The Effect of Perceived Value and Emotional Valence on Product Placement: A Study of Pot-Based Short Video

Yuya Liu, Yingxi Wu

School of Business, Guangdong University of Foreign Studies, Guangzhou, 510006, China

ABSTRACT

Plot-based short videos account for the main proportion of short video data and occupy the top position in the overall placement of short videos of product placement. Based on the Persuasiveness Model and Planned Behavior Theory, this article studies the impact of informative perceived value and emotional valence on the effectiveness of plot-based short videos of product placement. The research results indicate that plot based short videos convey better positive emotions than advertisements with negative emotions, and highly informative plot-based short videos have better advertising effects than low informative ones.

KEYWORDS

Pot-based short video; Product placement; Perceived value, Brand attitude.

1. INTRODUCTION

Major advertisers have seen the business opportunities of short videos and are using them as important platforms for product placement in advertisements. Plot-based short videos are more popular among advertisers because advertising products are not easily restricted and can be more integrated with the plot, allowing consumers to have a greater sense of immersion. This article aims to explore how informative perceived value and emotional valence affect the effectiveness of product placement with plot-based short videos.

2. THEORETICAL FOUNDATION

2.1. Product Placement

Steortz (1987) believes that product placement is the disclosure of product names, brand trademarks, and other content on the media. Balasubramanian (1994) pointed out that this is a purposeful and transactional advertising activity, in which advertisers target consumer groups and subtly infiltrate product or brand-related information into all aspects of movies or programs. V Kozak (2016) believes that product placement is an advertising activity with a contractual nature, in which real-life goods or services are directly used in audiovisual works. From this, it can be seen that the product or brand advertisements implanted in plot-based short videos belong to product placement.

2.2. Informative Perceived Value

The theory of perceived value was proposed by Zaithaml (1988), who defined "perceived value" as "the overall evaluation of a product made by customers through the comparison between consumption and consumption." With the emergence of social networking sites and new media, this concept has

been further divided into new dimensions, such as functionality, value experience, and social interaction. The study by Kim & Han (2014) confirms that emotional variables (level of interference, level of entertainment), positive variables (level of motivation), and cognitive variables (level of credibility, level of information) can have an impact on audience evaluation of advertisements. Many scholars have begun to explore the impact of information on advertising effectiveness in the new media environment. Brackett & Carr (2001) believe that information is specifically reflected in the completeness of the product or service information displayed in new media advertising. Informative advertising requires clear and accurate communication of product-related information to users.

2.3. Emotional Valence

Machleit et al. (2000) found that emotions also play an important role in decision-making activities, and as consumer emotional activity becomes stronger, consumer behavior is more likely to occur. Mehta & Purvis (2006) also found that emotions have a significant impact on advertising memory and indicated that for advertising to have good results, it is necessary to stimulate people's inner emotions. Bolls et al. (2001) also pointed out that when participants listened to radio commercials containing positive emotions, their arousal level was higher than when listening to commercials containing negative emotions, and after watching these commercials, participants had better memory effects on commercials containing positive emotions than those containing negative emotions.

2.4. Persuasiveness Model

Carl Hovland of Yale University in the United States first proposed the persuasiveness model in 1953. He advocates that the change in human attitude is mainly related to the speaker's conditions, the persuasiveness of the information to be conveyed, and the speaker's skills. Among these factors, persuaders, persuasive messages, and persuasive scenarios are external factors that influence changes in people's attitudes. Hovland's Persuasiveness Model suggests that persuasion produces two outcomes: a change in attitude and a retention of the original attitude. Whether the persuaded person changes or not is also closely related to their emotions.

2.5. Theory of Planned Behavior

Planned Behavior Theory (TPB) is the most typical theory that explores individual behavior from a psychological perspective. It has been proven by numerous experiments to effectively explain and predict individual behavior and is widely used in academic research to study various behaviors. Research has shown that changes in individual behavior require the activation of their cognitive, emotional, and volitional psychological linkage mechanisms, which mainly rely on various information.

3. RESEARCH HYPOTHESES

3.1. Brand attitude and purchase Intention

Ajzen and Fishbein (1969) proposed the TRA model, which explicitly suggests that intention plays a mediating or transmitting role in attitudes and purchasing behavior. According to Mackenzie et al. (1986), advertising attitude can influence brand attitude, which in turn affects purchase intention. If applied to short video implantable advertising, when target users come into contact with advertising information, they will develop an initial perception and emotion, which will have a certain impact on consumer attitudes towards advertising and brand attitudes, and thus affect purchase intention. Based on this, we posit that:

H1 Brand attitude is positively related to purchase intention.

