554	1	.554	.753	.386	.002
	Error	230.297	313	.736			
Remote Future	Contrast	8.653	1	8.653	11.76	.001	.036
	Error	230.297	313	.736			

Each F test the simple Effects of Temporal Distance Condition within Each Level Combination of the Other Effects Shown.

B. Discussion

The aim of this study is to investigate the effect of preannouncing strategy of IT products on consumers' subjective knowledge. The results of the study show that the remote future preannouncing strategy is relatively better than the near future preannouncing strategy in the group with high subjective knowledge.

Previous research suggests that preannouncing strategies are very effective in IT products. These preannouncing strategies are widely used as they enhance consumers' interest and willingness to purchase, especially, IT products. Because of the nature of IT products, consumers' interest and concentration on media are higher than other products. However, previous researches have limitations since they do not reflect characteristics of consumers by focusing only on the preannouncing strategy.

The most important result of this study is that the experiment verified that the preannouncing strategy of IT products can be influenced by variables such as the subjective knowledge of consumers. The preannouncing strategy of IT products was thought to be effective in describing the relatively near future launch date due to the feasibility of the advanced functions of the product, but some previous researches showed different results. This study is meaningful to the finding of the cause of these different study results in the subjective knowledge variable of consumers accepting the message.

Subjective knowledge is a variable that plays an important role in consumer's information processing strategy. In a group with high subjective knowledge, there is a tendency to easily and simply judge the product with their internal information without information processing. The results of this study showed that the internal information is more utilized by selectively accepting the preannouncing strategy of the relatively remote future rather than dealing with the detailed information of the near future preannouncing strategy.

Therefore, the preannouncing strategy of relatively remote future from the launch date is more effective in a highly subjective knowledge group. It means that to preannounce information on abstract context and temporal distance from the launch date rather than on concrete and epoch-making information of the new product is more effective in persuading consumers.

Second, consumers who are interested in preannouncing messages tend to have a higher knowledge and involvement in IT prod-

ucts than the general public. However, their knowledge and involvement are likely to activate as motivational factors rather than ability dimension. In other words, the knowledge about IT products is more common to this group of consumers than the general public, but the level of knowledge is more likely to be the psychological dimension of the consumer rather than the accurate object knowledge. Based on these study results, the preannouncing strategy for IT products should be centered around contextual messages based on technology development.

Consumers' information processing strategies are very important to increase the effectiveness of communication. As shown in the previous study, subjective knowledge is used as a synchronous level in relation to information processing. High subjective knowledge implies self-assurance factors that help consumers to be confident of their knowledge about a project. These synchronous factors interfere with the search for information about new information. Therefore, the fact that subjective knowledge is high means that the information processing is not detailed, and it is most likely to make decisions by selecting information processing strategy based on internal information rather than external information. Therefore, the level of subjective knowledge is an important variable in the consumer's choice of information processing strategy. In general, IT products are known to use systematic strategies because of their characteristics, but it is noteworthy that product knowledge can be influenced by heuristic strategies if subjective knowledge is activated.

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