

AI Versus Authenticity: Consumer Sentiments Toward AI-Generated Advertisements on Social Media and Strategic Implications for Brands

Marcus Chin^{1†}, Xunyi Wang^{2†}, Yi Zhong^{3*†}

¹*SJI International, Singapore, Singapore*

²*School of Literature and Arts, South West University of Technology, Mianyang, China*

³*Nanjing Forestry University, Nanjing, China*

**Corresponding Author. Email: 2210720127@njfu.edu.cn*

†These authors contributed equally to this work and should be considered co-first author.

Abstract. The integration of Artificial Intelligence in advertising has revolutionized the industry by enabling personalized content creation and enhanced efficiency. However, its impact on consumer perception and brand appeal remains a contentious issue. This study employs a mixed-methods approach to investigate whether AI-generated advertisements enhance brand appeal or risk alienating audiences. Through sentiment analysis of YouTube comments using MDCOR and SENA techniques on campaigns from Coca-Cola, Heinz, and KitKat, we uncover a complex landscape of consumer response. While quantitative analysis reveals an overall positive sentiment skew, a significant and vocal minority expresses strong negative emotions. These criticisms are rooted in perceptions of AI ads as "soulless," lacking authenticity, and raising ethical concerns about job displacement for human creatives and intellectual property misappropriation. The findings align with the "Theory of Planned Behavior", where "attitudes" and "subjective norms" significantly influence behavioral intentions. The analysis also reflects the key dimensions of consumer sentiment—entertainment, informativeness, irritation, and relevance—where AI ads often fall short on authenticity, leading to irritation among certain demographics. The study concludes that while AI offers unparalleled efficiency and can yield high engagement metrics, its application without careful consideration of consumer ethics and emotional intelligence poses a significant risk to brand reputation.

Keywords: AI-generated advertising, Consumer sentiments, YouTube advertising, Digital consumer behaviour

1. Introduction

AI is becoming increasingly common in all areas of life. Some people believe that it is a wonderful tool that will advance the development of humankind. However, others have strong feelings against it, believing that it will take over the world and take all of our jobs. One particularly groundbreaking and recent development was when AI models became capable of creating images and videos in

minutes. There are countless potential applications of this technology, but in this paper, we will be focused on the application of AI in the marketing industry, more specifically, in social media advertising. By analysing the sentiments of YouTube commenters and applying mixed-methods research, this paper will explore whether AI advertisements enhance brand appeal or risk alienating audiences. The findings will assess implications and provide recommendations for companies considering marketing strategies which use AI-generated visual content.

2. Literature review

With the rapid development of artificial intelligence (AI) technology, its application in the advertising industry is becoming increasingly widespread. From precise targeting and content generation to effectiveness evaluation, AI is reshaping advertising creation, delivery, and feedback mechanisms. This study, integrating multiple academic papers and empirical analysis, aims to systematically review the current status of AI applications in advertising, consumer emotional responses, effectiveness evaluation methods, and the ethical issues raised, providing a theoretical basis for understanding the comprehensive impact of AI advertising.

AI advertising generally refers to advertising that utilizes technologies such as machine learning, deep learning, and natural language processing to intelligently analyze user data, generate personalized content, and precisely deliver ads. Li Huimin further pointed out that AI advertising not only improves delivery efficiency but also profoundly influences the construction and dissemination of consumer culture [1]. Wang Jianguo, from the perspective of the customer journey, categorizes the negative effects of AI advertising into four stages: privacy leakage, communication failure, precise manipulation, and anthropomorphic fear [2]. This suggests that while we appreciate its effectiveness, we must also be mindful of its potential risks. The theory of planned behavior provides an important framework for understanding how advertising influences consumer behavior. This theory posits that attitude (consumers' emotional reactions to advertising), subjective norms, and perceived behavioral control jointly influence behavioral intention [3]. In the context of advertising, positive emotions and positive social cognition can enhance purchase intention. Multiple studies have shown that consumers' emotional reactions to advertising can be summarized into four key dimensions (Madupu et al.; Qian Zhiying): Entertainment: whether the ad is interesting and engaging; Informativeness: whether the ad provides useful information; Disruptiveness: whether the ad is offensive or intrusive; and Relevance: whether the ad content is relevant to the consumer's life [4]. Furthermore, different demographic groups exhibit varying preferences for advertising. Younger viewers prefer highly entertaining content, while older viewers prioritize informational and practical content.

