

Different Responses of Gen Y and Gen Z Consumers to Internet Promotional Information: Based on Perceived Scarcity Theory

Lihua Gao, Wenjie Hu*

School of Language and Communication, Beijing Technology and Business University, Beijing, China

**Corresponding Author*

Abstract: This study examines how promotion information influences perceived scarcity and purchase intention among Generation Y and Generation Z consumers. Using controlled experiments that varied promotion types and product involvement, we assessed differences in perceived scarcity, purchase intention, and sharing willingness. Results show that Generation Y reported higher overall perceived scarcity but was unaffected by promotion type or product involvement. Generation Z perceived the least scarcity under limited quantity promotions for low-involvement products, reflecting generational differences in scarcity attitudes. Perceived scarcity more strongly affected purchase intention in Generation Y, while Generation Z's purchase intention was shaped more by sharing willingness. In conclusion, promotional scarcity cues operate differently across generations, and scarcity alone is not an effective driver of purchase intention.

Keywords: Promotion; Perceived Scarcity; Generation Y and Z

1. Introduction

In 2018, e-commerce sales accounted for 30% of global GDP, with China as the world's largest e-commerce economy. Despite many Internet users, relatively few make purchases, intensifying competition. Chinese e-commerce platforms use promotions like "limited quantity" and "limited time" to create perceived scarcity, influencing purchase intention and impulse buying. Product characteristics affect promotion effectiveness: high-involvement or hedonic products evoke stronger perceived scarcity than low-involvement products [1]. Generational differences also matter, as shared social and technological experiences shape consumption patterns. Although some studies

examine generational responses, comparisons between Generation Y and Z are limited. This study examines how limited-time and limited-quantity promotions affect perceived scarcity and purchase intention across Generation Y and Z, offering insights for tailored marketing strategies.

2. Literature Review and Hypotheses

2.1 Division of Different Generations

Generational cohort theory suggests that each generation develops characteristic values, attitudes, and behaviors shaped by the social, historical, and technological context of their formative years [2]. These shared experiences influence collective behavior and create relatively stable values over time, supporting the use of generations for age-based market segmentation.

Kotler define the generations as: Baby Boomers (1946–1964), Generation X (1965–1979), Generation Y or Millennials (1980–1997), and Generation Z or digital natives (1998–2010). Age plays an important role in shaping participation in digital culture. Compared with earlier generations, Generation Y and Z are more immersed in the Internet, resulting in distinct online consumption patterns [3]. Therefore, studying their responses to online promotions is particularly valuable for understanding contemporary digital shopping behavior.

2.2 Different Promotions and Purchase Intentions

Two common promotion methods—limited quantity scarcity (LQS) and limited time scarcity (LTS)—are widely used to influence purchase intentions. Studies show that such promotions generally improve recipients' attitudes and evaluations across cultures [4]. Research suggests that LQS often drives

stronger purchase intentions than LTS, as limited quantities create a stronger scarcity perception, while time-limited offers may sometimes reduce intention due to pressure.

H1: Limited-quantity promotions have a stronger positive effect on purchase intention compared to limited-time promotions.

Product involvement also affects purchase behavior. High-involvement products increase perceived value and arousal, enhancing purchase intention and impulse buying, while low-involvement products are more influenced by emotional appeals [5]. Hence, product involvement is treated as a moderating variable in this study.

H2: The impact of promotion methods on purchase intention is moderated by product type.

2.3 Perceived Scarcity Theory

Scarcity occurs when demand exceeds supply, either actually or perceived [6]. In consumption, it represents a perceived threat to fulfilling needs due to limited availability of goods or resources. Perceived scarcity can result from strong demand, supplier limits, or temporary and long-term shortages [7]. Short-term promotional restrictions can make products seem special and valuable, boosting evaluation and purchase intention.

Research consistently shows that perceived scarcity positively influences purchase intention, as scarcity signals higher value. Brand competition can partially mediate this effect [8]. Scarcity also triggers impulsive buying by capturing attention and reducing cognitive bandwidth, limiting self-control and planning [9]. High-scarcity products are therefore more likely to stimulate impulse purchases and enhance intention to buy.

H3: Perceived scarcity mediates the effect of promotion method and product type on purchase intention.

2.4 Differences in Consumption Patterns of Different Generations

Research indicates that Generation Z exhibits more positive consumption patterns than Generation Y [10]. Generation Y emphasizes experiential consumption, favoring sensory marketing and “entertainment center” shopping malls. In contrast, Generation Z is more engaged with smartphones and social networks, making them more involved in online consumption, though they are generally less

concerned with sustainable consumption.

Survey evidence shows that the two generations prioritize different aspects during promotions and purchases: Generation Y values brand recognition and shopping pleasure, while Generation Z focuses on authenticity and quality, often responding less strongly to promotional messages. Previous studies comparing marketing responses across generations have examined factors such as brand value, loyalty, impulse buying, and personalization, but have rarely considered the mediating role of perceived scarcity.

Based on this, we propose:

H4: Compared with Generation Y, Generation Z consumers exhibit lower perceived scarcity and purchase intention.

