

An Empirical Study on Factors Influencing Consumer Decision Preferences in Mobile E-Commerce: Postprint

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Abstract

[Purpose] To investigate the effects of three factors—consumer motivation styles, product types, and marketing strategy types—and their interactions on the purchase decision preferences of consumers in mobile e-commerce. [Method] An experimental approach combining scenario design and questionnaire collection was adopted to conduct empirical research. [Results] The interaction between product type and marketing strategy exerts a significantly differential influence on the decision preferences of mobile e-commerce consumers with different motivation styles. [Limitations] Other influencing factors (e.g., product involvement, individual cognitive needs, perceived risk, etc.) were not incorporated into the study. [Conclusion] Relevant strategic recommendations are proposed for mobile product suppliers from three perspectives: differentiation of mobile e-commerce consumer types, product type selection, and marketing strategy choice.

Full Text

Preamble

An Empirical Study on Factors Influencing Mobile E-commerce Consumers' Decision-Making Preferences

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Abstract

[Objective] This study investigates how three factors—consumer motivational styles, product types, and marketing strategy types—as well as their interactions influence purchase decision preferences in mobile e-commerce. [Methods] We employed an experimental approach combining scenario design with

questionnaire-based data collection. **[Results]** The interaction between product type and marketing strategy exerts significantly differential effects on the decision preferences of mobile e-commerce consumers with different motivational styles. **[Limitations]** The study did not incorporate additional influencing factors such as product involvement, individual cognitive needs, or perceived risk. **[Conclusions]** We propose targeted recommendations for mobile product suppliers from three perspectives: distinguishing consumer types, selecting product categories, and choosing marketing strategies.

Keywords: Decision-making Preference; Regulatory Focus; Product Type; Mobile E-commerce; Marketing Strategy

1. Introduction

With the rapid development of information technology and the advent of 4G communication, mobile e-commerce has been rising rapidly worldwide due to its convenience and mobility. Despite its promising prospects, mobile e-commerce remains in a developmental stage. In recent years, scholars have studied mobile e-commerce consumers' purchase decision intentions to increase transaction volumes. However, most existing research explores influencing factors from consumers' superficial demographic characteristics and the mobile e-commerce platform level, while rarely investigating underlying psychological factors such as individual motivational styles. As the hedonic/utilitarian classification system [1] and framing effect theory have gained attention across disciplines, consumer behavior research has found that product type and marketing strategy significantly affect purchase decision preferences [2]. This study combines questionnaires and experiments, establishing four scenario groups (fashion-promotion, fashion-prevention, utilitarian-promotion, and utilitarian-prevention) to test participants with different motivational styles. We measure the effects of product type, individual motivational style, and marketing strategy on users' purchase decision preferences, using structural equation modeling to analyze questionnaire and experimental data and test our hypotheses.

2. Literature Review and Theoretical Framework

2.1 Decision Preferences

Decision-making is the process by which individuals select actions based on their intentions (or goals) and beliefs (or expectations) [3]. Preference represents an individual's subjective attitude that plays a crucial role in decision-making and judgment. In decision research, scholars define individual decision preferences as the tendency to choose one alternative among two or more options, a tendency that often shifts due to contextual factors.

The earliest theory addressing preferences was Expected Utility Theory (EUT), proposed by Von Neumann and Morgenstern in the 1940s, which analyzed rational choice under certainty and uncertainty [4]. As research progressed, scholars

questioned EUT and proposed Prospect Theory (PT), arguing that humans cannot be perfectly rational and often make irrational decisions due to cognitive limitations. Preference reflects this decision-making process and changes with the decision problem [5]. Venkatesh et al. studied consumer acceptance of mobile e-commerce from a technology acceptance perspective, finding that purchase decision preferences determine purchase behavior [6], while these preferences are influenced by multiple factors including consumer cognition, personality traits, and the immediacy and mobility of mobile e-commerce [7-9]. Notably, most studies focus on surface-level and e-commerce factors, neglecting underlying psychological influences.

