Scarcity Perception and Impulsive Buying Intention under Limited Marketing—Mediating Effect Based on Fear of Missing Out

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Abstract. Against the background of the continuous development of the digital consumption situation and the platform economy, limited marketing has become an increasingly common marketing strategy. This paper takes restricted marketing as the research background and employs a questionnaire survey to analyze how consumer scarcity perception resulting from product scarcity affects impulsive buying intention. Meanwhile, Fear of Missing Out is included as a mediating variable to examine its role in the relationship. The results show that when the scarcity perception is high, consumers' purchase impulse will also increase. In the limited marketing environment, consumers' scarcity perception is a way to stimulate their FoMO. Therefore, when using the limited marketing strategy, the brand should focus on the psychological perception of consumers, rather than simply creating scarce consumption scenarios and reasonably formulating the limited strategy. At the same time, it is also conducive for the market supervision department to play a relevant role, identify the risk of excessive marketing, prevent some excessive speculation, and maintain the fairness and order of the consumer market.

Keywords: Limited Marketing, Scarcity Perception, FoMO, Impulsive Buying Intention, Consumer Behavior

1 Introduction

As online platform economies continue to expand, market competition is becoming increasingly intense. It can be observed in daily life that the words "limited time promotion" or "limited release" appear around many commodities. Such limited marketing, which quickly attracts consumers' attention and produces purchase behavior, has become one of the marketing methods widely used by enterprises. Compared with traditional marketing methods, limited marketing creates a sense of scarcity in the consumers' hearts through the "unsustainability" and "unrepeatability" of commodities. This subjective perception of scarcity does not depend on the real supply of goods, but on the psychological judgment of consumers on the limited information received, especially in a decision-making environment with high uncertainty. In such an environment,

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consumers will always worry about missing these limited and seemingly high-value goods, resulting in anxiety, namely FoMO. According to the research, this psychological state of missing fear will weaken consumers' rational judgment to a great extent, resulting in more impulsive buying behavior.

Many studies have explored how scarcity perception affects consumer purchasing behavior, yet most of these studies regard scarcity as the most external stimulus variable, rather than from consumers' subjective perception. Based on the existing research, this paper takes FoMO as an intermediary variable into the research framework of scarcity perception and consumers' impulse purchase intention. This paper aims to offer a different perspective on impulsive buying behavior under limited marketing and provide beneficial enlightenment for relevant enterprises and shops.

2 Research Basis and Hypothesis Formulation

2.1 Scarcity and Scarcity Perception

Scarcity was first used as an important psychological mechanism that can affect individual value judgment. Brock mentioned in his commodity theory that when people find that the availability of a thing is limited, they will increase the value of the thing from the subjective level [1]. This view reveals that scarcity is not only an objective attribute, but also affects individual judgment and behavior through psychological cognitive processes. On this basis, Lynn's walk-up research systematically sorted out the literature related to scarcity, further verified Brock's view, and showed that this view is universal [2]. Her research shows that when individuals perceive the limited supply of certain resources, they are more likely to be given higher value evaluation. This theory also laid a very important foundation for the follow-up study of scarcity perception.

Although the early studies provided a very important theoretical basis for understanding the scarcity effect, most of these studies focused on the scarcity at the objective level, like a limited time or a limited number, so they ignored people's subjective interpretation of scarcity. From a strategic perspective, Hamilton and Hosany found that scarcity does not have the same effect on all consumers, which depends on whether a value co-creation relationship can be formed between enterprises and different groups of consumers [3]. Their research found that the scarcity strategy is more effective in high-income consumer groups that value uniqueness and exclusivity.

Therefore, with the deepening of research, researchers gradually shifted the focus of research from the objective scarcity to people's subjective experience. That is, it does not directly respond to the scarcity of time or quantity, but is based on the subjective judgment that consumers have a scarcity of products, so the concept of perceived scarcity appears. Based on this theoretical framework, subsequent research has gradually expanded the application of scarcity in consumption scenarios and proposed the Erie evaluation dimension and cognitive dimension of scarcity. These factors include perceived scarcity, assumptions of high price, sacrifice perception, product quality perception, uniqueness perception, individual needs for uniqueness, perceived value, and buying intention. Perceived scarcity is viewed as a central psychological variable that connects scarce information and consumer decision-making activities. Through directly observing the actual impulse buying behavior of consumers, Wu found that the scarcity promotion, which makes consumers repeatedly generate purchase desire in a short time, can significantly enhance consumers' purchase impulse, which also provides more robust empirical evidence for the behavior results of scarcity marketing [4]. Therefore, this paper puts forward the following assumptions:

H1: When scarcity perception is high, consumers' purchase impulse will also increase.