H5: Generation Z’s purchase intention is more strongly influenced by perceived scarcity than that of Generation Y.

Based on this, the proposed research model is illustrated in Figure 1.

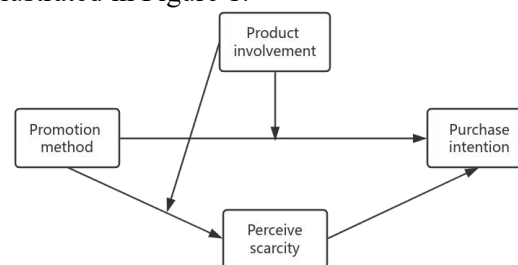


Figure 1. The Research Model of this Study

3. Methodology

3.1 Scenario Design and Procedure

This study used a 2×2 between-subjects factorial design (promotion method × product involvement), with promotion methods as limited time (LTS) or limited quantity (LQS) and products categorized as high or low involvement. Mobile phones were chosen as high-involvement and cups as low-involvement products, validated by six experts (see Table 1). Prices reflected the Chinese market: smartphones averaged 2,645 yuan and cups below 100 yuan.

To simulate typical e-commerce promotions, LTS and LQS discounts were standardized at 50% off. Four posters were created: (1) LQS–high involvement, (2) LTS–high involvement, (3) LQS–low involvement, and (4) LTS–low involvement.

Participants were classified by generation—Y (1980–1997) and Z (1998–2010)—and

considered gender and living environment. A total of 749 participants from wjx.com were randomly assigned to the four groups. After viewing the scenario, they completed measures of perceived scarcity, willingness to share, and purchase intention. After excluding invalid responses, 744 samples remained, with balanced demographics across generations.

Table 1. Descriptive Statistics of Samples

Variable	Classification	Number	Percent
Gender	Male	374	50.3%
	Female	370	49.7%
Age (years)	Generation Y	391	52.6%
	Generation Z	353	47.4%
Residential area	Town	381	51.2%
	Village	363	48.8%

3.2 Measures

All constructs and measures were adapted from previously studies (see Table 2). The scale of perceived scarcity is based on the research of consists of three questions.

Table 2. Constructs and Items

Construct	Item	Source
Perceived Scarcity (PS)	I believe the quantity of this product is highly limited.	[11]
	I consider this product to be scarce.	
	I think this product is likely to sell out quickly.	
Purchase Intention (PI)	I will consider buying this product	[12]
	I have a high likelihood of purchasing this product	
	There is a high chance that I will purchase this product.	

4. Data analysis and results

4.1 Manipulation Check

To assess the effectiveness of the experimental manipulations, we first examined product involvement and promotion method conditions. Results from an independent-samples t-test indicated that perceived scarcity was significantly greater for high-involvement products compared with low-involvement ones (Low mean = 4.9707, High mean = 5.2448; $T(744) = 3.048$, $p < 0.001$), supporting the validity of the involvement manipulation. In addition, screening questions on promotion methods confirmed the manipulation check: of the 749 participants, only 5 misclassified the

promotion type, resulting in an accuracy rate of 99.33%.

The reliability and validity of the measurement scales were tested using SPSS 24.0. A principal component analysis with rotation extracted three factors, which explained 72.77% of the total variance. Convergent validity was confirmed since all thresholds were satisfied: composite reliability ($CR > 0.7$), Cronbach's alpha ($\alpha > 0.7$), and average variance extracted ($AVE > 0.5$). Discriminant validity was also established, since the correlations among latent variables were lower than the square roots of their corresponding AVE values (see Table 3). Taken together, these results indicate that the scales possess strong reliability and satisfactory validity.

Table 3. Validity and Reliability.

	Cronbach's α	CR	AVE	P.S.	PI
P.S.	0.713	0.816	0.597	0.773	
PI	0.878	0.875	0.700	0.321***	0.837

***: The correlations are significant at the 0.01 level (two-tailed). The diagonal values in bold indicate the square root of the AVE.

4.2 Hypothesis Testing

Testing H1 and H2: Independent-samples t-tests examined whether LTS or LQS promotions better stimulated perceived scarcity. For Generation Y, no significant differences were found ($p > 0.05$). For Generation Z, LTS had a greater effect only for low-involvement products ($M = 4.24 < 4.86$, $p = 0.008$), suggesting H1 is not generally supported and highlighting the moderating role of product type. ANOVA showed that product type moderated promotion effects on perceived scarcity only for Generation Z (interaction $F = 6.63$, $p = 0.01$, $\eta^2 = 0.019$). High-involvement products amplified LQS effects, while low-involvement products strengthened both LTS and LQS impacts.

Testing H3: Mediation analysis by generation revealed that perceived scarcity did not mediate effects for Generation Y. In Generation Z, the interaction of promotion type and product type significantly influenced perceived scarcity ($p = 0.028$), which fully mediated its effect on purchase intention. Thus, H3 is partially supported.