3.2. Informative Perceived Value and Advertising Effectiveness

Ko H et al. (2005) argue that when customers hold a positive view of a product or service, their perception of the product or service will have a positive effect. Kim & Han (2014) verified the important role of implantable advertising in terms of cognitive factors, including advertising information and feasibility, emotional factors, including advertising entertainment and interference, and economic factors. According to Carl Hovland's Persuasiveness Theory, when an argument for information can make the audience believe that the viewpoint of accepting the information will be strengthened, the information will successfully transform their perspective. From this dimension, it can be seen that the cognitive factor in perceived value - information - represents the prerequisite for changing the audience's attitude. According to the theory of planned behavior, it is known that people tend to think more deeply about important or highly relevant information, and more psychological processing will also prompt a rapid change in attitude and greater stability. Based on this, we posit that:

H2a Information Perceived Value of a plot-based short video of product placement is positively related to brand attitude.

H2b Information Perceived Value of a plot-based short video of product placement is positively related to purchase intention.

3.3. Emotional valence and advertising effectiveness

Regarding the impact of different emotional valences on brand attitudes, Forgas (1998) found in an experiment that positive emotions create a sense of security that allows us to release stress and reduce the stimulation of cognitive resources. Therefore, it is easier to convey the positive emotions felt in advertisements to product attitudes, and thus more likely to trigger shopping desires. On the contrary, participants with negative emotions may experience a sense of insecurity, which leads them to adopt more cautious systematic processing strategies. On the other hand, some scholars have found that negative emotions can also have a surprisingly positive impact on advertising effectiveness. For example, LaTour & Rotfeld (1997) found that horror-type advertising can make subjects very nervous, while purchase intention and advertising attitude have a positive impact. It can be seen that there is no consensus on which advertising effect is better between positive and negative emotions. Based on this, we posit that:

H3a Emotional valence of a plot-based short video of product placement is positively related to brand attitude.

H3b Emotional valence of a plot-based short video of product placement is positively related to purchase intention.
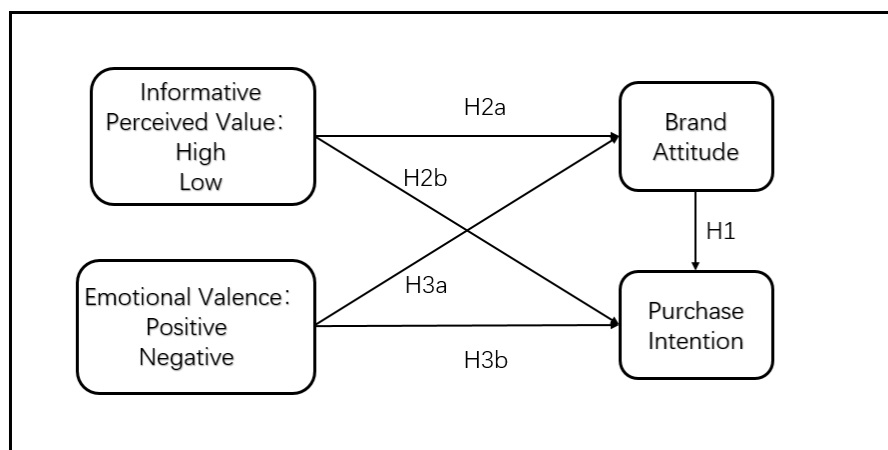
Figure 1. Research Model

4. EXPERIMENTAL DESIGN AND IMPLEMENTATION

4.1. Measurement of variables

The measurement of emotional valence can be done using the measurement table of valence dimension in the Self Evaluation Human Model (SAM), which is a visual self-report method that uses cartoon images as carriers to vividly present the process of emotional transition from positive to negative. Therefore, this study used SAM to measure emotional valence. All other variables were measured using academically recognized scales.