Research shows that AI-generated ads often outperform traditional ads in terms of click-through rate (CTR), conversion rate (CVR), and user engagement. Qian Zhiying, through case studies, demonstrates that AI-driven personalized recommendation ads can increase CTR by 30% and CVR by 25% [5]. Querch and Zhu further found that personalized AI video ads can achieve a CTR of 28%, significantly higher than the 15% for traditional ads. However, consumer acceptance of AI ads is not uniformly positive. Li Huimin noted that AI ads lack "aura," easily being perceived as "robotized" and lacking emotional resonance. Wang Jianguo, from an ethical perspective, proposed that AI ads may raise privacy concerns, manipulate perceptions, and species anxiety. The widespread use of AI ads also raises significant ethical issues, including privacy infringement: through cross-platform data integration and user profiling, AI ads may excessively collect and use personal information (Wang Jianguo); creativity deprivation: AI-generated content has been criticized as "soulless" and depriving human creators of their jobs (Li Huimin); and misleading and

manipulative: algorithms may exploit consumer vulnerabilities to precisely manipulate consumers and induce irrational consumption [6]. These ethical issues directly impact consumer trust and favorability towards brands. For example, Coca-Cola's AI ads sparked a flood of negative comments on YouTube, with users criticizing them as "inhumane" and "deceptive," and some even switching their support to competing brands (see draft of this study). The application of AI technology in advertising has significantly improved delivery efficiency and personalization, but it has also sparked polarized consumer reactions and widespread ethical controversy. Future research should focus on: whether consumers from different cultural backgrounds differ in their acceptance of AI advertising; the long-term impact of AI advertising on brand loyalty and consumer relationships; and how to mitigate the negative effects of AI advertising through policies, technology, and industry self-regulation.

3. Research objectives

The objective of this study is to analyse the sentiments of commenters under various YouTube videos that contain AI-generated content. They are: The Holiday Magic is Coming, (Coca-Cola) Coca Cola Christmas 2020, (Coca-Cola Great Britain and Ireland) Heinz A.I. Ketchup, (Heinz) Have AI Break Have a KitKat. (KIT KAT Canada)

Here is a breakdown of the videos:

The Holiday Magic is Coming. It is an advertisement which uses Real Magic AI to generate its visual content. The plot of the video is largely unimportant, but it depicts polar bears in space at one point. This video drew a lot of online controversy and roughly 7 thousand comments at the time of writing, the comments under which make up the bulk of our data.

Coca-Cola Christmas 2020 is an advertisement that focuses on a family and their Christmas celebrations.

Heinz A.I ketchup makes use of AI-generated content by telling ChatGPT to generate photos of ketchup. The resulting images looked like Heinz bottles, which the advertisement used to make the point that the Heinz brand is so inextricably linked to ketchup that even AI knows that ketchup means Heinz.

Lastly, the Kit Kat ad highlights how if you ask AI to take a break it performs better, linking to the company's slogan of "have a break, have a Kit Kat". It showcases some AI-generated text responses.

4. Methodology

First, we compiled the comments of the YouTube videos using an R program.

This study used MDCOR (Machine Driven Classification of Open-ended Responses) (González Canché) and SENA (Sentiments and Emotions Network Analysis), (González Canché and Zheng) to process the data and create diagrams.

5. Theoretical framework: theory of planned behaviour

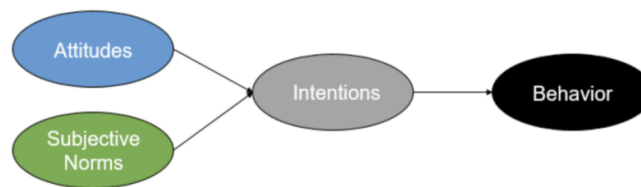


Figure 1. Theoretical framework

The theory of planned behaviour is important in this context as it lays a foundation for what exactly makes a good advertisement, as it helps explain how ideas manifest into actions. As seen by the diagram above, we start with attitudes and subjective norms. In this context, attitudes refer to the sentiments of the viewer, and a subjective norm refers to the perceived societal pressure from others regarding an action. (Sanne and Wiese) The theory posits that these two elements are a large indicator of behaviour [7]. Using this theory, which is rather intuitive, it can be concluded that consumers usually will have positive sentiments towards advertisements before they buy the product. This part of the literature review will be concerned with what sentiments a consumer typically has towards an advertisement and what factors will affect this [8]. This is relevant to the study as we have to have a baseline understanding of what the sentiments under a typical ad should look like. Essentially, this creates a psychological framework for the rather intuitive idea that good sentiments and perceived societal pressure to buy a product will make a consumer more likely to buy that good.

