

Exposure and Consequences of Soft Advertising: Consumer Recognition and Insights into Advertising Strategies

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Abstract: The research question of this paper explores the consequences of soft advertising as recognized by consumers through surveys and text analysis. This includes the limits of consumer tolerance towards soft advertising, as well as their attitudes towards the companies initiating soft advertising and the advertisers themselves. The paper mentions that while advertising agencies know that deploying soft advertising may infringe upon consumers' interests, resulting in negative feedback, the limits of consumer tolerance and their direct attitudes toward advertising companies and advertisers still need to be clarified. Therefore, the goal of this study is to fill this information gap to reduce marketing decision errors. The research design includes two research methods: surveys and text analysis. Surveys collect consumer opinions and attitudes, while text analysis delves deeper into text data, such as comments and feedback on social media. Combining these two methods allows a more comprehensive understanding of the relationship between soft advertising and consumers. Overall, the research findings emphasize the importance of soft advertising in consumer interaction and attitudes, particularly in the digital media environment. The study indicates that maintaining an appropriate balance in advertising and adopting innovative approaches is crucial for the advertising industry to avoid angering potential customers. This provides valuable guidance for advertising decision-makers to meet consumer expectations better and provide valuable advertising content.

Keywords: soft advertising, critical value, consumer attitude, extraction of sentiment tendency patterns

1. Introduction

With the evolution of intelligent media, advertising has become integrated into various aspects of people's lives. According to Nielsen's 2023 annual marketing report, which surveyed 1,524 global marketing professionals, regardless of economic downturns, marketers hope for an increase in advertising budgets, with 64% expecting their budgets to grow, and 84% of global marketers, including streaming media in their media planning [1]. Advertising plays a crucial role in promoting products in modern businesses, and streaming media as a mode of communication is gradually taking center stage in advertising and marketing [2].

When considering the importance of advertising, one must recognize the critical role soft advertising plays in the digital age of social media [3]. Soft advertising is a form of advertising that is usually presented in an entertaining, storytelling, or engaging manner, aiming to embed

promotional content for brands, products, or services rather than directly conveying obvious advertising messages [4]. Soft advertising often blends into media content to capture the audience's attention without appearing overly commercial [5]. The objective of this advertising form is to build brand awareness, potentially increasing the sales of products or services.[6]

In this context, most postings also use a soft-sell approach, which, according to the literature, is more effective in marketing through social media [7]. However, this advertising style, while having a net positive value, often comes at the expense of irritating prospective customers [8]. To address these challenges, researchers have explored various strategies for balancing effective marketing and customer satisfaction. Research in this field has emphasized the importance of understanding consumer behavior and preferences [9]. This knowledge can help advertisers tailor their content to resonate with their target audience [10].

However, current research suggests that even though advertising agencies are aware that deploying soft advertising to a certain extent may infringe upon consumers' interests, resulting in negative feedback on consumer behavior, the limits of consumer tolerance and their direct attitudes still need to be made clear. The absence of this information can lead to marketing decision errors for advertising agencies and advertisers. To reduce the market failure caused by this information gap, this paper aims to determine the percentage of soft advertising in the total content at which consumers can no longer tolerate such advertising and what direct attitudes consumers have.

With the rapid development of intelligent media, soft advertising has become an integral part of people's lives. This paper explores the research questions through two research methods: surveys and text analysis.

The main research questions of this paper are as follows:

1. What do consumers once recognize as the threshold of consumer tolerance for soft advertising?
2. How do consumers evaluate the attitudes of advertising companies and advertisers once they recognize soft advertising?

Through this study, the following conclusions were drawn:

1. When soft advertising accounts for 40% to 55% of the total content, it leads to a 43% increase in negative emotions and negative feedback on consumer purchasing behavior. This suggests that beyond a certain threshold of advertising content, consumer tolerance decreases, potentially affecting their willingness to purchase and their overall attitude.

2. In text analysis, when soft advertising content in a video reaches 100%, there was no significant appearance of negative word frequency in the first-level comments without data cleaning. This could be attributed to top video creators having higher fan loyalty, or it could be that some soft advertising creators remove negative comments about themselves and their products. To verify this, long-term sentiment monitoring of comments and bullet comments could be conducted. After data cleaning, the first-level comments displayed 97 negative reviews, accounting for 64.6% of the total word frequency.