4.2. Selection of experimental resources

This experiment selected an influencer account called "Qiao Qiyue" under Shanghai Silver Earth Culture Media Company (MCN), which has 9.852 million fans, and its video is positioned as love. According to incomplete statistics, the advertiser who collaborates most with this account is the new personal care brand - KONO shampoo. This brand has repeatedly won first place in the list of TikTok daily chemical brands from 2021-2022, which meets the demand for the number of experimental materials. We selected four videos: high informative positive emotional valence ads, low informative positive emotional valence ads, high informative negative emotional valence ads, and low informative negative emotional valence ads. And these videos are edited into significant implantable advertisements with an average duration of about 60 seconds, without compromising content continuity and script logic. This measure not only controls the duration of the videos but also improves the response rate of the questionnaire.

4.3. Formal experimental process

The brand of KONO is positioned as luxury hair care, and the portraits of TikTok group are small-town youth and exquisite mothers, whose target age is mainly 18-40 years old, and the gender is mainly female. Therefore, the main research subjects of this experiment are women aged 18-40. This experiment adopts an online random sampling method, specifically finding 131 subjects through platforms such as QQ and WeChat, and each person filling out a questionnaire with 4 types of experimental materials.

5. DATA ANALYSIS AND HYPOTHESIS TESTING

5.1. Sample descriptive statistics

This experiment recruited 131 participants, watched 4 sets of videos, and filled out corresponding questionnaires. A total of 524 samples were obtained, of which 484 were valid questionnaires, with an effective rate of 92%. The male to female ratio is 36% and 63.3% respectively, with 70.2% aged 18-23 and 29.8% aged 23-40. The gender and age in the sample have no significant impact on the implantation effect, while the frequency of watching plot-base short videos has a significant impact on brand attitude and purchase intention differences ($p=0.000<0.05$).

5.2. Reliability and validity testing of the scale

Brand attitude's Cronbach's α is 0.843 and the information perceived value's Cronbach's α is 0.832, indicating that the reliability and quality of the research data are high. The KMO values for information, brand attitude, and purchase intention are 0.702, 0.724, and 0.715, respectively, which are higher than the acceptable value of 0.7. The significance level of each variable is 0.000, which is less than the 0.05 test standard, indicating that the sample data is suitable for factor analysis. For factor loadings, all measurement items related to information, brand attitude, and purchase intention

are above 0.7, indicating the high importance of each measurement item in the variable. As for the cumulative variance contribution rate, the cumulative variance contribution rates of information, brand attitude, and purchase intention are 70.554%, 82.655%, and 76.027%, respectively, all meeting the minimum 50% standard, indicating that the measurement scale in this study has good validity.

5.3. Hypothesis testing

5.3.1. Regression analysis of brand attitude and purchase intention

A linear regression analysis showed a significant linear relationship between brand attitude and purchase intention. The formula is: purchase intention=1.015+0.778 * brand attitude, and the R-squared value of the model is 0.582, which means that brand attitude can explain 58.2% of the changes in purchase intention. The above data indicates that the independent variables of information perception value and emotional valence have a consistent impact on the dependent variables of brand attitude and purchase intention.

5.3.2. Regression analysis of independent variables on brand attitude

Table 1. Regression Analysis on Brand Attitude

	Unstandardized Coefficients		Standardized Coefficients	t	p	VIF
	B	Std. Error	Beta			
Constant	2.510	0.172	–	14.623	0.000**	–
Emotional Valence	0.461	0.026	0.442	7.891	0.000**	1.001
Informative Perceived Value	0.763	0.034	0.745	8.432	0.000**	1.002
Watch Frequency	0.219	0.047	0.186	4.678	0.000**	1.003
R^2			0.568			
$Adj\ R^2$			0.537			
F			$F\ (3,480)=50.828,\ p=0.000$			
D-W 值			2.042			

Dependent Variable: Brand Attitude

* $p<0.05$ ** $p<0.01$

From Table 1, it can be seen that the model formula is: brand attitude=2.510+0.461 * emotional valence+0.763 * perceived value of information+0.219 * frequency of watching videos. The R-squared value of the model is 0.537, which means that the model can explain 53.7% of the changes in brand attitude. And through F-test (F=50.828, p=0.000<0.05), it indicates that at least one of these variables will have an impact on brand attitude. In addition, the D-W value is around the number 2, indicating that the model does not have autocorrelation in terms of correlation degree; If VIF<5, it indicates that the model also does not have collinearity issues. Therefore, we can conclude that the three independent variables of information perception value, emotional valence, and video viewing frequency are positively correlated with brand attitude.

