

Consumer Responses to AI-Generated Marketing Content: Evidence from an Experimental Survey

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Abstract. The rapid development of generative artificial intelligence (AI) has created new opportunities for digital marketing, particularly in short video advertising. However, consumer acceptance of AI-generated advertisements remains uncertain because of the concerns over authenticity, trust and emotional connection. This study investigates how consumers respond to short video advertisements created by AI and humans through comparing evaluations and identifying factors that influence engagement intention and purchase intention. A quantitative survey was conducted with 179 participants, where respondents evaluated both advertisement formats. Reliability analysis, multiple linear regression models, paired samples t-tests, and qualitative analysis of open-ended responses were applied. The results show that human-created advertisements received much higher evaluations in authenticity, trust, visual appeal, professionalism, engagement intention, and purchase intention, while informativeness showed no significant difference. Regression results further indicate that trust is the strongest factor influencing consumer responses towards AI-generated advertisements. These findings indicate that businesses should balance AI efficiency and human creativity to improve consumer acceptance and advertising effectiveness.

Keywords: AI-generated advertising, consumer trust, engagement intention, purchase intention

1. Introduction

The rapid development of AI has had a great influence on the digital marketing industry. More and more businesses are witnessed using AI-generated content for advertising such as scripting, images generating and even video creating. Unlike traditional advertising methods, AI-generated content can be more efficient, and cost of production and marketing will also be optimized. According to previous research, AI can help marketers improve customer understanding and engagement through data-driven approaches [1]. Furthermore, AI also created new opportunities for marketing communication as it enables faster and more scalable content creation [2]. With short video platforms gradually becoming important channels for brand communication, AI-generated short video advertisements have attracted much attention from businesses and researchers.

However, from the consumer perspective, whether AI-generated advertisements are effective or not is still not certain. It has been suggested that consumers may evaluate AI-generated content in

different ways than human-created content, for example, trust in perceptions of human involvement can impact acceptance of AI-generated content [3, 4]. Recent studies have also shown that AI-generated advertisements acceptance is based on factors such as perceived intelligence, credibility, and emotional responses of consumers [5]. Therefore, understanding consumer responses to AI-generated advertisements is important for businesses who look forwards to incorporating AI in marketing strategies.

Although AI has been discussed in marketing and consumer attitudes towards AI, how advertisements produced by AI and humans perform differently have not been widely talked about. Moreover, the factors influencing consumers' intention to engage and purchase on AI-generated advertisements are not clearly defined.

2. Methodology

Following the research objectives introduced in the previous section, this study used a quantitative research approach to analyses consumer responses towards AI-generated short video advertisements. The research has been conducted in four main stages: designing the questionnaire, collecting and preparing survey data, conducting statistical analysis, and interpreting the results. Participants needed to evaluate both advertisements formats, which allows the study to distinguish between the two advertising formats. After data preparation, reliability analysis, paired samples t-tests and multiple linear regression models were applied to evaluate advertisement perceptions and identify factors that influence consumer engagement and purchase intention towards AI-generated advertisements.

2.1. Research design

A quantitative research design was used to explore consumer responses towards AI-generated advertisements. A questionnaire-based survey was conducted to show consumers regard the two-marketing content differently, and participants needed to access both types of advertisement. It minimizes the impacts of individual differences among participants when evaluating the two advertisement formats.

The research focused on two consumer behaviors towards AI-generated advertisements: engagement intention and purchase intention. Moreover, five advertisement evaluation dimensions (authenticity, trust, informativeness, visual appeal and professionalism) were examined as potential factors influencing consumer responses.

2.2. Data collection

The primary data were collected through Wenjuan Xing, a widely used survey platform in China. After checking incomplete responses and those that did not meet the screening requirements, 179 valid responses were kept for final analysis.

