The Effect of T-Commerce Scarcity Messages and Price Policies on Attitudes and Purchase Intention

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Abstract

Background/Objectives: This study investigated differences in the attitude of users according to type of scarcity message and price discount conditions to compose T-commerce sales messages and search for effective strategic plans.

Methods/Statistical analysis: This study empirically verifies the difference in promotion attitude and purchase intention between the type of T-Commerce scarcity message (quantity limit message / time limit message) and the price discount policy (price discount / non-discount) message. For this purpose, 2 (scarcity type: limited quantity, limited time) X 2 (with or without price discount: price discount, no price discount) factor design between subjects was used.

Findings: “limited quantity” messages, increases in promotion attitude and purchase intention were proven for messages with discounts, compared to messages without discounts. In the case of “limited time” messages, however, the influence of the additional value of price discount on promotion attitude and purchase intention was found to be insignificant. This indicates that a discount promotion strategy is very effective for “limited quantity” messages, compared to “limited time” messages and shows the need to focus on discount promotion strategies in the case of “limited quantity” messages when composing promotional strategy messages at the marketing level. In addition, it is necessary to simultaneously consider changes owing to moderating effects by measuring personal and subjective situations related to the intrinsic propensities or lifestyles of the subjects.

Improvements/Applications: The generalizability of the present study is high, in the sense that the experiment was conducted by reproducing sales promotion situations in actual T-commerce.

Keywords: T-Commerce, Scarcity Message, Price Discount, Attitude toward SP, Purchase Intention

1. Introduction

Recently, the media environment surrounding consumers is rapidly changing as new media platforms and services are continuously emerging, and convergence and connections among media are routinized. One of the main causes of such change is the digitalization of broadcasting and media. The TV is no longer a passive and unidirectional medium for consumers; it is changing to a medium in which consumers actively participate and lead. That is, consumers are using TV as a medium to search and obtain information, immediately purchase desired products, and conduct bidirectional communication. T-commerce is receiving attention early on as a representative service that can accommodate these changes[1].

As broadcasting and telecommunication services converge and transcend the boundary between broadcasting and communication, T-commerce is receiving attention as a representative convergence service in the age of digital media. T-commerce, which enables convenient shopping using a remote control while watching TV, is rapidly growing.

T-commerce, a compound word made up of “TV” and “commerce,” refers to “data broadcasting home shopping,” which enables products that are aired to be searched, purchased, and paid for using a TV remote control. Young viewers in their 20s and 30s are noticing T-commerce’s freshness of differentiated content, screen layout, and assorted products, unlike existing TV home shopping.

In terms of broadcasting contents, the role of show host is important for existing home shopping because of its live broadcasting format, but T-commerce can attempt new video techniques or sales methods, given the lack of restrictions in place or time. Product information, as well as various promotional messages, stimulate the
psychology of consumers and directly influence their purchasing behavior. In particular, there are many cases of promoting the purchase intention of products or services through scarcity messages in recent sales promotion strategies. For example, scarcity messages such as “Limited to 100” or “Three-day-only Sale” promote sales by emphasizing that the possibility of purchasing the product or service is limited (Brock, 1968). Scarcity messages limiting the quantity or period of sales are the most frequently used in practice (Cialdini, 1985), and they can stimulate consumers’ desires to purchase[2, 3, 4].

The present study investigated differences in the attitude of users according to type of scarcity message and price discount conditions to compose T-commerce sales messages and search for effective strategic plans.

2. Theoretical Background and Hypothesis

2.1. T-Commerce

T-commerce, in which product information can be searched, ordered, and paid for directly on TV emerged when interactive digital TV broadcasting became possible. T-commerce is a compound of the words “television” and “commerce,” meaning that electronic commerce, in which products are ordered on the Internet, is performed through the TV platform[5].