5.1. Typical consumer sentiment towards advertisements

A study has shown that there are 4 major dimensions of consumer sentiment: entertainment, informativeness, irritation and relevance [9]. These are 4 critical factors which determine the sentiment consumers have towards an advertisement. Entertainment refers to how much enjoyment or emotional engagement a reader derives from watching/viewing the advertisement. Informativeness is rather intuitive, meaning how much useful detail the advertisement provides to the consumer. The dimension of irritation reflects the negative aspect of sentiment, and relevance is simply how well the advertisement aligns with the life of the consumer. It is once again important to evaluate the sentiments towards the AI-generated advertisements.

According to Advertising Weekly (“What Do Consumers Actually Think of Ads? – Advertising Week”), the contemporary consumer emphasises authenticity (which might be highly relevant to our exploration of AI advertisements) and relevance [10]. However, there are also demographic differences in what makes an advertisement effective. For example, older generations prefer informative advertisements, which provide relevant details, while younger generations unsurprisingly prefer entertaining content. These dimensions of consumer sentiment and the renewed focus on authenticity will be important to evaluate the effectiveness of an advertisement and create a suggestion.

5.2. The role of artificial intelligence in advertising

Artificial Intelligence has had a transformative impact on the advertising space, with many companies integrating it into every level of their process. Researchers have found that there are 4 main ways in which advertisers use Artificial Intelligence in their process. These are: targeting, personalisation, content creation and ad optimisation using machine learning algorithms [11].

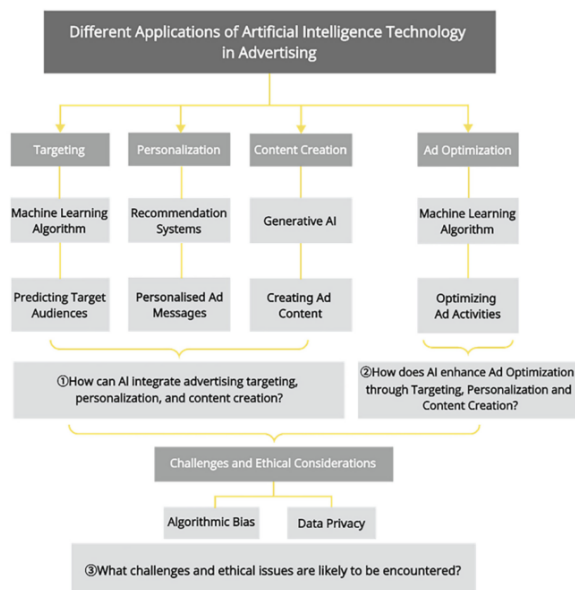


Figure 2. Different applications of artificial intelligence technology in advertising

In the same study, it emphasises how "AI can craft more innovative and captivating content by deeply understanding consumer data and preferences". This implies that because AI models have access to greater amounts of data, it is better at targeting certain audiences and creating content that is relevant to them. These applications are likely more useful in short-form video content such as TikTok or Instagram. However, the advertisements this paper explores are more meant for the mainstream and for a general audience.

5.3. Effectiveness of AI-generated advertising content

Some emerging research suggests that AI-generated advertisements may be superior in some regards to human-generated advertisements. Studies indicate that AI-generated ads outperform human-generated advertising content in terms of consumer engagement and consumer buying behavior [12]. This finding challenges traditional assumptions about the necessity of human creativity in advertising effectiveness.

Specifically, research comparing click-through rates demonstrates the potential superiority of personalised AI-generated video advertisements. A comparative analysis revealed that personalized AI-generated video ads achieved a significantly higher average click-through rate of 28% compared to traditional ads, which averaged only 15%. These results emphasise how statistically AI-generated videos can be effective if personalised using user profiles and statistics [13]. However, in this study, the advertisements are not personalised and rather take a more "spray and pray" approach.