The questionnaire had three sections, including demographic information, which collected demographic information and participants' short-video usage behaviors, including gender, age group, video viewing frequency, daily video watching time, and previous exposure to AI-generated marketing content; advertisement evaluation, which asked participants to evaluate both AI-generated and human-created advertisements using a seven-point Likert scale; and behavioral intention, which measured participants' willingness to engage and purchase from the two types of advertisements.

An optional open-ended question was also included to allow participants to explain the reason for their advertisement preference freely. Open-ended responses were manually reviewed to provide qualitative support for the quantitative findings.

2.3. Data preparation

Before the statistical analysis, the raw data were prepared in R so that it will be consistent and suitable for further analysis. Responses from participants under 18 and incomplete questionnaires were excluded from the final dataset. Average scores of questionnaire items were calculated to identify multi-item constructs such as AI authenticity and AI trust. This method minimizes measurement error and allows each construct to be represented by a single composite variable.

Demographic and behavioral variables were also processed before being included in the regression models. Gender, age group, video viewing frequency, daily video watching time, and previous AI marketing exposure were converted into factor variables in R to be used as control variables. In order to improve interpretability, video viewing frequency was further grouped into low frequency (never or less than once per week), medium frequency (1–4 times per week), and high frequency (5–7 times per week). Meanwhile, Likert-scale responses were also coded consistently, with higher values indicated more positive attitudes towards advertisements. These variables were used for the following reliability analysis, paired samples t-tests, and regression modelling.

There are several previous studies related to AI-generated advertising and short-video marketing that support the questionnaire and measurement design. Gu et al. examined consumer perceptions and acceptance of AI-generated advertisements, which supported AI advertising evaluation through consumers' responses [5]. Meanwhile, research compared consumer attitudes towards two types of advertisements, which informed the comparative design of this study [6]. Moreover, another research used questionnaire data to explore consumer perceptions and purchase intention in a short-video environment, which demonstrated behavior changes after exposure to short-video content [7]. Based on these studies, the questionnaire items were designed and adjusted to fit what this study aims to investigate.

2.4. Data analysis

The statistical analysis was done using R. To check the consistency of the multi-item scales, Cronbach's alpha was calculated, and factors with good reliability will then be used to create composite variables for subsequent analyses.

Moreover, participants' evaluations of AI-generated and human-created advertisements on different dimensions are supported by paired samples t-tests. Since each participant evaluated both advertisement types, paired testing was suitable for examining within-subject differences.

Finally, to figure out the key predictors influencing consumer willingness to engage and purchase, two multiple linear regression models were created. The dimensions of the evaluation were independent variables while demographic and behavioral characteristics were control variables. The regression models were also tested for multicollinearity and regression diagnostic checks to make sure the regression models were stable.

3. Analysis and results

The details of variables are described in Table 1.

Table 1. Description of variables

Variable	Type	Description
ai_engagement	Dependent variable	Consumers' intention to engage with the AI-generated advertisement.
ai_purchase_intention	Dependent variable	Consumers' intention to purchase the product.
ai_authenticity	Independent variable	The extent to which AI-generated advertisement is perceived as authentic, natural, and realistic.
ai_trust	Independent variable	The extent to which consumers think of AI-generated advertisement and its information as trustworthy.
ai_informativeness	Independent variable	The extent to which the AI-generated advertisement provides useful product information.
ai_visual_appeal	Independent variable	Consumers' evaluation of the visual attractiveness of the AI-generated advertisement.
ai_professionalism	Independent variable	Consumers' perception of how professionally the AI-generated advertisement is produced.
gender_grouped	Control variable	Participants' self-reported gender, grouped into the categories used in the regression analysis.
age_group_grouped	Control variable	Participants' age category.
video_frequency_grouped	Control variable	Frequency of watching short-video content
video_time_factor	Control variable	Average amount of time spent watching short videos.
prior_ai_exposure_factor	Control variable	Participants' previous exposure to AI-generated marketing content.

