

# The influence of sustainable promotion strategies on online shopping consumer decision-making from the perspective of behavioral economics

## Shuhan Li

Department of Commerce  
(Economics), James Cook  
University, Singapore, 149  
Sims Drive, Singapore, 387380,  
Singapore

E-mail: shuhan.li1@my.jcu.edu.au

### Abstract:

From the perspective of behavioral economics, this report focuses on the Tmall platform to explore the impact of sustainable promotion strategies on consumer decision-making behaviors on e-commerce platforms. Firstly, the research analyzed the existing research status through a literature review, then collected the behavioral data of consumers in promotion activities through a questionnaire survey, and conducted model analysis combined with behavioral economics theory to evaluate the effect of promotion strategies. The purpose of the study is to reveal the mechanism of different promotion strategies in the consumer decision-making process and to provide substantive recommendations for optimizing the promotion strategies of e-commerce platforms to enhance the user experience, promote green consumption, and promote the sustainable development of e-commerce platforms. The research results can provide theoretical support and practical guidance for e-commerce platforms and policymakers in promoting sustainable consumption.

**Keywords:** Behavioral Economics, Sustainable promotion strategies, Consumer decision-making, green consumption, e-commerce platforms.

## 1. Introduction

With the intensification of global environmental issues, consumers' attention to sustainable development is increasing, and sustainable consumption is gradually becoming a social consensus (*White et al., 2019*). Under this trend, as important media for consumer activities, e-commerce platforms have

taken on the important responsibility of guiding green consumption. Many e-commerce platforms have launched activities such as "Green Double Eleven Shopping Festival" in recent years, using green labels, low-carbon logistics, and environmentally friendly packaging to encourage consumers to choose environmentally friendly products. These green promotion strategies not only broaden the

ways to achieve green consumption, but also demonstrate the influence of e-commerce platforms in promoting environmental awareness. By applying behavioral economics to the analysis of green promotion strategies, this study aims to explore the behavioral economics mechanism in Tmall's "Green Double Eleven" shopping festival, analyzing its actual impact on consumers' green consumption decisions, and providing practical guidance for optimizing green marketing strategies on e-commerce platforms.

This study explores the impact of sustainable promotion strategies on consumer decision-making behavior on e-commerce platforms from the perspective of behavioral economics. The study used *SWOT* and *PEST* models, combined with behavioral economics theory to analyze the impact mechanism of green promotion on consumers' irrational decision-making. Existing literature mainly focuses on the application of green promotion strategies or consumers' attitudes towards sustainable consumption. However, there is a lack of systematic exploration on the practical application of behavioral economics theory in green promotion. This study will enrich the application of behavioral economics in the field of green marketing, providing new theoretical support for understanding consumers' decision-making behavior in green promotional activities.

In addition, the research has deepened the understanding of the role of e-commerce platforms in environmental protection and sustainable development. The green promotion activity of Tmall's "Green Double Eleven" guides consumers to choose environmentally friendly products, revealing how to use irrational decision-making to enhance green consumption willingness from the perspective of behavioral economics. By verifying the applicability of these behavioral economics theories, the research further enriches the scope of e-commerce marketing theory.

## 2. Literature Review

### 2.1 . Overview of Sustainable Promotion Strategies

Sustainable promotional strategies attract consumers to choose environmentally friendly products through green labels, low-carbon logistics, and other ways (Chen and Chang, 2013). Research shows that products with green certification are more likely to gain consumer trust (Peschel et al., 2016), on e-commerce platforms, brand owners are increasingly using green labels and packaging strategies. According to the research of Demarque (2015), green labels can effectively enhance consumers' environmental awareness and encourage them to choose environmentally friendly products in promotional activ-

ities. Tmall's "Green Double Eleven" shopping festival significantly increased green consumption during the event period by labeling and categorizing green products, enabling consumers to quickly identify and purchase environmentally friendly products.

### 2.2 . Applications of Behavioral Economics in E-commerce

The prospect theory and anchoring effect of behavioral economics have been widely applied in the promotion strategies of e-commerce platforms. The prospect theory proposed by Kahneman and Tversky (1979) suggests that people are more sensitive to losses than to gains, therefore discount promotions such as "reducing carbon emissions" can more effectively motivate consumers to purchase green products. As another key concept in behavioral economics, the anchoring effect affects consumers' psychological expectations by introducing a "starting reference point" in price setting. Tmall's "Green Double Eleven" campaign sets price anchors in the discount promotion of environmentally friendly products, making the "high premium" of environmentally friendly products more easily accepted by consumers through comparison with traditional products (Thaler, 1985).