We conceptualize preference as the attitudinal expression or tendency manifestation when individuals evaluate two or more options. In mobile e-commerce, purchase decision preferences specifically refer to consumers' inclination toward immediate purchase versus delayed purchase when considering a product. To distinguish these decision types, we conceptualize immediate purchase as risk-seeking behavior and delayed purchase as risk-averse behavior.

Influencing factors of decision preferences involve three aspects: the decision-maker, decision context, and decision object (task). At the decision-maker level, researchers have found that individual emotions and personality traits affect decision preferences [10-11]. Decision context factors such as ambiguity and time pressure also influence preferences [12-13]. Regarding decision objects, scholars have focused on information representation, showing that content and description methods of decision tasks can alter individual preferences [10]. Based on prior research, this study explores product type, individual motivational style, and marketing strategy as influences on mobile e-commerce consumers' decision preferences.

2.2 Product Types

Batra and Ahtola propose that consumers evaluate products along two dimensions: hedonic and utilitarian, with the former providing sensory and psychological experiences and the latter offering functional benefits [14]. Mittal et al. suggest that hedonic products emphasize positive experiences, while utilitarian products highlight functionality [15]. Crowley et al. propose that product classification depends on whether the product possesses more or more salient hedonic versus utilitarian attributes [16].

Using hedonic and utilitarian characteristics as classification criteria and considering our target products, we categorize products into fashion-oriented and utilitarian types. Fashion-oriented products satisfy consumers' needs for novelty, aesthetics, curiosity, and entertainment, creating positive emotional and sensory experiences. Utilitarian products emphasize functional descriptions that meet practical needs. Existing measurement scales for product characteristics include Batra et al.'s semantic differential scale [14], Crowley et al.'s scale [16], Voss et al.'s multi-item scale [17], Spangenberg et al.'s scale [18], and Zhao Zhanbo

et al.' s optimized Voss scale [19]. This study adapts Voss et al.' s scale [17] to measure product characteristics and determine product types.

Product type corresponds to the decision task dimension among influencing factors and affects decision preferences.

2.3 Individual Motivational Styles

The individual motivational style factor is based on Regulatory Focus Theory. Higgins first proposed that individuals exhibit two distinct self-regulation systems when facing the same stimulus, leading to either approach or avoidance behaviors corresponding to promotion focus and prevention focus [20]. Individuals can thus be classified as promotion-focused or prevention-focused.

Promotion-focused individuals prioritize growth and development needs, with goal outcomes framed as gains versus non-gains. Prevention-focused individuals prioritize security and defense needs, with outcomes framed as losses versus non-losses. Regulatory focus is commonly measured using questionnaires, including the widely used Regulatory Focus Questionnaire, Selves Questionnaire, and General Regulatory Focus Measure [21]. This study employs the Chinese version of the Regulatory Focus Questionnaire to measure motivational styles.

Individual motivational style corresponds to the decision-maker dimension among influencing factors and affects decision preferences.

2.4 Marketing Strategies

Marketing strategy is a crucial factor influencing user decision preferences, which can be divided into positive and negative strategies. Marketing strategies manifest through information framing—the way information is described. Kahneman and Tversky argue that different descriptions cause information processing biases and different choice preferences, a phenomenon termed framing effects [22]. Yin et al. propose that when individuals receive essentially identical information presented differently, the description method directly affects their evaluation of alternatives during decision-making, creating differential preferences [23]. Therefore, marketing strategies using different description methods influence consumer decision preferences.

We define marketing strategy as using different descriptions of essentially identical products or information to create four psychological anticipations (gain, non-gain, loss, non-loss) that influence purchase decisions. To measure these effects, we designed positive and negative marketing strategies. The positive strategy emphasizes immediate benefits, while the negative strategy emphasizes potential losses from inaction.

Marketing strategy corresponds to the decision context dimension among influencing factors and affects decision preferences.