2. Research Methods

2.1. Survey Design Logic

1. Research Objective: Determine the threshold of consumer tolerance for soft advertising in the total content.

2. Define the Target Audience: Distinguish consumers who recognize soft advertising.

3. Formulate Questions: 1. Can subjects identify the presence of soft advertising within 15 seconds of exposure? 2. Do consumers have a negative perception of soft advertising as a marketing strategy? 3. If they have a negative perception, what is the tolerance threshold for the proportion of soft advertising in the total article/video/image content?

4. Establish Logical Sequence: 1) Introduce the survey's purpose and background to the subjects.
- 2) Collect the age and gender of the subjects. 3) Present the formulated questions.

2.2. Analyzing Video Engagement

Data Collection: Gathered text data, including video comments and bullet comments. These data were used for subsequent text analysis. The time of soft advertising in the video was recorded, and its proportion of the total video length was calculated.

Data Cleaning: Conducted data cleaning to prepare text data for analysis, including removing junk characters, punctuation marks, and stop words (common vocabulary in text analysis with low importance).

Sentiment Analysis: Utilized sentiment analysis to analyze the emotional tendencies in the text. In sentiment analysis, text data was first transformed into numerical features using the TF-IDF vectorization method. This allowed the collected text data to be converted into a format understandable by machine learning models.

Model Training: Employed the Naive Bayes classifier as the sentiment analysis model. Using the training dataset, the model learned the relationship between text features and sentiment labels.

Model Evaluation: Utilized the test data to evaluate the model's performance, measuring accuracy to assess how the model performed in the sentiment analysis task.

3. Results and Analysis

3.1. Survey

In the survey, a total of 100 valid data points were collected. The primary condition for data validity was that consumers received the influence of soft advertising and exhibited negative feedback in their consumption behavior. 66% of consumers reported they could easily detect the presence of soft advertising in their daily lives, defined as the ability to recognize soft advertising within 15 seconds of exposure to various media content. Consumers meeting these criteria are referred to as Audience A. Approximately 86.3% of Audience A members were under the age of 45. Despite varying gender ratios among the subjects, their ability to discern soft advertising was nearly equal. Assuming that all Audience A members can recognize soft advertising, these consumers are referred to as Audience B. The tolerance threshold for Audience B regarding the proportion of soft advertising starts to rise significantly beyond 10%, reaching its peak in negative emotions and dissatisfaction with soft advertising content at 45% to 55%. A new upward trend is observed when soft advertising exceeds 70%.

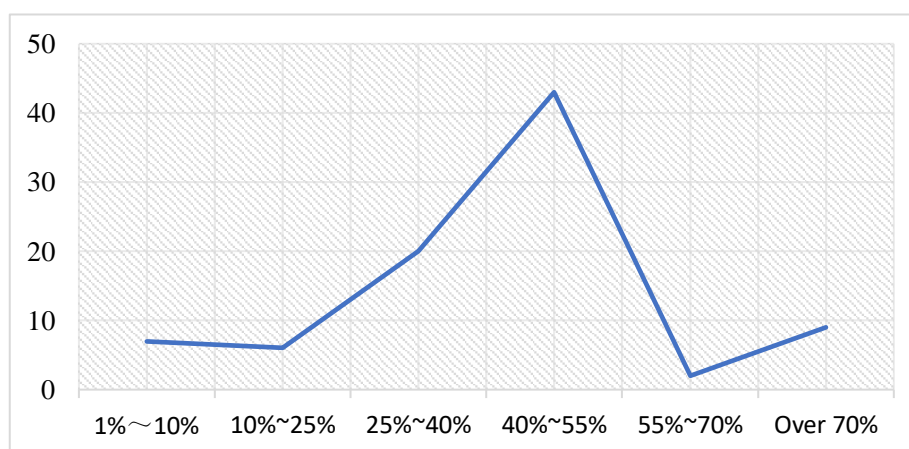


Figure 1: The critical value of negative emotions caused by the proportion of soft advertisements.

3.2. Text Analysis

In the examination of videos with varying levels of soft advertising content, this paper defines content as the ratio of time soft advertising appears to the total video duration.