### 2.3 . Consumer Decision-Making in Sustainable Consumption

The green consumption behavior of consumers is influenced by multiple factors such as environmental awareness, social public opinion, and promotional factors. Carington et al. (2014) pointed out that green consumption not only requires individual consciousness support, but also is influenced by social interaction. Tmall platform uses the "Green Double Eleven" to encourage consumers to share their green consumption experience through social media, and launches interactive pages to increase consumers' social participation and environmental recognition. In addition, Chen (2021)'s research shows that if the green promotion activities of e-commerce platforms can introduce loss avoidance information, it can significantly enhance consumers' willingness to make green choices.

## 3. Research Objectives and Key Issues

### 3.1 . Research Objectives

The main objective of this study is to analyze the impact of Tmall's "Green Double Eleven" promotion strategy on consumers' green consumption behavior through behavioral economics theory. Specifically, this study aims to explore how green promotion strategies influence consumer purchasing decisions through behavioral economics

mechanisms. Evaluate consumers' green consumption intentions under different promotional strategies and reveal how e-commerce platforms can more effectively promote green consumption. Provide practical suggestions for optimizing green promotion strategies for e-commerce platforms, helping them enhance user engagement and market competitiveness in promoting sustainable consumption.

### 3.2 . Key Issues to be Addressed

This study will focus on solving the following key issues: What is the impact mechanism of different green promotion strategies (such as green labels, environmental discounts, etc.) on consumer purchase intention?

Are consumers' behaviors in green promotional activities significantly influenced by external factors such as society, economy, and culture?

Can prospect theory and anchoring effect in behavioral economics theory effectively explain green consumption behavior? How effective are the applications of these theories?

How to further optimize the green promotion strategy of e-commerce platforms such as Tmall based on consumer feedback to increase the purchase rate of environmentally friendly products?

## 4. Sample design and sample description

### 4.1 . Sampling mode

This study adopts a combination of stratified random sampling and convenience sampling to ensure the representativeness of the sample for different consumer groups. Firstly, stratified random sampling is conducted based on key variables such as age, gender, environmental awareness level, and e-commerce platform usage preferences of consumers to ensure balanced representation of each group. Then, convenience sampling was conducted among social media and e-commerce platform user groups through online questionnaires, especially targeting active users interested in green promotions on e-commerce platforms such as Taobao, Tmall, and JD mall to improve the relevance and coverage of the sample. The questionnaire is distributed among the user groups of major social media platforms, consumer forums, and e-commerce platforms to obtain broader consumer feedback.

### 4.2 . Data results

This survey ultimately collected 300 valid questionnaires, and the basic characteristics of the samples are as follows. The data combines the core questions in the questionnaire to reflect the behavioral characteristics of consumers un-

der green promotion strategies.

#### 4.2.1 . Gender distribution

Male: 48%

Female: 52%

#### 4.2.2 . Age distribution

Under 18:7% (Tend to impulse consumption and be price sensitive )

18-24:28% (High environmental awareness and high acceptance of green labels )

25-34:33% (Value price discounts and prefer loss avoidance promotional information )

35-44:22% (More emphasis on environmental impact and brand effect )

45 years old and above:10% (Preference for practicality, low acceptance of premium )

#### 4.2.3 . E-commerce platform preferences

Taobao:42% (Preference for environmental labels and price discounts )

Tmall:30% (Pay more attention to brand quality and environmental certification )

JD mall:20% (More sensitive to green packaging and logistics )

Others:8% (Environmental protection measures are compared through multiple platforms generally )

#### 4.2.4 . Environmental awareness and green consumption attitude (based on the environmental awareness questions in the questionnaire)

Highly concerned about environmental protection (such as frequently choosing eco-friendly products):35%

Occasionally choose environmentally friendly products:45%

Not very concerned about environmental protection (mainly considering price):20%

#### 4.2.5 . Preference for green promotional information (based on the promotional information selection question in the questionnaire)

Preference for price discount information (such as "get discounts when purchasing green products"):40%

Preference loss aversion information (such as "not choosing green products will increase carbon emissions"):35%