2.2 Fear of Missing Out as a Mediator

The concept of Fear of Missing Out was first proposed by Przybylski et al. In the psychological research in 2013 is defined as a state of fear and anxiety resulting from concerns about missing valuable events that individuals believe others are experiencing [5]. This theory emphasizes the individual's subjective concern about "possible loss of opportunity", which is not objective. It can explain consumers' behavior motivation in an uncertain consumption environment in terms of psychological needs and emotional reactions to a certain extent. In the initial study, FoMO was mainly used to explain the behavioral differences of different people in the context of using social media and obtaining information. Przybylski showed in his research that FoMO is significantly related to high-frequency social media use, distraction, and timely decision-making. When people have this FoMO, they tend to take timely action to alleviate this anxiety and fear.

With the expansion of research perspective, some scholars began to introduce FoMO into the field of consumer decision-making. Good and Hyman pointed out that although FoMO is often used in advertising practice, the academic community has long lacked the test and inspection of consumer response, and their research has verified the direct impact of FoMO on purchase possibility in the consumer context [6]. They found that FoMO is not a single emotional response, but an important mechanism that can affect consumer decision-making through multiple psychological paths. In addition to the continuous upgrading of the digital consumption environment, Deliana also found that FoMO and hedonism are important psychological factors that trigger online impulse purchase intention (as shown in Fig. 1), indicating that consumers' psychological characteristics and the need for social identity have an important impact on digital consumption decisions [7]. In this study, impulsive buying intention is understood as a tendency to make unplanned purchases under the influence of emotional, situational, or immediate factors. Rodrigues and others systematically sorted out various factors affecting impulsive buying behavior and pointed out that impulsive buying behavior is not accidental behavior, but the result of multiple psychological and environmental interactions [8]. To sum up, this paper puts forward the following assumptions:

H2: Fear of Missing Out serves as a mediator between scarcity perception and impulsive buying intention.

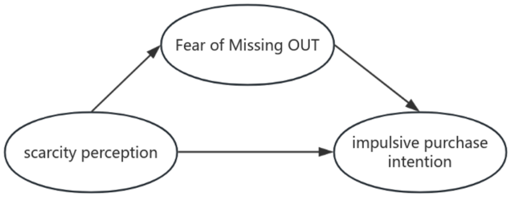

Fig. 1. Research framework (Picture credit: Original).

3 Study Design and Analysis

3.1 Overview of Investigation Methods

Data for this study were gathered through a questionnaire-based method to examine the relationship between consumers' perception of scarcity when a product is scarce in a limited marketing context, their Fear of Missing Out on external information as information providers, and their impulsive purchase intention towards the product. Among them, scarcity perception functions as the predictor, impulse buying intention represents the outcome variable, and Fear of Missing Out operates as the intermediary variable. Relevant items included within the questionnaire have been adjusted appropriately based on existing mature scales and combined with the research scenario, with the independent variable being the perceived scarcity dimension in the scarcity scale. The survey questionnaire is distributed and disseminated online on social media platforms such as WeChat, Weibo, and Red notes, etc. The collected data samples are mostly young consumers with online shopping experience and exposure to restricted products.

In total, 123 questionnaires were obtained, and after removing 10 incomplete or obviously invalid responses, 113 valid questionnaires remained, with an effective response rate of 91.87%.

3.2 Reliability Analysis

Table 1. Reliability Coefficients of Each Variable.

Variable	Alpha Coefficient
Perceived scarcity	0.910
Fear of Missing Out	0.923
Impulsive buying intention	0.886

Table 1 presents the internal consistency coefficients for perceived scarcity, FoMO, and impulsive buying intention, which are 0.910, 0.923, and 0.886. All reliability coefficients for the three dimensions exceed 0.7, indicating good consistency between the questions corresponding to each dimension. The reliability of the scale is good, and the collected data is relatively reliable.

3.3 Validity Analysis

To verify whether factor analysis was performed on the sample data, KMO and Bartlett's sphericity tests were first performed. Based on the analytical findings, the KMO statistic reaches 0.893, exceeding the threshold of 0.8, suggesting that the sample demonstrates adequate sampling suitability appropriateness, and the significance level is 0.000, indicating a strong correlation between variables, and is suitable for component analysis. Subsequently, an exploratory factor analysis was performed for the measurement items, and the maximum variance rotation method was used for rotation. The results showed that the three common factors extracted represent the three variables in this study, with a cumulative total variance of 79.071%, indicating that the extracted factors can effectively explain the information of the original variables.

3.4 Regression Analysis and Hypothesis Testing

After conducting reliability and validity tests, this article further employed regression analysis to empirically verify the association among scarcity perception, FoMO, and impulsive buying intention

Perceived Scarcity and Impulse Buying Intention. The regression analysis indicated that the overall model reached statistical significance ($F=79.191$, $p<0.001$), demonstrating solid explanatory strength, with $R^2 = 0.416$. After adjustment, $R^2=0.411$, indicating that scarcity perception can explain approximately 41.1% of impulsive purchase intention variation. The regression coefficients indicate that scarcity perception exerts a statistically significant positive effect on impulsive buying intention ($\beta=0.645$, $t=8.899$, $p<0.001$). This finding suggests that as consumers perceive greater scarcity of a product, their tendency toward impulsive buying correspondingly increases. Therefore, it is assumed that H1 is validated.

