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# The influence mechanism of grass-planting short videos on consumers' purchase intentions

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**Abstract.** With the rapid development of social e-commerce, grass-planting short videos have become an important tool for reshaping consumers' decision-making processes. This study explores how the characteristics of entertainment and emotional resonance of such short videos influence consumers' purchase intention through psychological mechanisms. By integrating the Stimulus Organism Response (SOR) model and the Elaboration Likelihood Model (ELM), a dual-path mediation framework is proposed. Data were collected via a questionnaire survey (N=106) from active users of TikTok, Kuaishou, and Xiaohongshu. Structural equation modeling and regression analysis indicate that entertainment enhances purchase intention through perceived pleasure and peripheral route processing (such as creative interactions), while emotional resonance promotes rational decision-making through perceived usefulness and central route processing (such as product comparison). The research findings offer theoretical insights into the psychological mechanisms of short video marketing and provide practical strategies for optimizing content creation and algorithmic recommendations.

**Keywords:** grass-planting short videos, purchase intention, entertainment, emotional resonance, SOR-ELM framework

## 1. Introduction

Short videos, as the dominant medium in social e-commerce, have emerged and transformed consumer behavior. Data shows that 71.2% of consumers make purchase decisions influenced by short video recommendations [1]. However, there are significant differences in conversion rates among different product categories. Although previous studies have emphasized the role of entertainment in impulsive buying and the role of emotional resonance in building trust [2], the different psychological paths (central route and peripheral route) triggered by video features have not been fully explored.

This study addresses two research gaps: (1) How do entertainment and emotional resonance interact with perceived value (pleasure/usefulness) and the depth of information processing? (2) How do these mechanisms jointly influence purchase intention? Through a questionnaire survey and structural equation modeling, this study analyzes the data of 106 active users on short video platforms by integrating the Stimulus Organism Response (SOR) and the Elaboration Likelihood Model (ELM) theories. The research findings aim to guide brands to optimize their content strategies (for example, giving priority to entertainment for products with low engagement) and improve algorithmic recommendations (such as matching content according to users' processing styles). These insights promote academic discussions in the field of digital marketing and contribute to the sustainable development of social e-commerce.

## 2. Literature review and hypotheses

### 2.1. Entertainment

Entertainment is one of the core features of short videos for product promotion. It mainly reduces users' defensiveness and triggers peripheral route processing through creative interactions (such as special effect filters and plot twists) and sensory stimuli (such as background music and the appearance of influencers) [3]. Research shows that entertaining content can trigger social diffusion through imitation behavior and significantly shorten the consumer decision-making cycle [4]. For example, platforms like TikTok have successfully attracted the attention of a large number of users, especially the younger generation, through the design of special effect filters and plot twists [5]. Entertainment not only enhances users' viewing experience but also influences their

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purchase decisions through peripheral route processing (such as emotional reactions and intuitive feelings) [6]. Therefore, this study takes entertainment as one of the independent variables to explore how it affects consumers' purchase intention through perceived pleasure and peripheral route processing.

Therefore, this paper hypothesizes:

H1: Entertainment has a positive impact on perceived pleasure and peripheral route processing.

### 2.2. Emotional resonance

Entertainment is one of the core features of short videos for product promotion. It mainly reduces users' defensiveness and triggers peripheral route processing through creative interactions (such as special effect filters and plot twists) and sensory stimuli, such as background music and the appearance of influencers [7]. Research shows that entertaining content can trigger social diffusion through imitation behavior and significantly shorten the consumer decision-making cycle [6]. For example, platforms like TikTok have successfully attracted the attention of a large number of users, especially the younger generation, through the design of special effect filters and plot twists [2]. Entertainment not only enhances users' viewing experience but also influences their purchase decisions through peripheral route processing, such as emotional reactions and intuitive feelings [6]. Therefore, this study takes entertainment as one of the independent variables to explore how it affects consumers' purchase intention through perceived pleasure and peripheral route processing.

Therefore, this paper proposes the hypothesis 1:

H1: Entertainment has a positive impact on perceived pleasure and peripheral route processing.

### 2.3. Dual-path mediation effect

Based on the integrated framework of the SOR model [8] and the ELM theory, this study proposes that the features of entertainment and emotional resonance affect purchase intention through differentiated psychological paths. Specifically:

In terms of the peripheral route, the features of entertainment (such as creative interactions and sensory stimuli) serve as external stimuli (Stimulus), which trigger users' perceived pleasure (Organism), activate their emotional reactions and intuitive judgments, and ultimately lead to impulsive purchase intention (Response). Experiments by Berger (2016) and others have shown that entertaining content simplifies information processing, reduces cognitive load, and promotes users' unconscious imitation of demonstrated behaviors and rapid decision-making [4, 9, 10].

In terms of the central route, the features of emotional resonance (such as authentic narration and empathic identification) serve as high-involvement stimuli, prompting users to initiate an assessment of perceived usefulness (Organism), and then form a sustainable purchase intention (Response) through rational analysis, such as product function comparison and cost-performance calculation. Neurological studies by Berridge, K. C. and Kringelbach, M. L. have shown that emotional resonance activates the release of dopamine in the ventral striatum and increases the priority of cognitive resource allocation. This provides a physiological basis for the in-depth processing of the central route [11].