3.1. Statistical analysis

A total of 179 questionnaire responses were collected and screened during the data preparation process. All 179 responses were retained for the final analysis, as no responses met the criteria for complete exclusion. Missing or "No response" entries were treated as missing values which are better than removing the entire response, as some of the data in these responses, for example, preference reason, are useful for the following analysis. Table 2 presents the demographic characteristics of the final sample. Female participants accounted for the majority of the sample

(67.04%), followed by male participants (31.28%). For age, the largest group was participants who are in the range of 18–22 (39.11%), followed by those aged 23–26 (24.58%). Overall, the sample included participants from different genders and age groups.

Table 2. Demographic characteristics of participants

Category	Frequency (n)	Percentage (%)
Male	56	31.28
Female	120	67.04
Other	2	1.12
Prefer not to say	1	0.56
18-22	70	39.11
23-26	44	24.58
27-30	23	12.85
31 or above	37	20.67
Prefer not to say	5	2.79

3.2. Reliability analysis

Before analyzing consumer responses, the reliability of the measurement constructs was assessed using Cronbach's alpha. This test was carried out to determine whether the questionnaire items in each construct measured the same concept.

As shown in Table 3, all constructs are higher than the commonly accepted Cronbach's alpha values, which is 0.70. These numbers suggest good internal consistency. AI authenticity, AI trust, and AI engagement achieved alpha values of 0.870, 0.873, and 0.882 respectively, while AI purchase intention had the highest reliability with an alpha value of 0.901.

Table 3. Reliability analysis of measurement constructs

Construct	Number of items	Cronbach's Alpha
AI Authenticity	3	0.870
AI Trust	3	0.873
AI Engagement	3	0.882
AI Purchase Intention	3	0.901

The results indicate that it is suitable and reliable to use these measurement items for the following analysis. Therefore, the corresponding items were combined into composite variables for following paired samples t-tests and regression analysis.

3.3. Comparison between two advertisement formats

Paired samples t-tests were applied on seven evaluation measures included in the questionnaire. These measures consisted of five perception dimensions (authenticity, trust, informativeness, visual

appeal, and professionalism) as well as two behavioral intention measures. The mean evaluation scores of the two advertisement formats are shown in Figure 1.