The Mediation Effect of Fear of Missing Out. To further test whether FoMO functions as a mediator between scarcity perception and impulsive buying intention, the PROCESS macro (Model 4) in SPSS was applied for mediation analysis. Firstly, a regression analysis was carried out by treating FoMO as the outcome variable and perceived scarcity as the predictor. The findings indicate that the regression model achieves statistical significance ($F=99.879$, $p<0.001$), with R^2 equal to 0.474 and an adjusted R^2 of 0.469, suggesting that scarcity perception provides substantial explanatory strength for FoMO. The regression coefficient findings suggest that perceived scarcity exerts a statistically significant positive effect on FoMO ($\beta=0.641$, $t=9.994$, $p<0.001$), indicating that the stronger consumers' subjective perception of product scarcity, the higher their level of FoMO.

Then, a regression analysis was conducted on impulse buying intention by combining scarcity perception with FoMO, and the findings indicate that the model achieves statistical significance ($F=56.194$, $p<0.001$). Perceived scarcity continues to exert a statistically significant positive effect on impulsive buying intention ($\beta=0.362$, $p<0.001$). In addition, FoMO also demonstrates a significant positive influence on impulsive buying intention (β=0.411, p<0.001). The regression coefficient (β=0.645) of scarcity perception without introducing a mediator variable showed a significant decrease in its impact strength after introducing FoMO, indicating that FoMO may play a mediating role in it (as shown in Table 2).

Finally, this article uses the Bootstrap method to test the indirect effect and further verify the significance of the mediating effect. The findings further reveal that the indirect influence of perceived scarcity on impulsive buying intention via FoMO amounts to 0.301, and the 95% Bootstrap confidence interval ranges from 0.138 to 0.510, not including zero, which suggests that the mediating effect is statistically significant. In light of these findings, it can be inferred that FoMO functions as a significant partial mediating role between scarcity perception and consumer impulse buying intention.

Therefore, it is assumed that H2 is supported.

Table 2. Outcomes of regression analysis results.

outcome variable	predictor variable	β	t	p	R^2	Adjusted R^2	F
Impulsive purchase intention	Scarcity perception	0.645	8.899	<0.001	0.416	0.411	79.191**
FoMO	Scarcity perception	0.688	9.994	<0.001	0.474	0.469	99.879**
Impulsive purchase intention	FoMO	0.411	4.449	<0.001	—	—	—
	Scarcity perception	0.362	3.920				

4 Discussion

The research results also indicate that, even with identical promotional methods, effectiveness differs significantly across product types in limited marketing contexts. Like ordinary goods and luxury goods, even if there are the same limited promotions, the final results will be vastly different [9]. This also means that there will be significant differences in the psychological reactions and consumption behaviors triggered by consumers' purchasing motivation and payment ability. So when a company or brand uses a limited marketing strategy, it should focus on the psychological perception of consumers and create a feeling that can make consumers feel happy as much as possible [10]. Instead of simply creating scarce consumption scenarios, simply apply a unified template. A reasonable and transparent limiting strategy can help increase consumer engagement and brand perception. Conversely, if there is excessive scarcity or false information, it is more likely to cause consumer aversion and damage brand image [11].

It is also worth noting that creating a scarce consumption scenario may encourage consumers to make impulsive purchases, but after impulsive consumption, consumers are very likely to feel regretful, which also indicates that the risk of returns and exchanges will increase. Therefore, while pursuing short-term sales growth, enterprises should also carefully evaluate the potential impact of limited marketing on consumer satisfaction and brand loyalty. It is also necessary for market regulatory departments to play a relevant role in this regard, pay attention to identifying the risks of excessive marketing, prevent some excessive speculation behaviors, and ensure market information transparency. Strive to maintain a fair and well-ordered consumer market and to promote its sound development.

5 Conclusion

This article takes the limited marketing scenario as the research scenario, and conducts empirical analysis around the entire psychological and behavioral mechanism of scarcity perception, Fear of Missing Out, and impulse buying tendency. The study systematically explores the impact path and mechanism of scarcity perception on impulse buying tendency. Research indicates that perceived scarcity positively influences impulsive buying intention, and Fear of Missing Out functions as a mediator in this process. In previous research on FoMO, multi-level approaches have finally been applied in fields such as social media and investment decision-making. However, this article introduces FoMO into the study of restricted marketing and impulse buying, verifying its effectiveness as an intermediary mechanism and enriching the application scenarios of FoMO theory. In the future, experimental methods or actual interviews can be combined to obtain more and more reliable sample data, thereby enhancing the reliability of research conclusions. In addition, future research can further introduce variables such as product type to construct theoretical models with broader coverage and more complex structures.

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