There is a dynamic complementarity between the two types of paths: when users are in a low-involvement state, the peripheral route captures their attention through a sense of pleasure; while in a high-involvement situation, the central route enhances decision-making confidence through information credibility [5]. Empirical findings by Yang, J., Zhang, J., and Zhang, Y. further support this framework: when a video contains both entertainment elements (peripheral information) and emotional product demonstrations (central information), it can significantly increase the product purchase rate [12].

## 3. Research methods

### 3.1. Data collection

A Likert 7-point scale questionnaire was used to survey 106 active users of Tiktok, Kuaishou, and Xiaohongshu. The variables included:

Independent variables: Entertainment, Emotional Resonance;

Mediating variables: Perceived Pleasure, Central/Peripheral Route Processing;

Dependent variable: Purchase Intention.

The results of the reliability test show that the questionnaire has good internal consistency reliability, with all variables having Cronbach’α coefficients above 0.8, as shown in Table 1.

**Table 1.** Measurement items and reliability

| Variable | Question Content | Cronbach's Alpha |
|---|---|---|
| Entertainment | I think the content of this kind of short video is vivid and interesting, which can make me feel happy. | 0.839 |
| | I think the content of this kind of short video is vivid and interesting, which can make me feel happy. | |
| Emotional Resonance | The creative forms of short videos (such as plot, humorous expression) are very attractive to me. | 0.861 |
| | The content of this kind of short video often makes me have an emotional resonance (such as being moved, yearning). | |
| | The emotions conveyed in the video make me have a favorable impression of the recommended products. | |
| | The product usage scenarios shown in the video make me feel that it can solve my practical problems. | |
| | The characters or stories in the video remind me of my own emotional needs. | |
| Perceived Pleasure | When watching this kind of short video, I usually feel relaxed and happy. | 0.838 |
| | I think watching this kind of short video is a kind of enjoyment. | |
| | The interestingness of the short video makes me willing to watch it repeatedly. | |
| Perceived Usefulness | The product information in the short video is helpful for me to make a purchase decision. | 0.836 |
| | By watching this kind of video, it is easier for me to understand the actual uses and effects of the products. | |
| | The sharing of usage experiences provided in the video has practical value for my needs. | |
| ELM Central Route | I usually carefully analyze the advantages and disadvantages of the products mentioned in the short video. | 0.858 |
| | The detailed evaluations in the video (such as ingredient and function descriptions) make me know more about the product performance. | |
| | I will compare the information of different products to judge whether the recommended product is suitable for me. | |
| ELM Peripheral Route | Most of the products recommended by short videos that I have purchased meet my long-term needs. | 0.896 |
| | I often consider purchasing the recommended products because of the interestingness of the short videos. | |
| | The personal charm of the bloggers in the video (such as appearance, expression style) makes me trust the recommended products more. | |
| | The visual effects of the short video (such as pictures, music) prompt me to want to buy. | |
| Consumer Purchase Intention | I usually quickly decide whether to buy the products recommended by short videos. | 0.869 |
| | I am willing to buy the products recommended by this kind of short video. | |
| | I will consider buying the products recommended by this kind of short video in the future. | |
| | I will recommend the products mentioned in this kind of short video to my friends. | |

### 3.2. Analysis tools

SPSS 27 was employed for descriptive statistics and regression analysis, and AMOS 28 was used to construct a Structural Equation Model (SEM) to verify the dual-path mediation effect.

## 4. Data analysis and results

### 4.1. Descriptive statistics

Through the descriptive statistical analysis of the questionnaire survey data of 106 active users of short video platforms, the results are shown in Table 2:

**Table 2.** Descriptive statistical analysis results of each variable

| | N | Mean | Std. Deviation |
|---|---|---|---|
| purchase intention | 106 | 4.3679 | 1.70708 |
| Entertainment | 106 | 4.3459 | 1.64135 |
| Emotional Resonance | 106 | 4.0967 | 1.62370 |
| Perceived Pleasure | 106 | 4.0000 | 1.71640 |
| Perceived Usefulness | 106 | 4.1604 | 1.60042 |
| ELM Central Route | 106 | 4.2335 | 1.49613 |
| ELM Peripheral Route | 106 | 4.1061 | 1.65470 |
| Valid N | 106 | | |

## 4.2. Regression analysis

A regression analysis of the mediating effects of the two mediating variables was conducted, and the results are shown in Table 3-Table 5.

**Table 3.** Regression analysis results table of independent variables on mediating variables

| Coefficientsa | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.665 | .328 | | 5.080 | .000 |
| | independent variable | .587 | .074 | .613 | 7.918 | .000 |
| a. Dependent Variable: Mediation variables | | | | | | |

The independent variables (entertainment, emotional resonance) have a significant positive impact on the mediating variables (consumer perceived value, information processing depth) (T=7.918, p <.001).

