

The Impact of Narrative Perspectives and Emotional Characteristics on User Participation in Short Video Advertisements: The Regulatory Role of Product Types

Shasha Wang

School of Economics and Management, Chongqing University of Posts and Telecommunications, Chongqing 510000, China

Abstract: Short video advertising is an important channel for businesses to promote and sell their products. Therefore, studying user engagement in short video advertising is of great significance in helping video authors and brand companies improve advertising effectiveness and reduce advertising costs. This article uses theoretical methods such as narrative transportation theory, SPSS statistical analysis, Python sentiment analysis, etc. to study the impact of narrative perspective and emotional characteristics on user engagement, as well as the moderating effect of product types.

Keywords: Short video advertisements; Consumer engagement behavior; Product-type; Narrative perspective; TikTok.

1. Introduction

Short videos can effectively attract user attention and are widely used for entertainment, providing opportunities for businesses to promote products on short video platforms. With the booming development of short video advertising, users are increasingly valuing the content characteristics of short video advertising. In online interaction, users receive narrative information from short video advertisements, which in turn affects their own participation behavior. Nan found that different narrative perspectives in short video advertisements can lead to stronger risk perception among viewers, thereby affecting their intention to receive the HPV vaccine[1]. There are also studies indicating that in promotional advertising, advertisements containing specific emotional features, such as love, humor, and happiness, can have a positive impact on consumer purchase intention[2]. Studying the impact of narrative perspectives and emotional characteristics on user engagement can not only help short video authors marketing more effectively, but also help brands choose video authors to collaborate with, which is of great significance.

Therefore, this paper takes the short video ads on the Tiktok short video platform as the research object, and uses Python and SPSS tools for empirical research. Using the duration of short video advertising and the number of author followers as control variables, three variables were extracted: product type, narrative perspective, and emotional characteristics. The number of likes, favorites, and reposts of short video advertising users were used as indicators to measure user engagement, and the influencing factors of user engagement were studied. This article mainly explores the following relationships: (1) the impact of narrative perspective and emotional characteristics on user engagement; (2) The product type plays a moderating role in the impact of narrative perspective on user engagement.

2. Theoretical Basis

2.1. Narrative Transportation Theory

The theory of narrative transportation holds that the mechanism of narrative transmission occurs by causing

people to "lose" or immerse themselves in the story scene. By reducing the negative perception of information by the narrative receiver, it brings people almost real experiential feelings and strong emotional reactions, arousing people's identification, and thus making people feel a strong sense of pleasure when entering the transmission state, and will produce attitudes consistent with the narrative. The Transport Imagery Model, a theoretical model proposed by Green for analyzing the transmission capacity of media information, suggests that the three aspects that affect narrative transmission are cognitive participation, emotional participation, and psychological imagery. This model assumes that the narrative receiver reads narrative information and focuses their cognitive attention to immerse themselves in it. In watching, the narrative receiver perceives the scene evoked by the narrative information and is also influenced by the strong emotions contained in the narrative, investing emotions into the characters in the narrative. The experiences and beliefs of the characters in these narratives have a strong impact on them. Therefore, when readers return to the real world spiritually, they often exhibit beliefs that are consistent with the story.

At the same time, scholars are increasingly using narrative transmission theory to explain related phenomena in real life, applying it to various aspects such as situational advertising, doctor-patient communication, and media design. Emily designed an experiment to explore the influence of entertainment programs on narrative storylines and characters, and intentionally placed educational content in entertainment to observe user behavior[3]. Van found through comparing narrative apology and denial that the combination of denial content and analysis format, as well as the combination of apology content and narrative format, is more effective than the combination of opposition response content and format[4]. Baranowski et al. applied the transfer imagery model to the field of interactive video games, exploring how game based narratives can be used to promote health-related behaviors[5]. All of these indicate that the transmission intention model has important guiding significance in studying the immersive participation of users in narrative works.

2.2. User engagement

In the field of advertising, user engagement is seen as a multidimensional concept that originates from people's thoughts and feelings about one or more rich experiences in achieving personal goals. Vivek et al. believe that user engagement refers to the degree of connection between individuals and organizations, covering services, products, brands, and activities[6]. Brodie et al. identified specific user interaction experiences as core elements of participation[7]. This article draws on Brodie's definition and defines user engagement as the interaction between consumers and advertising content on social media platforms.