6. Data analysis

Here are the interpretations of the diagrams generated by SENA and MDCOR.

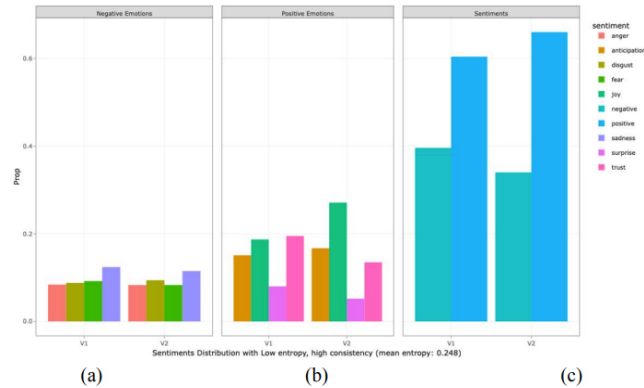


Figure 3. Sentiments distribution with low entropy, high consistency (mean entropy: 0.248)

On the panel on the left (Figure 3a) titled "Negative Emotions", there are 4 categories: anger, anticipation, disgust, fear, and sadness. Both V1 and V2 have rather low levels of negative emotions, with each under around 0.15. Through this, the data shows that the advertisements did not trigger strong negative emotions. However, looking at the most liked comments in the Coca-Cola video, we see that those that gained the most traction did express a negative emotion towards the advertisement. For example, a comment with twelve thousand likes (as of August 16 2025) from user @davidrbenham refers to the advertisement as being a "fake commercial" and highlights the irony of the tagline at the end being "real magic". This emphasises how there is a large silent group of people who agree with the negative sentiments expressed by the top comments. Another example would be a comment by user @scorpDK, which had 8 thousand likes (as of August 16 2025), which referred to the advertisement as "the most soulless commercial possible".

In the middle panel (Figure 3b), there are also four major positive emotion sections: joy, anticipation, surprise, and trust. In V1 and V2, we see that there is a significantly lower level of surprise than any other emotion. This is particularly notable for the Coca-Cola advertisement as it was completely AI-generated, which is not something typical of the advertising industry. This emphasises how the commentators on the Coca-Cola advertisement are not shocked by the introduction of AI-generated content into the advertising space. In V1, we see that apart from the low level of surprise, the sentiments are relatively balanced, with only a range of about 0.18-0.2. Through this evidence, we can see that although the comments that garnered the most attention were negative on the Coca-Cola video, the majority of sentiments are still positive. In V2, however, there is a notably higher joy sentiment, which is about 0.28, and we can also see that there is a larger range and less balanced distribution. This shows us how the advertisement V2 is better at eliciting happiness and positive sentiment in general. Overall, both advertisements skew positive (Figure 3c). However, V2 (0.67) has higher positive sentiment than V1 (0.6). The data also had an entropy of 0.248, which is a relatively low score and indicates that there is little contradiction in the comments, highlighting that the audience is quite clear on what they feel about the topic. It can be concluded that V2 contains much more positive sentiment while having less negativity

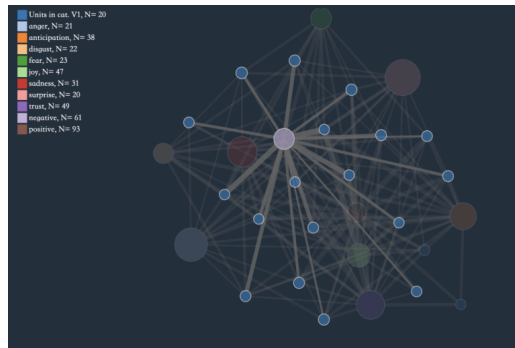


Figure 4. The sentiment network visualisation 1

The Figure 4 illustrates the distribution and interconnection of emotional responses to AI-generated advertisements. Positive sentiment ($N = 93$) emerges as the most dominant category, closely associated with sub-dimensions such as joy ($N = 47$) and trust ($N = 49$), indicating that many viewers responded with curiosity, appreciation, or confidence in the campaigns. However, negative sentiment ($N = 61$) also forms a significant cluster, with strong ties to disgust ($N = 22$), anger ($N = 21$), and sadness ($N = 31$), reflecting perceptions of inauthenticity and creative loss. Anticipation ($N = 38$) further highlights reactions which are interested in the future, as viewers expressed both excitement and concern about AI's role in advertising. Overall, the figure shows that there was a generally positive reception, yet it emphasises how there is a vocal minority of negative responses which received a lot of attention.