3. Research Model and Hypotheses

3.1 Conceptual Model

This study examines how the interaction among consumer motivational style (decision-maker), product type (decision object), and marketing strategy description (decision context) influences purchase decision preferences in mobile e-commerce. Based on regulatory focus theory, promotion/prevention-focused individuals tend to be more intuitive/analytical in decision-making, exhibiting different behavioral patterns. Furthermore, according to regulatory fit theory, when an individual's regulatory focus matches the information frame in the context, they experience a stronger sense of correctness about their decision. Therefore, we propose the conceptual model shown in [Figure 1: see original paper] to investigate the differential effects of product type and marketing strategy on consumers with different motivational styles.

[Figure 1: see original paper] Model of Factors Influencing Mobile E-commerce Consumers' Purchase Decision Preferences

3.2 Research Hypotheses

Literature on regulatory fit suggests that consumers' personality motivations must align with product characteristics to enhance purchase intentions. Promotion-focused consumers tend to prefer products emphasizing hedonic features (fashion-oriented products), while prevention-focused consumers favor products highlighting utilitarian features [24]. Therefore, we propose:

H1: Different product types exert differential effects on the purchase decision preferences of mobile e-commerce consumers with different motivational styles.

Most regulatory fit research uses marketing strategies to investigate how alignment between individual regulatory focus and information presentation affects purchase preferences. Cesario et al. found that regulatory fit strengthens information acceptance, with positive strategies more persuasive for promotion-focused individuals and negative strategies emphasizing loss avoidance more effective for prevention-focused individuals [25]. Therefore:

H2: When product type is emphasized, different marketing strategies differentially affect the purchase decision preferences of mobile e-commerce consumers with different motivational styles.

Wang Danping et al. found that regulatory fit between individual regulatory focus and advertising message frames directly affects advertising attitudes, which in turn influences purchase preferences. Promotion-focused individuals respond more positively to positively-framed ads, while prevention-focused individuals show more positive attitude changes toward negatively-framed ads, thereby enhancing purchase preferences [26]. Stimuli that match individual regulatory focus positively enhance information persuasion, attitudes, and behavioral motivation, leading to more decisive actions. Therefore:

H3: When the product is fashion-oriented and a positive marketing strategy is used, promotion-focused mobile e-commerce consumers show greater change in purchase decision preferences than prevention-focused consumers.

H4: When the product is utilitarian and a negative marketing strategy is used, prevention-focused mobile e-commerce consumers show greater change in purchase decision preferences than promotion-focused consumers.

4. Methodology

To test these hypotheses, we conducted an empirical study using questionnaires to collect and analyze data.

4.1 Product Stimulus Selection

Through focus group interviews with eight frequent online shoppers, we selected athletic shoes as the experimental product, considering price factors and their impact on decision-making.

4.2 Scenario Design

We designed two product purchase scenarios: fashion-oriented and utilitarian.

Original Purchase Scenario Description: A friend invites you to an outdoor sports event, but your only athletic shoes are worn out. You need to buy new ones. The event involves substantial physical activity, requiring comfortable shoes. Since participants are peers, you want stylish yet energetic-looking shoes. You plan to purchase via mobile. Having previously browsed athletic shoes on a mobile e-commerce app, you now receive a push notification for a pair from a flagship store. The price is affordable, with various color and size options available.

Scenario 1: Fashion-Oriented Product Description

On the product details page, the description reads: “These athletic shoes are this year’s latest model. The clever color combination on the upper exudes youthful vitality. The sleek, classic design pairs with any outfit. Modern trendy elements are incorporated into the upper design, showcasing fashion sense that will instantly transform you into a style icon, helping you stand out and release your passion through movement.”

Scenario 2: Utilitarian Product Description

On the product details page, the description reads: “These athletic shoes feature high-end slip-resistant rubber soles for extended durability. The insoles use hemp fiber material that effectively inhibits bacteria, eliminates odor, absorbs moisture, and dries quickly, maintaining a fresh, dry interior. The lightweight, resilient midsole enhances cushioning for comfortable wear.”

4.3 Marketing Strategy Design

Considering price and brand factors, we set the discount at 30 RMB. The positive marketing strategy stated: “Order now via mobile and get an immediate 30 RMB discount, today only.” The negative marketing strategy stated: “Order now via mobile and get 30 RMB off today; price returns to normal tomorrow.”