The paper conducts a frequency analysis of comments and bullet comments by scraping videos. The videos are selected from top video creators in their respective fields, defined in this paper as creators who rank among the top 100 in terms of fan count.

When soft advertising content reaches 100%, sentiment analysis is performed on all top-level comments. The top 100 most frequent terms do not contain negative evaluations of the video creators, advertising companies, or the products themselves.

Sentiment Analysis: After data cleaning, the paper initially converts the segmented text data into numerical features using the TF-IDF vectorization method to improve model efficiency. The maximum feature count is set at 1000 to limit feature dimensions. The training data accounts for 80% of the total data, while the testing data accounts for 20%. The paper employs a Naive Bayes classifier as the sentiment analysis model, as it is particularly suitable for text classification tasks. Subsequently, the model is trained using the training data to teach it the connection between text features and sentiment labels. Evaluation of the model's performance is conducted using the test data, with accuracy as the metric to assess the model's performance.

Through experimentation, it was determined that the model had an accuracy of 0.3, indicating that the sentiment analysis model performed poorly on the data, requiring manual analysis.

Then, a preliminary cleaning of the comments is carried out, extracting only the top 100 top-level comments based on their popularity (higher likes result in higher popularity). Negative evaluations of the video creator and the advertised product appear. Following the data cleaning process, the paper initially uses the TF-IDF vectorization method to convert the segmented text data into numerical features to enhance model efficiency. The maximum feature count is set at 1000 to restrict feature dimensions. Of the data, 80% belongs to the training set, and 20% to the testing set. The paper employs a Naive Bayes classifier as the sentiment analysis model, as this classifier is particularly suitable for text classification tasks. Subsequently, the model is trained using the training set to teach it the relationship between text features and sentiment labels. Evaluation of the model's performance is conducted using the test data, with accuracy as the metric to assess the model's performance.

Through experimentation, it was established that the model's accuracy is 0.3, indicating that the sentiment analysis model performed poorly on the data and required manual analysis. The most frequently appearing term is "funded" (TABLE 1), which generally refers to a series of actions taken for a livelihood, such as embedding commercial promotional content in video creation [6]. Consumer's primary negative attitude towards video creators is their low standards for screening advertisements. Consumer dissatisfaction with advertising companies and products stems from the fact that the product's quality is needed to meet consumer expectations despite strong recommendations from the creators.

Table 1: Negative Language Frequency Chart

Text	Frequency/ time
Be funded	66
Reject	11
Sitcom	7

Table 1: (continued).

Advertising	4
Tip-off	3
Worthy	3
Morality	3

4. Discussion

Future research can delve deeper into consumers' recognition and tolerance of soft advertisements. Further investigation into the consumer's process of recognizing soft ads and the level of tolerance in various contexts after recognition may include differences among consumers of different ages, cultural backgrounds, and social media usage habits.

In comparison to the literature review, when consumers recognize soft ads, there exists a critical threshold for their tolerance of soft ads. Challenges arise in terms of

1) quantifying the tolerance threshold, making it difficult to obtain the tolerance level for different market demands.

2) The dataset is extensive, and defining the threshold is demanding; currently, it is not possible to identify the threshold using machine learning methods.

The performance metrics of sentiment analysis are too singular, focusing only on accuracy while ignoring precision, recall, F1 score, confusion matrix, ROC curve, and AUC. Multi-class evaluation metrics should be added in model selection, such as RNN and CNN.

5. Conclusion

The purpose of this research is to provide a better understanding of the relationship between advertising and consumers to help the advertising industry better meet market demands.

The primary research objective of this paper is to explore the critical threshold of consumer tolerance for soft ads and their direct attitudes, providing more insights into the relationship between advertising and consumers to assist the advertising industry in meeting market demands better.

Based on the experiments in this paper, the following findings are made:

- This paper's results indicate that when soft ads comprise 40% to 55% of the total content (Figure 1), it leads to a 43% increase in consumers having negative emotions towards soft ads and negative feedback purchasing behavior.

- In text analysis, videos with 100% soft ad content do not generate significant negative word frequencies in their top-level comments without cleaning, which may be due to top video creators having higher fan loyalty. It cannot be ruled out that some soft ad creators might delete negative comments about them and their products. This can be verified by long-term sentiment monitoring in the comment section and bullet comments.

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