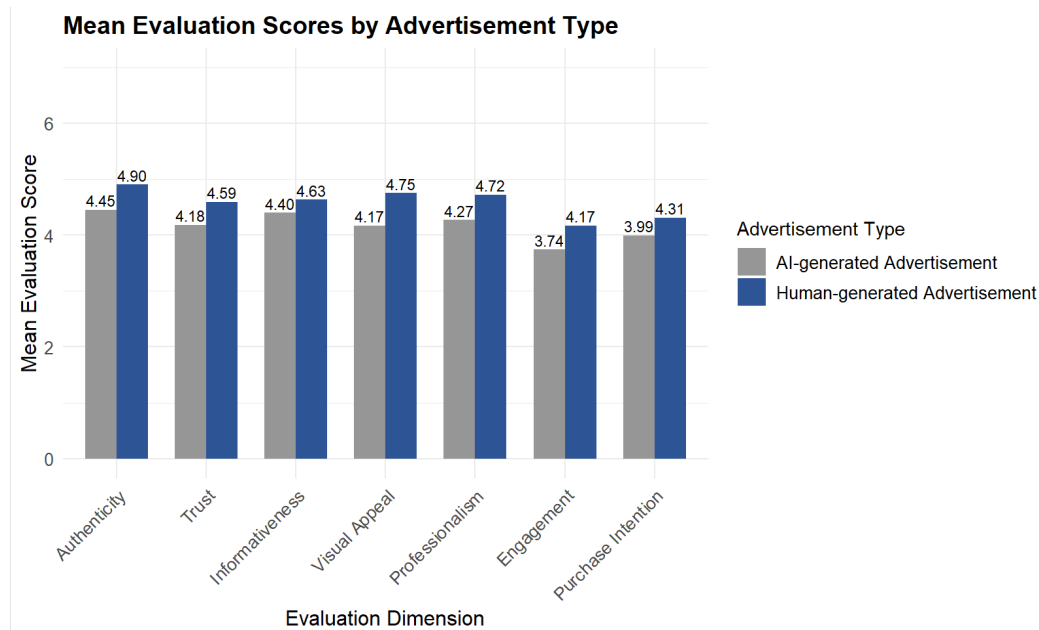


Figure 1. Mean evaluation scores by advertisement type

Overall, human-created advertisements received higher scores across all seven evaluation measures, indicating that participants generally showed more positive responses towards human-created advertising content. However, in terms of statistical significance, different measures were examined using paired samples t-tests. The results showed that human-created advertisements had much higher authenticity, trust, visual appeal, professionalism, engagement intention, and purchase intention (Table 4).

Table 4. Paired samples t-test results

Dimension	AI Mean	Human Mean	Mean Difference	t-value	p-value	Significant
Authenticity	4.45	4.90	-0.45	-4.095	0.0001	Yes
Trust	4.18	4.59	-0.41	-3.465	0.0007	Yes
Informativeness	4.40	4.63	-0.23	-1.750	0.0818	No
Visual appeal	4.17	4.75	-0.58	-4.318	0.0000	Yes
professionalism	4.27	4.72	-0.44	-3.066	0.0025	Yes
Engagement	3.74	4.17	-0.43	-4.350	0.0000	Yes
Purchase intention	3.99	4.31	-0.32	-2.924	0.0039	Yes

For authenticity ($p < 0.001$), human-created advertisement (4.90) achieved a higher mean score than AI-generated advertisement (4.45). This indicates that consumers may still regard human-created advertisements as more real and emotionally close even AI-generated content becomes better nowadays. Similarly, trust ($p < 0.001$) has a huge difference between the two advertisement formats, with human-created advertisement receiving higher evaluations (4.59 & 4.18). This suggests that credibility concerns and human involvement may limit consumer acceptance of AI-generated

advertisements. Visual appeal ($p < 0.001$) has the largest difference, which is 0.58. It shows that although AI can improve the efficiency of advertising production, it may still face challenges in creating content that is also attractive and engaging to consumers. Additionally, human-created advertisement scored higher in professionalism (4.72 & 4.27, $p = 0.0025$), engagement intention (4.17 & 3.74, $p < 0.001$), and purchase intention (4.31 & 3.99, $p = 0.0039$). These results show that consumers were more willing to interact with and purchase products shown in human-created advertisements. Nevertheless, there was no clear difference in informativeness ($p = 0.0818$), which meant that AI-generated advertisements may already provide enough information. Hence, the main challenge for AI-generated advertising may not be information convey, but establishing authenticity, trust, and emotional connection with consumers.

3.4. Consumer responses towards AI-generated advertisements

To examine the factors that affect consumer responses towards AI-generated advertisements, two multiple linear regression models were applied, AI engagement intention and AI purchase intention respectively.

Table 5. Multiple linear regression results

Predictor	AI engagement	AI purchase intention
AI authenticity	0.157*	0.122
AI trust	0.242***	0.288***
AI informativeness	0.106	0.185**
AI visual appeal	0.116	0.191**
AI professionalism	0.123	-0.012
Adjusted R ²	0.348	0.400

As shown in Table 5, the engagement model explained nearly 34.8% of the variation in AI engagement intention (Adjusted R² = 0.348). AI trust had the strongest positive relationship with engagement intention ($\beta = 0.242$, $p < 0.01$) among all five factors. This suggests that consumers are more likely to respond to AI-generated advertisements if they believe the content is trustworthy. AI authenticity also showed a positive relationship ($\beta = 0.157$, $p < 0.10$) but was weaker than trust. Informativeness, visual appeal, and professionalism were also positively associated with engagement intention but did not reach statistical significance.

