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Extended Abstract

# The Impact of Different Scarcity Promotion Strategies And Product Types On Purchase Intention In Online Scenarios -Evidence From An Eye-tracking Study

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**Abstract:** Scarcity promotion are widely used by online businesses. However, various scarce promotion strategies induce dissimilar appeals to consumers, and the promotion effectiveness also varies in different products. Therefore, the research explains their impact from the perspective of visual attention. A total of 123 participants took part in this experiment using eye-tracking technology. The results showed that scarce promotion strategies (time- and quantity-limited: LTQ, time-limited: LT, quantity-limited: LQ, Control) and product types (search goods, experience goods) affected consumers' visual attention and purchase intention significantly. Among them, the fixation duration time of scarce information of LTQ and LT groups was significantly longer than that of control group, but no significant difference was found between LQ group and control group. Search goods gained longer fixation duration time of specifications than experience goods, and also had higher scores on perceived competitiveness and post-decision cognitive dissonance, but had a lower score on purchase intention than experience goods. More importantly, there was an interaction between scarce promotion strategies and product types. Search goods gained longer fixation duration time of the full advertisement except scarce message than experience goods in the LTQ group. Our results provided practical implications for service providers to make personalized and precision marketing plan.

Keywords: Scarcity promotion, Product types, Purchase intention, Eye-tracking

## 1. INTRODUCTION

Quantity-limited or time-limited promotion as well as other scarce promotion strategies are usually adopted to push up customers' purchase intention, but the effect varies. There are evidence support that quantity-limited scarcity(LQ scarcity) can generate better promotional effects than that of time-limited scarcity(LT scarcity) <sup>[1]-[2]</sup>. Later researchers tried to combine the two kinds of scarcity, that is, LTQ scarcity, which limited time and quantity at the same time<sup>[3]</sup>. However, it is unclear how the promotional effect of quantity-limited and time-limited scarcity(LTQ scarcity) will be. In addition, there are differences in the usefulness of online reviews of search goods and experience goods <sup>[4]</sup>. But it is unknown whether the effect of promotion strategies vary with product types. So the present study aimed to investigate how purchase intention was affected by scarce promotion strategies and whether the effect varied with product types using eye-tracking technique.

## 2. LITERATURE REVIEW AND HYPOTHESES

Scarcity promotion refers to the limited product supply quantity or acquisition time under a specific discount, which makes the product difficult to obtain <sup>[6]</sup>. Different scarcity strategies could lead to different degree of perceived scarcity, and in turn bring different promotion effects. Moreover, scarcity promotion has a significant impact on consumers' fixation duration time, but the impact of fixation duration time on purchase intention remains to be considered. In addition, products can be divided into search goods and experience goods and product

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type may have an impact on the relationship between scarcity promotion and purchasing behavior [5].

### 3. RESEARCH METHODS AND RESULTS

Before formal experiment, we carried out two preliminary experiment. The purpose of the first preliminary experiment is to set the equivalence of the experimental materials and the preliminary experiment 2 is to test the difference of scarcity under the four kinds of manipulations (LTQ group vs LT group vs LQ group vs Control group), to ensure the rationality of experimental stimulus manipulation. In the formal experiment, the stimuli are advertisements of the two products (mobile phone, tissues). A total of 123 participants (82 female) with an average age of  $21.34 \pm 1.93$  years old were recruited. The experiment adopted a mixed design of 4 (LTQ group vs. LT group vs. LQ group vs. Control group)  $\times$  2 (search goods vs experience goods). This experiment uses a maturity scale to measure related variables.

When it comes to data analysis, heat maps are used to examine the impact of scarcity promotion and product type on participants' visual attention to each stimulus. In general, the results showed that participants focused on the commodities' specification, original price, and discount price of mobile phones more than that of tissues. Moreover, ANOVA was conducted to analyze the main and joint effects of scarcity promotion strategy and product types on fixation duration time and fixation count. The results show that scarce promotion strategies have a significant main effect on the fixation duration time of scarce information ( $F(3,98)=21.856, p < 0.001$ ). However, the product type does not have significant main effect on the fixation duration time of scarce information ( $F(1,98)=3.673, p > 0.05$ ). In addition, scarcity promotion strategy ( $p=0.012$ ) and product type ( $p=0.028$ ) both had significant main effects on perceived competitiveness. Product type had a significant main effect on purchase intention and post-decision cognitive dissonance. Finally, bootstrap was used to test the mediating effect of perceived competitiveness in the association of perceived scarcity on purchase intention and the results showed that perceived scarcity had a significant indirect effect (95%CI: LLCI=0.1069, ULCI=0.3292, excluding 0) on purchase intention through perceived competitiveness, and the effect size was 0.2148.

### 4. DISCUSSION AND CONCLUSION

Based on eye-tracking technology, this research explored the effect of scarce promotion strategies and product types on visual attention and purchase intention in online scenarios, enriched the research related to scarce promotion, established objective physiological indicators, and enriched the theoretical basis. Specifically, this research was helpful for companies to formulate personalized marketing plans. Scarcity promotion did have a significant influence on consumers' purchase intention, but its effect varied as different products. That is, marketing strategies could not be "one size fits all". The characteristics of the product itself must be taken into consideration. While unlike the real shopping scene, in the experiment of this research, scarce information didn't change in real time. This may weaken consumers' psychological perception and the influence of scarce information. In the future experimental design, researchers should try to display the dynamic change information of LT and LQ.

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