User engagement has been studied in multiple advertising contexts, including YouTube ads, Facebook ads, and ad games. A study on YouTube advertising found that high arousal ads have longer viewing times and are more effective in consistent contexts[8]. Research on Facebook advertising shows that user attitudes and subjective norms can influence their level of engagement with advertising, and thus influence actual engagement behavior[9]. In the field of advertising games, Castiblanco et al. found that more interactive advertisements can increase user engagement, thereby increasing purchase intention[10]. These studies investigated user engagement in different advertising platform contexts. However, user engagement has not yet been studied in the field of short video advertising. This article takes short video advertising as the research object and studies the impact of user engagement in short video advertising based on short video platforms.

3. Research Model

This article argues that the use of first person narrative perspective in the narrative information of short video advertisements provides users with an immersive experience and more vivid psychological imagery, making them more identify with the characters in the narrative. Enable users to generate attitudes consistent with advertising information through narrative transmission, thereby influencing their own behavior and willingness, and enhancing their user engagement. Based on this, this article proposes the following assumptions:

H1: Compared to the third narrative perspective, adopting the first narrative perspective in short video advertising will significantly increase user engagement.

Based on the transmission image model and narrative transmission theory, narrative transmission is triggered by the user's emotional participation. The stronger the emotional response of people, the stronger the narrative transmission will be. Narrative information can evoke people's emotions, and the richer the emotions it expresses, the higher the degree of people's emotional participation [162]. This article believes that the richer the emotional features contained in short video advertisements, the stronger the user's emotional participation. This enables users to generate attitudes consistent with advertising communication information through narrative transmission, which in turn affects their own behavior and willingness, thereby enhancing their user engagement. Based on the above discussion, this article proposes the following assumptions:

H2: Compared to advertisements that only contain a single emotion, short video advertisements that contain both

negative and positive emotions will significantly increase user engagement.

This article adopts the product classification method recognized by most scholars, and divides products into search based products and experiential products based on the information characteristics of the products themselves[11]. Search oriented product consumers can collect sufficient information through various channels to accurately evaluate the main features and quality of the product. However, experiential products are difficult to confirm their performance and quality through collected information, and it is necessary to personally experience or use the product in order to make accurate evaluations. In short video advertisements, different narrative perspectives can also have a certain impact on the decision-making process of consumers when searching for and processing information about these two types of products. In short video advertisements, sellers mainly receive commissions from producers and initial sellers by sharing their product experiences. When short video advertisements use the first narrative perspective to recommend experiential products, users feel or use the product as if it were reflected in the narrative, meeting their needs for experiential products. This leads to significantly higher user engagement in experiential products compared to search based products in the first narrative perspective scenario. When short video advertisements use a third narrative perspective, users are further away from the narrative world, making it difficult to immerse themselves in the narrative. They are less affected by narrative attitudes, and whether it is search products or experiential products, there is no significant difference in the impact on user engagement. Based on the above discussion, this article proposes the following assumptions:

H3a: Product type plays a moderating role in the impact of narrative perspective on user engagement.

H3b: When using the first person narrative perspective, user engagement in short video advertisements for experiential products is significantly higher than that for search products.

H3c: When using a third person narrative perspective, there is no significant difference in user engagement between short video advertisements for the two products.

The research model is shown in Figure 1.

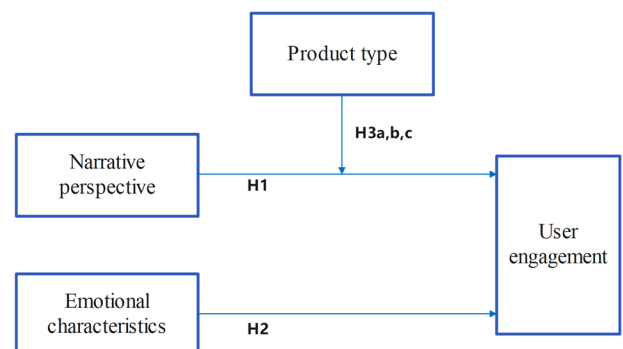


Figure 1. Research model

4. Data Analysis

Using hierarchical regression analysis method to verify the impact of narrative perspective and emotional characteristics on user engagement. Analyze the video duration and

followers as control variables in the first layer model (Model 1-1: $M = \beta_0 X_{control} + e$). In the second layer model, the narrative perspective of short video advertisements and the emotional characteristics of short video advertisements are included as independent variables in the regression model (Model 1-2, Model 1-3: $M = \beta_0 X_{control} + \beta X_i + e, i = narrative, emotion$), and user engagement are included as dependent variables in the regression model. The specific regression model and results are shown in Table 1. According to the test results, the F-values of each model are significant and have passed the significance test. At the same time, VIF<2 indicates that there is no serious multicollinearity problem between the variables, and the regression of the model is good.