It refers to e-commerce based on TV. Based on digital TV, product information can be searched and purchased, and payment can be made immediately using a remote control. It is an interactive shopping service based on the Internet, in which product information can be searched immediately, and purchases and payments can be made in one sitting, using an input device such as a remote control based on digital TV. While TV home shopping in which the show host continuously provides shopping information is characterized by unidirectional communication and passive consumers, T-commerce is characterized by bidirectionality that enables consumers to communicate with the shopping service in real time. In addition, because a significant amount of product information is converted into data and constantly provided to consumers owing to the characteristics of digital TV, consumers using T-commerce have additional functions to searching and paying: They can read information on more and diverse products and purchase at any time, unlike with TV home shopping, in which only information on products in the live broadcast is available. Consequently, consumers can enjoy shopping more actively. Furthermore, consumers can enjoy more personalized and customized TV shopping over time if the information about products consumers frequently search and purchase is used as data.

Research on T-commerce is lacking in reality because the service is in the beginning stage. Research has been conducted to develop the most efficient application for Brazilian consumers and their TV use behavior[6].

The research pointed out the lack of a refined interface and technological environment and diagnosed the need to develop interactive applications that can improve security and convenience in the future. Lee et al. (2015) investigated the effect of the online grocery shopping experience on grocery shopping intention in T-commerce and found that the group that had online grocery shopping experience showed higher grocery shopping intention toward T-commerce than the group without such experience[7].

2.2. Scarcity Messages

Scarcity messaging is a method of motivating purchases that uses messages to promote purchase decision-making by informing consumers that the availability of a specific product is limited to create or increase psychological pressure on the consumer[8]. Representative types of scarcity messages are “limited quantity messages” and “limited time messages”[9]. “Limited quantity messages” limit the quantity of products that can be purchased, which is a method of promotion widely used by retailers. “Limited time messages” limit the time for which products can be purchased and is used as a method to maximize the effects of scarcity messages by designating a specific time or period during which the product can be ordered and by limiting the quantity of products or time.

It is known that, regardless of the type of product or service, its value increases when it is difficult to obtain, and motivation to obtain it increases. Accordingly, delivery of scarcity messages indicating the limited availability of a product or service lead consumers to recognize its scarcity value and increase their purchase intentions[10]. The reason for this is that information messages that are recognized to be difficult to obtain are assessed as valuable, while messages referencing scarcity are perceived to be persuasive. Fromkin (1968) stated that when a desire for uniqueness arises, people make an effort to obtain something that is difficult for others to obtain.

They do so to experience feel unique, because possessing a rare product plays a role in showing that one is special or unlike others[11]. This results from the sense of crisis that forms when consumers feel they are too similar to others, an idea which threatens their egos[12]. Previous studies have identified that scarcity messages are important sources of information in purchase decision-making, and the effect of such scarcity messages on purchase intention can be even greater when the level of discount is large, or the level of cognitive motivation is low [13]. Kelman (1953) empirically proved that purchase intention increased in scarcity situations compared to
non-scarcity situations in an experimental study that presented the effects of scarcity messages[14].

Dickson and Sawyer (1990) stated that discount promotion is structured based on taking a loss equal to the discount amount, because the price is discounted from the original price consumers had to pay[15]. Ultimately, structuralized discount promotions will respond more sensitively than promotions without discounts because “limited quantity” messages are perceived as less loss. The reason for this is that a greater loss is felt if no discount is received, owing to competition with others, than if there is a promotion with no discount offered. Accordingly, for “limited quantity” messages, attitude and purchase intention will be greater for discount promotion messages than promotion messages without discounts. For “limited time” messages, however, differences in attitude toward the promotion or purchase intention is not likely to be high because such psychological pressure is relatively low compared to limited quantity messages.

1) For “limited quantity” messages, the promotion attitude effect for messages with discounts will be higher, compared to messages without discounts.
2) For “limited quantity” messages, the purchase intention for messages with discounts will be higher, compared to messages without discounts.
3) There will be no difference in promotion attitude between limited time messages without discounts and limited time messages with discounts.
4) There will be no difference in purchase intention between limited time messages without discounts and limited time messages with discounts.