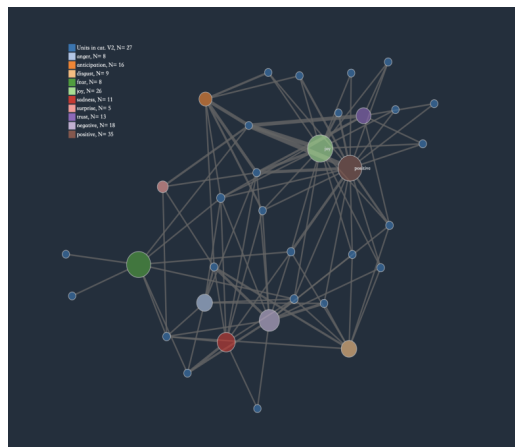


Figure 5. The sentiment network visualisation 2

While V2 comments positively, negative reactions still exist. Disgust and anger appear, showing some viewers found the AI ad unappealing or irritating. Though not the majority, these emotions reflect disappointment or rejection from a portion of the audience. The presence of fear and sadness also hints at underlying concerns about AI's role in creativity. So, despite overall optimism, critical voices are still part of the conversation.

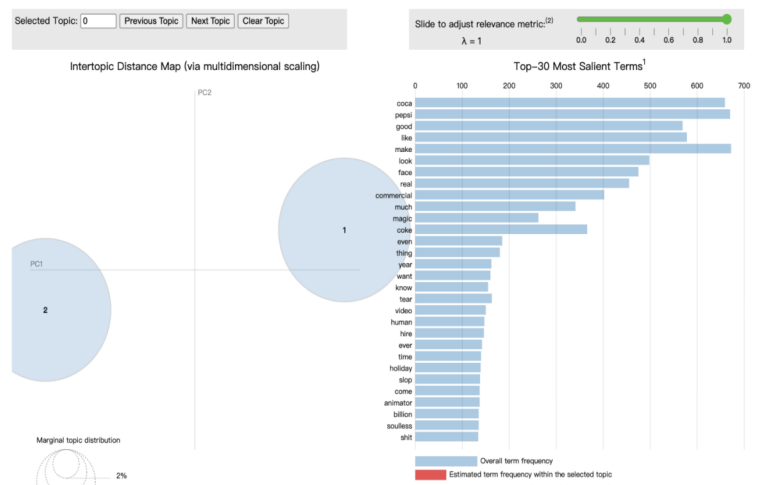


Figure 6. Intertopic distance map

The visualisation displays the term salience in comments about Coca Cola, Heniz and KitKat, revealing diverse consumer opinions. Positive words like "good," "like," "real," and "magic" indicate that some viewers appreciate how the AI commercials are presented. However, here it is important to note that "real magic" is a phrase used at the end of the advertisement below the Coca Cola advertisement, so may not necessarily be an expression of positive views about the advertisement.

Negative words like "soulless," "shit," and "tear" are present. Additionally, neutral terms such as "thing," "want," and "know" appear frequently, which do not convey immediate sentiment but may reflect general discussions or questions about the products. These do not contain any particular insight. Also notable here is the presence of the word "Pepsi", which is one of Coca-Cola's main competitors. Looking at some of the comments on the video, it can be seen that "Pepsi" is used almost always as a protest against the ad, as many of the comments express how the advertisement makes them want to drink Pepsi rather than Coke. It shows the comment "Time to go buy a Pepsi grinning face with smiling eyes."

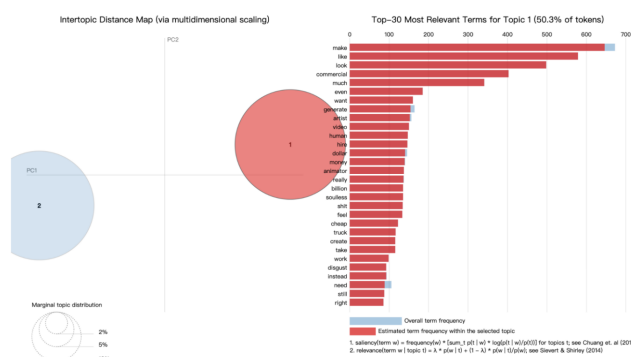


Figure 7. Top 30 most relevant terms for topic 1

This visualisation shows the top 30 most relevant terms for topic 1. Evidence suggests that it's about the long sentences, rational and serious criticisms of AI-generated ads.