Model 1-1 presents the influence of control variables on the usefulness of comments. The results from the table indicate

that video duration has a significant impact on the usefulness of comments; Comparing Model 1-1 and Model 1-2, it can be seen that the addition of variable narrative perspective significantly improves the explanatory power of the model ($\Delta R^2 = 0.014, P < 0.001$). The correlation regression coefficients of Model 1-2 indicate that narrative perspective can significantly positively affect user engagement ($\beta = 0.122, p < 0.05$), assuming H1 has been validated. Comparing Model 1-1 and Model 1-3, it can be seen that the addition of variable sentiment features significantly improves the explanatory power of the model ($\Delta R^2 = 0.012, P < 0.01$). The correlation coefficients of models 1-3 indicate that emotional features can significantly improve user engagement ($\beta = 0.113, p < 0.05$), assuming that H2 has been validated.

Table 1. Regression analysis results of narrative perspective and emotional characteristics on user engagement

variable	engagement		
	Model 1-1	Model 1-2	Model 1-3
duration	0.133**	0.116*	0.114*
followers	0.060	0.069	0.054
narrative emotion		0.122*	
R ²	0.026	0.040	0.113*
Adj. R ²	0.021	0.033	0.038
ΔR^2	0.026	0.014	0.031
F	5.279**	6.067***	0.012
			5.139**

Note: *** represents a significant level of 0.01 ** Represents a significant level of 0.05* Indicates the significance level of 0.1.

This article assumes the moderating effect of product features between narrative perspective and user engagement, namely H3, H3a, and H3b. We will use a combination of traditional analysis of variance and Bootstrap methods for testing. Since the narrative perspective (first person narrative perspective vs. third person narrative perspective) and product type (utility vs. hedonic) in this study are both categorical variables, ANOVA was used to test the moderating effect. If there is a significant interaction effect between coupon distribution method and product type, it can be proven that the moderating effect exists.

Using user engagement as the dependent variable and narrative perspective, product type, narrative perspective, and product type interaction as independent variables, an ANOVA test was conducted, as shown in Table 2. The results showed that the interaction between narrative perspective and product type was significant ($F=5.038, P<0.05$), indicating a significant joint effect of narrative perspective and product type on consumer expected regret. Product type played a moderating role in the impact of narrative perspective on user engagement, Therefore, it is assumed that H3a holds.

Table 2. The moderating effect of product types on narrative perspective and user engagement

variable	degree of freedom	mean square	F	Significance
Narrative perspective	1.000	7982820403.677	7.322	0.007
product type	1.000	782118200.324	0.717	0.397
Narrative perspective×product type	1.000	5492872208.582	5.038	0.025

If the moderating effect is significant, it indicates that the matching between different narrative perspectives and the product types recommended by short video advertisements will have different impacts on user engagement. Further simple effect analysis found that when the narrative perspective is the first person narrative perspective, the user's participation in short video advertisements for hedonic products is significantly higher than that in short video advertisements ($F=4.618, P=0.032<0.05$), so hypothesis H3b is valid. When the narrative perspective is a third person narrative perspective, there is no significant difference in user participation in short video advertisements for the two

products ($F=0.993, P=0.320>0.05$), so the hypothesis H3c is valid.

5. Inspiration Suggestions

The empirical results indicate that narrative perspective and user engagement can directly and positively affect user engagement, respectively, and product types regulate the impact of narrative perspective on user engagement. This indicates that using a first narrative perspective, especially when the product is a hedonic product, can increase user

engagement, and using short video advertisements with rich emotional features can increase user engagement.

In this article, the author uses narrative transmission theory to explore the impact of narrative perspective and emotional characteristics on user engagement in the field of short video advertising, but the impact path is not yet clear. In subsequent research, we can explore the impact pathways of narrative perspectives and emotional characteristics on user engagement, which will further enrich the research in this field; Secondly, this article only explores emotional characteristics from the perspective of emotional richness. There are many dimensions of emotional features, and in the future, we can explore the impact of emotional features on user engagement based on the undisputed emotional dimensions.

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