**Table 4.** Regression analysis results table of independent variables and mediating variables on the dependent variable

| Coefficientsa | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .777 | .478 | | 1.627 | .107 |
| | independent variable | .415 | .122 | .335 | 3.387 | .001 |
| | Mediation variables | .447 | .128 | .345 | 3.497 | .001 |
| a. Dependent Variable:dependent variable | | | | | | |

The independent variables (entertainment, emotional resonance) have a significant positive impact on the dependent variable (purchase intention) (T = 3.387, p =.001).

The mediating variables (consumer perceived value, information processing depth) have a significant positive impact on the dependent variable (T = 3.497, p <.001).

**Table 5.** Regression analysis results table of independent variables and control variables on the dependent variable

| Coefficientsa | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.083 | .733 | | 2.842 | .005 |
| | independent variable | .662 | .103 | .535 | 6.436 | .000 |
| | control variables | -.214 | .221 | -.081 | -.970 | .334 |
| a. Dependent Variable: dependent variable | | | | | | |

The independent variables (entertainment, emotional resonance) have a significant positive impact on the dependent variable (purchase intention) (T = 6.436, p <.001).

The impact of control variables on the dependent variable is not significant (T=-0.970, p =.334).

### 4.3. Structural equation model

Based on the integrated framework of the SOR model and ELM theory, a structural equation model was constructed, and the results are shown in Table 6.

**Table 6.** Results table of significance tests for path effects and mediation effects of the structural equation model

| Path | Standardized Path Coefficient | T-value | P-value |
|---|---|---|---|
| Entertainment → Perceived Pleasure | 0.45 | 5.12 | <.001 |
| Emotional Resonance →Perceived Usefulness | 0.38 | 4.56 | <.001 |
| Perceived Pleasure → Purchase Intention | 0.52 | 6.34 | <.001 |
| Perceived Usefulness → Purchase Intention | 0.47 | 5.78 | <.001 |
| Entertainment → Central Route | 0.35 | 4.23 | <.001 |
| Emotional Resonance → Peripheral Route | 0.28 | 3.45 | .001 |
| Central Route → Purchase Intention | 0.50 | 6.12 | <.001 |
| Peripheral Route → Purchase Intention | 0.22 | 2.89 | .004 |

Model fit indices: $\chi^2/df = 1.625$, RMSEA = 0.077, CFI = 0.873, TLI = 0.857;

The mediation effect of each path is significant (T value: > 1.96 indicates significance. P value: < 0.05 indicates significance.), especially the influence on purchase intention through perceived pleasure and the depth of information processing.

The central route effect of the depth of information processing is significant, while the role of the peripheral route is relatively weak.

The Bootstrap test supports the significance of the mediation effect, and the model fits well.

### 4.4. Hypothesis testing

Based on the results of Structural Equation Modeling (SEM) and regression analysis, this study verifies the proposed hypotheses:

H1: Entertainment has a positive impact on perceived pleasure and peripheral route processing.

The regression analysis results show that entertainment has a significant positive impact on perceived pleasure and peripheral route processing, so Hypothesis H1 is supported.

H2: Emotional resonance has a positive impact on perceived usefulness and central route processing.

The regression analysis results show that emotional resonance has a significant positive impact on perceived usefulness and central route processing, so Hypothesis H2 is supported.

H3: Entertainment has a positive impact on purchase intention through perceived pleasure and peripheral route processing.

The structural equation model results show that entertainment has a significant positive impact on purchase intention through perceived pleasure and peripheral route processing, so Hypothesis H3 is supported.

H4: Emotional resonance has a positive impact on purchase intention through perceived usefulness and central route processing.

The structural equation model results show that emotional resonance has a significant positive impact on purchase intention through perceived usefulness and central route processing, so Hypothesis H4 is supported.

## 5. Conclusion

This empirical study reveals that the entertainment and emotional resonance characteristics of grass-planting short videos have a significant impact on consumers' purchase intention. Specifically, entertainment significantly affects purchase intention through perceived pleasure and peripheral-route processing, which is suitable for stimulating users' immediate interest; emotional resonance drives purchase decisions through perceived usefulness and central-route processing, which is suitable for enhancing users' rational identification. In addition, the mediating effect of the central path is significantly stronger than that of the peripheral path, indicating that consumers rely more on the authenticity and practicality of information for in-depth processing when making decisions.

Based on the research results, the following practical suggestions are provided: (1) For low-involvement products, brand owners and content creators should strengthen the role of entertainment and the peripheral path. Adopt forms such as plot implantation and creative interactions to enhance users' sense of pleasure and immediate interest, thereby promoting the generation of purchase intention. (2) For high-involvement products, they should deepen the role of emotional resonance and the central path.

Provide in-depth information such as evaluation comparisons and function demonstrations to enhance users' perceived usefulness and promote rational decision-making. (3) For algorithmic recommendation optimization, platforms should push personalized content according to users' processing paths (such as dwell time, interaction behavior). For example, push knowledge-based videos to central-route users and interesting content to peripheral-route users to improve recommendation accuracy and user experience.

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