Comparing Generational Differences (H4 and H5): Independent-samples t-tests showed Generation Y had higher perceived scarcity ($MY = 5.22 > MZ = 4.98$, $p < 0.01$) and purchase intention ($MY = 5.19 > MZ = 4.64$, p

< 0.01), supporting H4. Group-level comparisons indicated differences were most pronounced for low-involvement products. Regression analysis confirmed that perceived scarcity significantly mediated the effect of promotions on purchase intention for Generation Z (indirect effect = 0.2679, SE = 0.1176, BootLLCI = 0.0636, BootULCI = 0.5454), supporting H5, whereas no mediation was observed for Generation Y.

5. Conclusion and Discussion

This research investigated the impact of limited-time (LTS) and limited-quantity (LQS) promotions on generational differences in purchase intention, incorporating perceived scarcity as a mediating factor and comparing Generation Y and Generation Z consumers. The findings reveal distinct generational patterns. Generation Y showed no significant differences in purchase intention across promotion types or product involvement, and perceived scarcity did not mediate their responses. This indicates that their purchase decisions are less driven by scarcity cues and relatively insensitive to promotional combinations. Despite this, Generation Y remains highly responsive to online marketing overall and should not be overlooked, as they are more easily influenced and more likely to engage in purchases.

Generation Z, by contrast, responded differently depending on product involvement. High-involvement products elicited higher purchase intention regardless of promotion type, while low-involvement products were associated with weaker scarcity perceptions and lower purchase intention. Limited-time promotions were found to be more effective than limited-quantity promotions for low-involvement products, as time scarcity created stronger purchase motivation. Moreover, perceived scarcity fully mediated the interaction between promotion method and product type for Generation Z, suggesting that strategic manipulation of scarcity—through supply control and demand alignment—can effectively stimulate purchase intention.

These findings enhance the understanding of intergenerational consumer behavior in the context of e-commerce. Theoretically, they highlight that Generation Z's purchase decisions are strongly shaped by product involvement and perceived scarcity, whereas Generation Y relies more on other drivers.

Practically, the results indicate that promotion type alone has limited impact. For Generation Y, broad promotional efforts remain effective across product categories, while Generation Z requires more tailored strategies: emphasizing high-involvement products and favoring limited-time offers for low-involvement ones. Nevertheless, the study has several limitations. The experimental design used static posters in a controlled setting, which did not capture the dynamic features of online shopping, such as social interaction and real-time engagement. In addition, only two product categories were tested, potentially limiting the generalizability of the findings. Future research should explore generational responses in real e-commerce contexts, extend the range of product types, and examine factors beyond scarcity that influence Generation Y's purchase behavior.

In summary, this research demonstrates that Generations Y and Z differ significantly in how they respond to promotional scarcity cues. While Generation Y shows broad responsiveness, Generation Z's behavior is shaped by product involvement and mediated by perceived scarcity. Recognizing and adapting to these differences can help marketers design more effective, generation-specific promotion strategies.

Reference

- [1] Barton, B., N. Zlatevska, and H. Oppewal. 2022. Scarcity tactics in marketing: A meta-analysis of product scarcity effects on consumer purchase intentions. *Journal of Retailing* 98 no.4: 741-758.
- [2] Benckendorff, P., and G. Moscardo. 2013. Generational cohorts and ecotourism. In R. Ballantyne and J. Packer (Eds.), *International Handbook on Ecotourism*. 135-153. Cheltenham: Edward Elgar Publishing Limited.
- [3] Issa, T., and P. Isaias. 2016. Internet factors influencing generations Y and Z in Australia and Portugal: A practical study. *Information Processing & Management* 52, no.4: 592-617.
- [4] Campo, K, E Gijbrechts, and P Nisol. 2001. Dynamics in Consumer Response to Product unavailability: Do stockout reactions signal response to permanent assortment reductions? *Journal of Business Research* 57, no.8: 834-843.
- [5] Akbari, Mahsa. 2015. Different Impacts of

- Advertising Appeals on Advertising Attitude for High and Low Involvement Products. *Global Business Review* 16, no.3: 478-493.
- [6] Shah, A. K., S. Mullainathan, and E. Shafir. 2012. Some consequences of having too little. *Science* 338, no.6107: 682–685.
- [7] Shi, X. H., F. Li, and P. Chumnumpan. 2020. The use of product scarcity in marketing. *European Journal of Marketing* 54 (2):380-418.
- [8] Aggarwal, P., S.Y. Jun, and J.H. Huh. 2011. Scarcity messages. *Journal of Advertising* 40, no.3: 19-30.
- [9] Mani, A., S.Mullainathan, E.Shafir, and J. Y. Zhao. 2013. Poverty impedes cognitive function. *Science* 341, no.6149: 976-980.
- [10] Laor, T., and Y. Galily. 2022. Who'S clicking on on-demand? media consumption patterns of generations Y & Z. *Technology in society* 70, no.3: 102016.
- [11] Swami, S., and P. J. Khairnar. 2003. Diffusion of products with limited supply and known expiration date. *Marketing Letters* 14, no.1: 33-46.
- [12] Barber, M., B. Sung, S. Lee, and I. Cheah. 2021. "Exploring the influence of novelty and authenticity in wine consumption: the moderating effect of regionality and price." *International Journal of Wine Business Research* 33, no.2: 288-311.