5.3.3. Regression analysis of independent variables on purchase intention

Table 2. Regression Analysis on Purchase Intention

	Unstandardized Coefficients		Standardized Coefficients	t	p	VIF
	B	Std. Error	Beta			
Constant	2.914	0.182	–	15.997	0.000**	–
Emotional Valence	0.531	0.027	0.543	7.360	0.000**	1.001
Informative Perceived Value	0.721	0.036	0.735	5.970	0.000**	1.002
Watch Frequency	0.195	0.050	0.162	3.917	0.000**	1.003
R^2			0.654			
Adj R^2			0.612			
F			$F_{(3, 480)}=34.417, p=0.000$			
D-W 值			2.173			

Dependent Variable: Purchase Intention

* $p<0.05$ ** $p<0.01$

From Table 2, it can be seen that the model formula is: purchase intention=2.914+0.531 * emotional valence+0.721 * perceived value of information+0.195 * frequency of watching videos. The R-squared value of the model is 0.654, which means that this model can explain 65.4% of the changes in purchase intention. And through F-test (F=34.417, p=0.000<0.05), it is shown that at least one of emotional valence, information perception value, and video viewing frequency will have an impact on purchase intention. In addition, the D-W value is near the number 2, indicating that the model does not have autocorrelation in terms of correlation degree; If VIF<5, it indicates that the model also does not have collinearity issues. Therefore, we can conclude that the three independent variables of information perception value, emotional valence, and video viewing frequency are positively correlated with purchase intention.

5.3.4. Significance testing of information perception value and advertising effectiveness

Table 3. Independent T-Test example on Informative Perceived Value and Brand Attitude

Informative Perceived Value	N	Mean	Std. Deviation	Mean Difference	t	p
High Informative Attitude	242	3.65	0.95			
				0.18	2.535	0.012*
Low Informative Attitude	242	3.47	1.02			

* $p<0.05$ ** $p<0.01$

According to Table 3, there is a significance level of 0.05 (t=2.535, p=0.012) between high information brand attitudes and low information brand attitudes, indicating significant differences in brand attitudes under different levels of information. And by comparing the mean values of the two, it can be seen that the average attitude of a highly informative brand is 3.65, which is significantly

higher than the average attitude of a low informative brand of 3.47. Therefore, under a high level of information, the audience's brand attitude will be higher.

Table 4. Independent T-Test example on Informative Perceived Value and Purchase Intention

Informative Perceived Value	N	Mean	Std. Deviation	Mean Difference	t	p
High Informative Attitude	242	3.86	0.95			
				0.17	2.199	0.029*
Low Informative Attitude	242	3.69	1.02			

* p<0.05 ** p<0.01

According to Table 4, there is a significant difference at the 0.05 level (t=2.199, p=0.029) between high information purchase intention and low information purchase intention, indicating significant differences in purchase intention under different levels of information. By comparing the means of the two, it can be seen that the average value of high information purchase intention is 3.86, which is significantly higher than the average value of low information purchase intention of 3.69. Therefore, under a high information level, the audience's purchase intention will be higher.

5.3.5. Significance test of emotional valence and advertising effectiveness

Table 5. Independent T-Test example on Emotional Valence and Brand Attitude

Informative Perceived Value	N	Mean	Std. Deviation	Mean Difference	t	p
Positive Emotion Attitude	242	3.71	0.90			
				0.30	4.184	0.000**
Negative Emotion Attitude	242	3.41	1.05			

* p<0.05 ** p<0.01

According to the results in Table 15, there is a significant difference at the 0.01 level (t=4.184, p=0.000) between positive and negative brand attitudes, indicating significant differences in brand attitudes under different emotional valences. And by comparing the mean values of the two, it can be seen that the average positive valence brand attitude is 3.71, which is significantly higher than the average negative valence brand attitude of 3.41. Therefore, at the positive valence level, the audience's brand attitude will be higher.

Table 6. Independent T-Test example on Emotional Valence and Purchase Intention

Informative Perceived Value	N	Mean	Std. Deviation	Mean Difference	t	p
Positive Emotion Attitude	242	3.96	0.83			
				0.37	4.926	0.000**
Negative Emotion Attitude	242	3.59	1.09			

* p<0.05 ** p<0.01

According to Table 6, there is a significance level of 0.01 (t=4.926, p=0.000) between positive and negative purchase intentions, indicating significant differences in purchase intentions under different emotional valences. By comparing the difference in mean values, it can be seen that the average value of positive valence purchase intention (3.96) will be significantly higher than the average value of negative valence purchase intention (3.59). Therefore, at a positive valence level, the audience's purchase intention will be higher. All hypotheses are supported.