4.4 Measurement of Individual Motivational Style

We adapted the Chinese version of the Regulatory Focus Questionnaire [27] to measure motivational styles, as shown in .

Long-term Regulatory Focus Scale

Dimension	Item	Statement
Promotion	PM1	Compared to most people, I often fail to get what I want in life.
	PM2	I have accomplished things whose success motivated me to work harder.
	PM3	I feel my life is moving step by step toward success.
	PM4	When doing what I want, I usually do it well.
	PM5	When completing important tasks, I often find the results fall short of my ideals.
	PM6	In daily life, I rarely find activities that interest and engage me.
Prevention	PV1	Growing up, I often crossed boundaries my parents couldn't tolerate.
	PV2	Growing up, I often made my parents nervous and worried.
	PV3	Growing up, I often did things my parents considered wrong.
	PV4	In daily life, I always follow rules set by my parents.

4.5 Decision Preference Measurement

We operationalized purchase decision preferences as two tendencies: immediate purchase and delayed purchase. Items measured the intensity of these tendencies, as shown in .

Purchase Decision Preference Scale

Item	Statement	Scale
1	My first reaction when considering buying these shoes is: Delayed purchase → Immediate purchase	Strongly Disagree → Strongly Agree
2	Compared to browsing and comparing other shoes, I prefer to buy these shoes immediately	Strongly Disagree → Strongly Agree

4.6 Participant Selection

We recruited internet users aged 20-29, primarily from student populations, to complete the questionnaire.

4.7 Experimental Procedure

1. Measure participants' motivational style (regulatory focus type) and categorize them.
2. Provide original scenario information and measure baseline purchase decision preferences.
3. Expose participants to different product type information and marketing strategies, then measure post-stimulus purchase decision preferences.

5. Data Analysis

5.1 Sample Characteristics

We randomly distributed self-regulation questionnaires to 396 participants to identify their motivational styles, receiving 330 valid responses (152 promotion-focused, 178 prevention-focused). These 330 participants were placed in four scenario groups (first measuring baseline preferences, then post-exposure preferences). After excluding 18 invalid questionnaires, we obtained 312 valid responses: 72 in fashion-positive, 81 in fashion-negative, 74 in utilitarian-positive, and 85 in utilitarian-negative groups. Descriptive statistics are shown in .

Descriptive Statistics of Experimental Samples

Group	Sample Size	Gender Distribution	Age Distribution
Fashion-Positive	72	36.11% Male, 63.89% Female	46.91% 20-24, 53.09% 25-29
Fashion-Negative	81	48.15% Male, 51.85% Female	41.89% 20-24, 58.11% 25-29
Utilitarian-Positive	74	44.71% Male, 55.29% Female	44.71% 20-24, 55.29% 25-29
Utilitarian-Negative	85	44.71% Male, 55.29% Female	18.92% 20-24, 81.08% 25-29

5.2 Reliability and Validity Tests

(1) Reliability Test To ensure scientific rigor, we tested the reliability and validity of all scales. shows reliability analysis results.

Reliability Test Results

Scale	Cronbach' s α
Promotion Focus	0.790
Prevention Focus	0.813
Baseline Purchase Preference	0.852
Post-stimulus Purchase Preference	0.864

All subscales showed Cronbach' s $\alpha > 0.7$, indicating good reliability.

(2) Validity Test Given inter-group correlations, we conducted KMO and Bartlett' s tests before factor analysis to assess suitability. Factor loadings and cumulative variance explained served as validity indicators.

Regulatory Focus Scale: KMO = 0.799 (>0.5), Bartlett' s test $p < 0.001$, indicating suitability for factor analysis. Two factors were extracted using varimax rotation. As shown in , all six promotion items loaded >0.5 on Factor 2, and all four prevention items loaded >0.6 on Factor 1. The two factors explained 53.679% of total variance (prevention: 30.526%; promotion: 23.153%), demonstrating good validity.

Purchase Preference Scale: KMO = 0.513 (>0.5), Bartlett' s test $p < 0.001$, indicating suitability for factor analysis. As shown in , both items loaded at 0.935 (>0.8), explaining 91.602% of total variance, confirming good validity.