Prefer green label prompts (such as "low-carbon certification"):15%

Others:10%

#### 4.2.6 . Price sensitivity and premium acceptance (based on attitudes towards green product premiums in the questionnaire)

Willing to pay a premium for green products:25%

Determine whether to pay a premium based on the situation:50%

Unwilling to pay a premium:25%

## 5. Concrete analysis

### 5.1 . Analysis of questionnaire data from the perspective of behavioral economics

#### 5.1.1 . Prospect theory and loss aversion information

35% of respondents tend to prefer loss avoidance information (such as “not choosing green products will increase carbon emissions”). Based on prospect theory, consumers are more inclined to avoid losses when making purchasing decisions (Walker and Rahman, 2024). This psychological characteristic is particularly important in green promotion, as environmentally friendly consumption involves the psychological costs of “social responsibility” and “environmental protection”. When the platform is guided by loss avoidance information, consumers will “bear” the environmental burden by not choosing environmentally friendly products, and thus are more inclined to choose green products. This indicates that by using a negative information framework, the platform can successfully incentivize consumers’ environmentally friendly consumption behavior. Especially in large-scale promotional activities such as “Double Eleven”, such information can create a sense of urgency among consumers and drive immediate consumption.

#### 5.1.2 . Anchoring effect and premium acceptance of green products

25% of respondents explicitly accept the premium of green products, while 50% of respondents may vary depending on the specific situation. The anchoring effect is effective in green promotion on e-commerce platforms. The platform displays green labels and eco-friendly packaging, sets premium reference standards, and encourages consumers to accept the relatively high prices of green products. Consumers view green labels as the “anchor point” for high-value products, generating reasonable expectations for premiums. Especially JD’s green packaging measures, through clear green labeling and explanation of environmental benefits, use price as a reflection of environmental costs, making price sensitive consumers more willing to accept premiums. This strategy can also enhance the platform’s brand image and consumer loyalty.

#### 5.1.3 . Price sensitivity and promotion strategy

40% of respondents are price sensitive, and 35% of consumers tend to choose environmentally friendly products with discounts. Price sensitive consumers exhibit a

dependence on discounts in promotional strategies for environmentally friendly products. Behavioral economics suggests that consumers’ irrational decisions are often influenced by external price anchors (Trevisan, 2016). When platforms offer significant discounts in green promotions, especially when prices are significantly lower than expected, it can stimulate purchase intention. This type of discount information can also motivate some unclear environmental needs, prompting consumers to associate green products with “value for money” and increase overall purchase volume.

### 5.2 . Multidimensional Analysis of SWOT Model

#### 5.2.1 . Strengths

High user base:The environmental awareness of platform users is constantly increasing, especially among young users. The questionnaire shows that 60% of consumers are concerned about environmental issues, indicating that the platform has a mature user base.

High recognition of green labels and promotions:42% of consumers indicate that green labels have increased purchasing trust. The trust established by the platform through green labels helps consumers to be more inclined to choose environmentally friendly products in promotional activities, enhancing brand reputation.

#### 5.2.2 . Weaknesses

High price sensitivity limits premium acceptance:Consumers with lower acceptance of premium prices show hesitation in pricing green products, which limits the promotion effectiveness of the platform’s premium strategy for green products (Menegaki and Aviral Kumar Tiwari, 2023).

Varying levels of environmental awareness of users:Although most consumers are concerned about environmental protection, about 20% of consumers indicate that they pay less attention to environmental protection, indicating that the platform needs to further enhance users’ awareness of environmental protection.

#### 5.2.3 . Opportunities

Growth in demand for environmental protection consumption:The market’s demand for green consumption is growing day by day, and policies are increasing their support for environmental protection enterprises, providing a favorable market environment for the platform’s green promotion strategy.

Green policy incentives:The government’s policy incentives e-commerce platforms to adopt green packaging and low-carbon delivery, which can help promote environmentally friendly consumption.



#### 5.2.4 . Threats

The diversion risk of competitive platforms: Other e-commerce platforms are also launching green promotional activities, which may divert some consumers. For example, the green packaging and environmentally friendly delivery launched by courier companies and e-commerce platforms will affect the platform's market share.

Increased environmental costs: Promoting green packaging and environmental labels will increase costs and may have an impact on the platform's profits, especially among consumers with low acceptance of premiums.