6. DISCUSSION

The results of this study show that there is a positive correlation between the perceived value of information and brand attitude. The reason is that short video advertisements with more credible product information will make consumers trust the product more, thereby improving brand attitude and purchase intention. The brand attitude with positive emotional valence is higher than that with negative emotional valence. Compared to positive emotions, negative emotions make them pay more attention to the discussion of the script content rather than advertising, especially referring to the memories of the product, which can easily lead to a weaker impression of the product. If one expects to maintain a leading position in advertising placement, then in the selection of short video plot content, advertisers need to lean towards explosive plot points, and the appearance of the product needs to drive the protagonist or plot to develop in a more positive direction so that the audience can have a positive emotional resonance after watching the video.

7. LIMITATIONS AND PROSPECTS

There are the following limitations in this study. Firstly, the sample size is too small and the quantity is insufficient. Secondly, the interference factors of the experiment cannot be fully controlled, which can easily lead to certain errors compared to the actual situation, and the quality of the questionnaire stars filled out by the subjects cannot be guaranteed. Then, this experiment selects the advertising video under one of the TikTok bloggers for analysis, and its research results are difficult to represent the situation of all plot short videos, which has certain limitations. Subsequent research can conduct an in-depth analysis of relevant issues through in-depth interviews with relevant experts and a comparative analysis of different TikTok accounts.

REFERENCES

[1] Ajzen I, Fishbein M. The prediction of behavioral intentions in a choice situation[J]. Journal of experimental social psychology, 1969, 5(4): 400-416.

[2] Balasubramanian S K. Beyond advertising and publicity: Hybrid messages and public policy issues[J].Journal of advertising,1994, 23(4): 29-46.

[3] Bolls P D, Lang A, Potter R F. The effects of message valence and listener arousal on attention, memory, and facial muscular responses to radio advertisements[J]. Communication Research, 2001.28(5): 627-651

[4] Brackett L K, Carr B N. Cyberspace advertising vs. other media: Consumer vs. mature student attitudes[J]. Journal of advertising research, 2001, 41(5): 23-32.

[5] Forgas J P. On feeling good and getting your way: Mood effects on negotiator cognition and bargaining strategies[J]. Journal of personality and social psychology, 1998, 74(3): 565.

[6] HOVLAND C I, JANIS I L, KELLEY H H. Communication and persuasion: psychological studies of opinion change[M]. New Haven CT: Yale UniversityPress,1953: 355-357.

[7] Kim Y J. and Han J Y. Why smartphone advertising attracts customers: A model of Web advertising, flow, and personalization[J]. Computers in Human Behavior, 2014.33: 256-269.

[8] Ko H, Cho C H, Roberts M S. Internet uses and gratifications: A structural equation model of interactive advertising [J]. Journal of Advertising, 2005, 34(2): 57-70.

[9] LaTour M S, Rotfeld H J. There are threats and (maybe) fear-caused arousal: Theory and confusions of appeals to fear and fear arousal itself[J]. Journal of advertising, 1997, 26(3): 45-59.

[10] Machleit K A, Eroglu S A, Mantel S P. Perceived retail crowding and shopping satisfaction: what modifies this relationship? [J]. Journal of consumer psychology, 2000.9(1): 29-42.

[11] MacKenzie S B, Lutz R J, Belch G E. The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations[J]. Journal of marketing research, 1986, 23(2): 130-143.

[12] Mehta A, Purvis S C. Reconsidering recall and emotion in advertising[J]. Journal of Advertising research,2006. 46(1): 49-56.

[13] Steortz E M. The cost efficiency and communication effects associated with brand name exposure within motion pictures [M]. West Virginia University, 1987.

[14] V Kozak, K Barinka. The measurement of product placement. [J]. Economic Annals-XXI, 2016.161(9-10),66-70.

[15] Zeithaml V A. Consumer Perceptions of Price, Quality, and Value A Means-End Model and Synthesis of Evidence. [J]. Journal of Marketing, 1988(52):2-22.