3. Research Method

3.1. Experimental Design

This study empirically verifies the difference in promotion attitude and purchase intention between the type of T-Commerce scarcity message (quantity limit message / time limit message) and the price discount policy (price discount / non-discount) message. For this purpose, 2 (scarcity type: limited quantity, limited time) X 2 (with or without price discount: price discount, no price discount) factor design between subjects was used.

3.2. Experimental Manipulation

In order to select a product or service to be the subject of this study, a preliminary survey was conducted through FGI with eight college students. Subjects University students selected 'Boss IE2', a wireless Bluetooth headphone, in consideration of products and services reflecting their lifestyles.

The actual T-Commerce screen was edited and the Bluetooth headphone advertisement was inserted in the middle of the video screen and edited as a video explaining the explanation. In order to stimulate the scarcity message, the limited quantity message was presented to a first-come, first-served 200 people. In the case of the time-limited message, the message was constructed under the condition that only one day is reserved for sale from midnight of the event start date. Specifically, the limited quantity message consisted of a limited edition message, '200 first-come-first-served sale!' And '200 limited-time sale, which may be closed early due to the nature of the event.' In addition, the limited quantity message consisted of the message 'Only one day limited sale on December 4' and 'Only one day limited sale starting from midnight of the event start date'. In addition, to manipulate the presence or absence of price discounts, the message added that the price discount of 281,600 won or 138,600 won was added to the one-year music ticket 138,000 won and earphones 143,000 won. In the non-price discount video, however, the word for additional benefits of price discounts has been removed.

3.3. Experimental Procedure

In this experiment, the subjects actually manipulated the experimental stimulus while watching the T-commerce image through the TV remote control in a certain experimental space. 133 subjects participated in the quantity-limited message, and 126 subjects participated in the time-limited message, and a total of 259 subjects participated. 216 answer sheets were used in the final analysis.

4. Results

MANOVA analysis was carried out using Myeonghwa car utilization and exposure frequency as independent variables and recall, product diagnosis, advertisement diagnosis, and advertisement attitude as dependent variables. Before analyzing this, the descriptive statistics of each dependent variable are summarized in [Table 1].
Two-Way MANOVA analysis to examine the difference between the scarcity message type (quantity limit / time limit) and price discount (with / without price discount) as independent variables, and to show the difference between promotion intention and purchase intention, which are dependent variables. Was carried out. Table 1 shows the analysis results for each dependent variable.

Before the hypothesis test, the MANOVA analysis of Table 1 shows that the main effect on the scarcity type (quantity limit / time limit) is statistically as Wilks' Lambda value of .96 (F = 3.58, df = 2, p < .05). Was significant. The main effect on the price discount (with or without price discount) was statistically significant, with Wilks' Lambda value of .83 (F = 21.42 df = 2, p < .01). The interaction effect on scarcity and price discount also showed a statistically significant difference in Wilks' Lambda value of .88 (F = 14.19, df = 2, p < .01).

Next, the statistical significance difference was verified through post hoc ANOVA analysis. First, in post hoc ANOVA analysis according to scarcity, there was no statistically significant difference in the main effect on promotional attitude (F = 2.12, p > .05), which is a dependent variable, and purchase intention (F = 2.39, p > .05). The main effects on were also not statistically significant. However, in the post-mortem ANOVA analysis of price discounts, there were statistically significant differences in both promotional attitudes (F = 34.00, p < .01) and purchase intentions (F = 24.69, p < .01).

Lastly, there was also a significant difference in the ex post ANOVA analysis of the interaction effect on scarcity and price discount. Specifically, the post hoc ANOVA analysis on the interaction between scarcity and price discount also showed significant differences in the promotional attitudes (17.34, p < .01) and purchase intention (F = 21.79, p < .01).

Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Scarcity</th>
<th>Price Discount</th>
<th>Mean</th>
<th>Std.Deviation</th>
<th>N</th>
</tr>
</thead>
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<tr>
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<td>Limited Quantity</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Discount</td>
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<td>1.42</td>
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<td></td>
<td>No Discount</td>
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<td>0.63</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>4.22</td>
<td>1.21</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Limited Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Discount</td>
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<td>0.61</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>No Discount</td>
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<td>54</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
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<tr>
<td></td>
<td>Total</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Discount</td>
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<td>1.11</td>
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<td>No Discount</td>
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<td>0.96</td>
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<tr>
<td></td>
<td>Limited Quantity</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Discount</td>
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<td></td>
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<td></td>
<td>Total</td>
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<tr>
<td></td>
<td>Limited Time</td>
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<tr>
<td></td>
<td>Discount</td>
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<td>Total</td>
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<td>0.73</td>
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</tbody>
</table>

Table 2 presents the results of ANOVA analysis for each dependent variable.
The difference between independent and dependent variables through post hoc ANOVA analysis is as follows. By examining the results of the main effects and interaction effects for each variable, the hypotheses were tested as follows.

<Hypothesis 1> and <Hypothesis 2> predicted that the quantity limit message had a higher sales promotion intention and purchase intention than the message without price discount. The hypothesis test showed that the interaction effect between scarcity message type and price discount was statistically significant. In other words, in the case of quantity-limited messages, the promotional attitude (M = 4.89, SD = 1.42) with price discount was higher than the promotional attitude without price discount (M = 3.69, SD = .63). In addition, the purchase intention (M = 4.49, SD = .75) is higher than the purchase intention (M = 3.62, SD = .69), where the price limit message is not available. Hypothesis 1 and Hypothesis 2 were supported.

Hypothesis 3 and Hypothesis 4 were also supported. The hypothesis for this is that the time limit message does not show any difference in the promotion attitude and purchase intention for the message without price discount and the message with price discount. The hypothesis test showed that the interaction effect between scarcity message type and price discount was statistically significant. In other words, there was no statistical difference between the promotional attitude (M = 4.02, SD = .68) without price discount and the promotional attitude (M = 4.22, SD = .61) with no price discount. Also, in the intention of purchase, the difference between the purchase intention (M = 4.18, SD = .56) without price discount and the purchase intention (M = 4.21, SD = .65) without price discount is It was not statistically significant. Hypothesis 3 and Hypothesis 4 were also supported.

5. Conclusion

Among the recently increasing diverse and active promotional activities of T-commerce, the present study empirically investigated the influence of “limited quantity” and “limited time” scarcity messages on the attitude and purchase intentions of consumers, depending on the availability of discounts.

The results of the present study showed that for “limited quantity” messages in T-commerce promotion strategies, attitude and purchase intention for messages with discounts was higher, compared to messages without discounts. Furthermore, there was no difference in attitude and purchase intention between “limited time” messages without discounts and “limited time” messages with discounts. That is, in the case of “limited quantity” messages, increases in promotion attitude and purchase intention were proven for messages with discounts, compared to messages without discounts. In the case of “limited time” messages, however, the influence of the additional value of price discount on promotion attitude and purchase intention was found to be insignificant.

This indicates that a discount promotion strategy is very effective for “limited quantity” messages, compared to “limited time” messages and shows the need to focus on discount promotion strategies in the case of “limited quantity” messages when composing promotional strategy messages at the marketing level.

The generalizability of the present study is high, in the sense that the experiment was conducted by reproducing sales promotion situations in actual T-commerce. Most consumers, however, use T-commerce while they are comfortably watching TV in the living room at home. Because the experiment was conducted in an artificial situation, there is a high possibility that the subjects participated in the experiment with the goal and intention of the experiment in mind. In addition, it is necessary to simultaneously consider changes owing to moderating effects by measuring personal and subjective situations related to the intrinsic propensities or lifestyles of the subjects.
6. Acknowledgment

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7. References