5.3 ANOVA Results

To examine the influence mechanisms, we used the difference between post-stimulus and baseline preference scores as the dependent variable. Descriptive statistics are shown in and ANOVA results in .

Descriptive Statistics of Preference Changes (Standardized Scores)

Product Type	Marketing Strategy	Promotion-Focused	Prevention-Focused
Fashion	Positive	-0.006 (0.972)	-0.555 (0.947)
Fashion	Negative	-0.222 (0.836)	0.492 (1.147)
Utilitarian	Positive	-0.359 (0.814)	0.171 (1.070)
Utilitarian	Negative	0.162 (0.838)	0.549 (0.914)

ANOVA Results

Effect	F-value	Significance
Product Type × Marketing Strategy	8.492**	p < 0.05
Product Type × Motivational Style	8.916**	p < 0.05
Marketing Strategy × Motivational Style	7.678**	p < 0.05
Three-way Interaction	5.005**	p < 0.05

Note: * p<0.10; ** p<0.05; *** p<0.001

Results show: (1) Product type significantly affects purchase preferences differently across motivational styles ($F(1,312)=7.678$, $p=0.006$), supporting H1. (2) The three-way interaction is significant ($F(1,312)=5.005$, $p=0.026$), supporting H2. (3) Under fashion-positive conditions, promotion-focused consumers ($M=-0.006$) showed greater preference change than prevention-focused consumers ($M=-0.555$; $t(72)=2.461$, $p=0.016$), supporting H3. (4) Under utilitarian-negative conditions, prevention-focused consumers ($M=0.549$) showed greater preference change than promotion-focused consumers ($M=0.162$; $t(85)=-2.011$, $p=0.048$), supporting H4.

6. Discussion and Conclusions

6.1 Key Findings

Product type, individual motivational style, and marketing strategy all influence mobile e-commerce consumer preferences. Specifically: (1) Product type differentially affects purchase decision preferences across motivational styles; (2) The interaction between product type and marketing strategy significantly impacts preferences; (3) When emphasizing fashion features with positive marketing, promotion-focused consumers show stronger preference shifts toward immediate purchase; (4) When emphasizing utilitarian features with negative marketing, prevention-focused consumers demonstrate stronger preference shifts.

6.2 Implications

China's mobile e-commerce market is growing rapidly, with increasing consumer acceptance. To maximize this opportunity and improve transaction rates with limited resources, we offer three recommendations:

1. **Consumer Segmentation:** Different motivational styles significantly influence decision preferences. Since regulatory focus is a stable psychological trait affecting behavioral strategies, mobile e-commerce platforms should segment consumers based on motivational styles.
2. **Product Information Design:** Vendors should tailor product descriptions to target consumers' regulatory focus. For promotion-focused consumers, emphasize hedonic features (e.g., style, experience) with some utilitarian attributes. For prevention-focused consumers, highlight utilitarian features (e.g., functionality, durability) to enhance persuasion and purchase intention.
3. **Marketing Strategy Alignment:** Match promotional strategies to product descriptions and consumer motivational styles. Positive frames work better for fashion products targeting promotion-focused consumers, while negative frames are more effective for utilitarian products targeting prevention-focused consumers.

6.3 Limitations and Future Research

This study has limitations. Future research should: (1) Incorporate additional factors like product involvement, cognitive needs, and perceived risk; (2) Explore other personality traits affecting mobile e-commerce decision preferences; (3) Investigate applicability to intangible products and O2O models.

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Author Contributions

Zhu Peng: Conceptualized the research proposition and model, wrote and revised the manuscript.

Zhao Xiaoxiao: Contributed to manuscript writing, hypothesis development, and empirical research.

Wu Wei: Contributed to manuscript writing and data analysis.

Conflict of Interest Statement

All authors declare no conflict of interest.

Supporting Data

Supporting data is self-archived by the authors and available upon request at: p.zhu@outlook.com.

Note: Figure translations are in progress. See original paper for figures.

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