### 5.3 . External Environment Analysis of PEST Model

#### 5.3.1 . Political

The support of environmental policies provides external impetus for green promotion strategies. The low-carbon consumption and green economy policies advocated by the government make the green promotion of e-commerce platforms more in line with social responsibility expectations.

#### 5.3.2 . Economic

In a highly price sensitive consumer market, economic factors have a significant impact on consumer behavior. When the economic environment improves, consumers may be more willing to choose premium products, but when economic pressure is high, price becomes the determining factor (*Han et al., 2001*). The platform's green promotion strategy needs to take consumers' actual payment ability into account.

#### 5.3.3 . Social

The improvement of social environmental awareness brings advantages to the platform's green promotion. The questionnaire data shows that 35% of consumers prioritize environmentally friendly products, reflecting a high acceptance of environmental protection concepts in society. This trend has driven green consumption to become mainstream, and platforms can use this trend to create a green brand image.

#### 5.3.4 . Technological

With the advancement of green logistics technology and environmentally friendly packaging technology, the platform's image in environmental logistics has been further enhanced. A certain proportion of consumers in the questionnaire expressed recognition of JD's green packaging, indicating that the application of technology in green consumption has received good user feedback, which helps to enhance consumer loyalty.

## 6. Recommendations

### 6.1 . Strategic Recommendations for Sustainable Promotion

#### 6.1.1 . Emphasize Green Labeling

Consumers have high trust in green labels, and e-commerce platforms should further promote green label certification to ensure clear and transparent display of product sustainability. By collaborating with official certification bodies, it aims to enhance the credibility of green labels.

#### 6.1.2 . Incorporate Loss Aversion Messaging

Promotion information based on loss aversion theory has been proven effective (such as "reducing carbon emissions"), and e-commerce platforms should use such information more. Emphasizing the potential environmental losses that consumers avoid when choosing eco-friendly products will help enhance environmental awareness and motivate purchasing behavior.

#### 6.1.3 . Expand Discount Offers on Green Products

As price remains the main factor influencing consumer choices, platforms should increase their discount efforts for green products, especially during important promotional periods such as "Green Double Eleven". Lowering the threshold for environmentally friendly products by setting attractive price ranges.

#### 6.1.4 . Introduce Reward Systems

E-commerce platforms can establish reward mechanisms for green consumption, such as point systems or green membership privileges to encourage consumers to choose environmentally friendly products in the long run. This type of reward mechanism can not only stimulate one-time purchases, but also enhance users' long-term loyalty.

### 6.2 . Practical Suggestions for E-commerce Platforms

#### 6.2.1 . Leverage Social Influence

Given the important role of social media in consumer behavior, platforms should strengthen the social impact of environmentally friendly products. By launching a user sharing platform, consumers can show their green consumption choices and receive social rewards such as coupons or extra points.

#### 6.2.2 . Educate Consumers on Green Choices

Consumers' environmental awareness still needs to be strengthened, therefore the platform should provide relevant educational resources. For example, adding environmental related information, carbon footprint calculators,

and other tools on product pages, which can help consumers have a clearer understanding of the impact of their choices on the environment.

### **6.2.3 . Improve Transparency in Green Supply Chains**

In order to enhance consumers' trust in green products, the platform should improve the transparency of the supply chain and show the environmental measures taken from production to delivery of products. This not only enhances the brand image, but also strengthens consumers' trust in green labels.

### **6.2.4 . Promote Subscription Models for Green Products**

In order to reduce one-time consumption, the platform can launch a subscription model for environmentally friendly products. By regularly providing green products, it can encourage consumers to develop a long-term habit of using environmentally friendly products and attract more users to participate through subscription discounts.

## **7. Conclusion**

This study deeply explores the impact of Tmall's "Green Double Eleven" promotion strategy on consumer green consumption behavior from the perspective of behavioral economics. It mainly combines prospect theory, anchoring effect, price sensitivity and other theories to analyze the effectiveness of green promotion in motivating consumers to make environmentally friendly choices. Through SWOT and PEST models, the advantages, challenges, and external environmental support of the platform in green promotion have been identified. The results indicate that green labels, loss aversion information, and price discount strategies can significantly enhance consumers' environmental consumption intentions. The research not only provides suggestions for optimizing green marketing for e-commerce platforms, but also inspires policy-making.

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