First of all, commenters have positive sentiments. "Want" and "need" corroborate that commenters hope AI become more mature.

This visualisation is about the word cloud (Figure 10). Negative Sentiments Toward AI Ads: Words like soulless, garbage, dislike, stop, fire, and down appear frequently. Comments often criticise AI ads for lacking creativity, emotional depth, and authenticity. For example, Coca-Cola's AI ad was called a "fake commercial" and "soulless," with many users ironically contrasting its tagline "Real Magic" with the artificial nature of the ad.

Positive Sentiments: Some users show curiosity and acceptance: terms like good, real, love, heart, and thank appear. A minority see AI as innovative or entertaining, especially in novelty-focused campaigns.

Neutral/Ambivalent Sentiments: Words like thing, want, know, and Pepsi suggest comparative or reflective responses rather than emotional engagement. Some users are indifferent or sceptical without a strong positive or negative attachment.

7. Suggestions

7.1. Ethical concerns from consumers

First and foremost, copyright issues are of great importance, as AI systems frequently rely on existing videos and creative works to generate new content. This practice misappropriates intellectual property without proper authorisation or compensation, which may constitute a form of digital theft. It undermines the originality and effort of human creators, disrespecting their artistic contributions and legal rights. Many people underneath the Coca-Cola AI-generated advertisement echo these same ideas. Ultimately, in the view of many consumers, the spread of AI-generated content devalues the creativity of the individual but also disrupts the ethical foundations of fair and respectful innovation.

Considering this, companies should be careful when implementing

7.2. Focus on authenticity

Many consumers, as seen by our sentiment analysis, believe that there is something about AI advertisements which lacks a "human touch" to it, creating a sense of coldness. There is also another concern that the spread of AI-generated content misappropriates human creativity, giving corporations further excuses to cut workforces, especially in the marketing sector [14]. Therefore, AI should be used to enhance human creativity and efficiency rather than to deceive consumers.

Coca-Cola, for example, could have humans develop the initial creative concept for an advertisement. AI could then be used to explore this concept further and generate preliminary video drafts. However, the final version must be crafted by human creators to ensure the advertisement resonates with viewers on an emotional level [15]. The companies could take the advertisements by KitKat and Heinz as an example that, with the correct application, an advertisement can retain its "human touch" while also making use of the concepts of AI. This would be much more effective than simply using AI-generated visual content to create an advertisement.

In conclusion, as new technology is created and its applications explored, there will inevitably be resistance. Companies must learn to adapt to these technologies and heed the criticisms.

8. Limitations

While this study provides valuable insights into consumer responses to AI-generated advertising, several limitations cannot be ignored.

First, the analysis relies exclusively on YouTube comments, which are not necessarily representative. The number of people who comment on a video is typically far fewer than the number of people who watch the video. Therefore, those who comment will tend to have stronger opinions on the subject than others, making it hard to generalise. This is a key limitation in any study dealing with social media comments.

Second, the absence of demographic information restricts the ability to assess how factors such as age, culture, or geographic location influence consumer attitudes towards AI advertisements. This limits the level of insight into general consumer sentiment that we can gain from this study.

Third, while the use of sentiment analysis tools (MDCOR and SENA) enables large-scale pattern recognition, such methods may oversimplify complex expressions of sentiment, particularly those conveyed through irony, sarcasm, or humour.

9. Conclusion

Accordingly, this study analyses the sentiments towards AI advertisements and proposes some solutions to address the ethical concerns in AI-generated advertisements. It is imperative for brands and manufacturers to hold a human-centric principle, where AI is leveraged to enhance and expand human creativity, not to supplant the human role.

Acknowledgement

Marcus Chin, Xunyi Wang, and Yi Zhong contributed equally to this work and should be considered co-first authors.

References

- [1] Shihong, Sun Xiaobo. In the era of AI big data, computational advertising empowers brand intelligence communication [J]. *International Brand Observation*, 2021, (07): 25-28.
- [2] Wang Jianguo, Gao Youjiang. Negative effects of artificial intelligence advertising: A theoretical perspective based on the customer journey [J]. *Journal of Jiangnan University (Humanities and Social Sciences)*, 2024, 23(04): 51-64.
- [3] Li Huimin, Jiang Ningping. Artificial intelligence advertising: Criticism and enlightenment based on consumer culture [J]. *Media Forum*, 2024, 7(10): 9-11+35.
- [4] Coca-Cola. "The Holiday Magic Is Coming." YouTube, Coca-Cola, 18 Nov. 2024, www.youtube.com/watch?v=4RSTupbfGog.
- [5] Coca-Cola Great Britain and Ireland. "Coca-Cola Christmas 2020." *Www.youtube.com*, 2020, www.youtube.com/watch?v=_8BJUrUPm-U.
- [6] Gao, Biao, et al. "Artificial Intelligence in Advertising: Advancements, Challenges, and Ethical Considerations in Targeting, Personalization, Content Creation, and Ad Optimization." *SAGE Open*, vol. 13, no. 4, 2023, journals.sagepub.com/doi/full/10.1177/21582440231210759, <https://doi.org/10.1177/21582440231210759>.
- [7] González Canché, Manuel S. "Machine Driven Classification of Open-Ended Responses (MDCOR): An Analytic Framework and No-Code, Free Software Application to Classify Longitudinal and Cross-Sectional Text Responses in Survey and Social Media Research." *Expert Systems with Applications*, vol. 215, no. 215, 1 Apr. 2023, p. 119265, www.sciencedirect.com/science/article/pii/S0957417422022837?via%3Dihub#s0075, <https://doi.org/10.1016/j.eswa.2022.119265>.
- [8] González Canché, Manuel S., and Kaiwen Zheng. "Sentiment and Emotion Network Analysis—SENA: An Analytic Framework and No-Code Software to Integrate Natural Language Processing, Linguistic Analysis, and Data Science with Qualitative and Mixed-Methods Research." *International Journal of Qualitative Methods*, vol. 24, May 2025, <https://doi.org/10.1177/16094069251346929>. Accessed 13 Sept. 2025.
- [9] Heinz. "Heinz A.I. Ketchup." *Www.youtube.com*, 26 July 2022, www.youtube.com/watch?v=LFmpVy6eGXs.
- [10] KIT KAT Canada. "Have an AI Break, Have a KitKat." *Www.youtube.com*, 2024, www.youtube.com/watch?v=U33RTQsa7Bo.

- [11] Madupu, Vivek, et al. "The Relationship between Consumer Sentiment towards the Relationship between Consumer Sentiment towards Advertising and Ad Credibility, Ad Likeability, and Attention to Ads: Advertising and Ad Credibility, Ad Likeability, and Attention to Ads: The Case with Visual Metaphors the Case with Visual Metaphors." *Journal of Applied Marketing Theory Journal of Applied Marketing Theory*, vol. 8, no. 2, Sept. 2018, pp. 9–2018. Accessed 13 Sept. 2025.
- [12] Querch, Nada, and Pingli Zhu. "The Impact of Personalized AI-Generated Video Ads on Consumer Click-through Rates." *OALib*, vol. 12, no. 06, 1 Jan. 2025, pp. 1–20, www.scirp.org/journal/paperinformation?paperid=143786&utm_source=chatgpt.com, <https://doi.org/10.4236/oalib.1113607>.
- [13] Ratta, Ali Ashraf, et al. "The Impact of AI Generated Advertising Content on Consumer Buying Intention and Consumer Engagement." *Bulletin of Business and Economics (BBE)*, vol. 13, no. 2, 1 June 2024, pp. 1152–1157, <https://doi.org/10.61506/01.00476>.
- [14] Sanne, Petra N.C., and Melanie Wiese. "The Theory of Planned Behaviour and User Engagement Applied to Facebook Advertising." *SA Journal of Information Management*, vol. 20, no. 1, 5 June 2018, www.scielo.org.za/pdf/sajim/v20n1/08.pdf, <https://doi.org/10.4102/sajim.v20i1.915>.
- [15] "What Do Consumers Actually Think of Ads? – Advertising Week." *Advertising Week*, 1 Apr. 2021, advertisingweek.com/what-do-consumers-actually-think-of-ads/.