The purchase intention model explained 40% of the variation (Adjusted R² = 0.400), which is more explanatory than the first model. AI trust remained the strongest predictor ($\beta = 0.288$, $p < 0.01$), showing that it affects consumers' willingness to purchase products that are promoted in AI-generated advertisements. Moreover, AI informativeness ($\beta = 0.185$, $p < 0.05$) and AI visual appeal ($\beta = 0.191$, $p < 0.05$) were both strong positive drivers of purchase intention. This indicates that consumers are more likely to buy a product when AI-generated advertisements provide useful product information and present attractive content. On the other hand, authenticity and professionalism had no significant effects on purchase intention.

Overall, the results of regression analysis suggest that for both engagement intention and purchase intention towards AI-generated advertisements, trust is regarded as an influential factor. Though authenticity also contributes to encouraging consumer engagement, consumers' purchasing

decisions appear to depend more on the extent of credibility, informativeness, and visual attractiveness of the advertisement.

3.5. Insights from open-ended responses

To further understand the reason why consumers prefer different advertisement formats, an optional open-ended question was included in the questionnaire. The responses were manually reviewed to provide additional qualitative insights into consumers' perceptions.

According to participants who preferred human-created advertisement, authenticity and naturalness were the keywords that were mentioned most frequently, as they believe that human-created advertisements are more realistic, convincing, and emotionally engaging. For example, some participants said that human-created content contained real objects and environments, which made the advertisement feel more trustworthy.

This finding is also supported by recent study on AI-generated advertisements, which suggests that consumers evaluate AI-generated advertising based on their feelings about AI's ability to convey social and emotional experiences [7]. Given that AI is generally considered to be less empathetic and emotionally engaging than humans, consumers may find human-created advertisements more authentic and convincing. This interpretation is also supported by Longoni et al., who found that consumers believe more in human judgement, and hence human involvement can increase the acceptance of advertising content [3].

In contrast, for those who preferred AI-generated advertisements, it seemed that they were mainly satisfied with the creativity and visual effects of AI-generated content. Some people thought AI advertisements were innovative and visually attractive, and others believed that AI-generated content could achieve similar quality as human-created content. But these positive views were generally related to novelty and visual presentation rather than trust or authenticity.

In general, the open-ended responses indicate that consumers have positive attitude towards the creativity of AI-generated advertising but still regard human involvement as a significant factor because of their authenticity and credibility. These findings support quantitative results and suggest that future AI advertising strategies should focus more on combining technology-driven creativity with human involvement.

4. Solutions and recommendations

The findings suggest that while AI-generated advertisements show considerable potential for marketing communication, there still exist some areas that businesses should improve in order to increase consumer acceptance and advertising effectiveness. Based on the findings, three practical recommendations are proposed.

4.1. Strengthen consumer trust through human–AI collaboration

This study shows that consumer trust is an important factor that influences the responses to AI-generated advertisements. The regression analysis revealed that trust was a strong driver of consumers' intention of engagement and purchasing, and the outcomes of paired samples t-test showed a much higher trust score on human-created advertisements. Therefore, improving consumer trust should be a key priority for businesses that use AI to assist the marketing content creation. Meanwhile, instead of replacing human involvement with AI, a human–AI collaboration approach should be used in the future. AI can help advertising creation by suggesting creative ideas and visual

design, but humans should still be responsible for strategic decisions and quality control. This approach would allow businesses to benefit from AI's efficiency, which may reduce consumers' doubts about credibility and reliability. AI has been shown to create value when it enhances human abilities rather than fully replacing human judgement [8]. It supported that organizations need to develop appropriate AI capabilities and combine technology with human skills to implement AI efficiency in order to achieve better AI adoption [9]. Hence, AI-generated advertising should be used as a collaborative tool and maintain human intervention throughout the content creation process.

4.2. Improve authenticity through human-centered content

Authenticity and emotional connection of AI-generated advertisements should also be improved. As shown in the comparison study, human-created advertisements have much higher authenticity rates, and participants in the open-ended responses also generally found human-created advertisements more natural, realistic, and emotionally engaging.

According to these findings, the main challenge for AI-generated advertising is not content creation, but the extent of agreement that what consumers think authentic the content is. Therefore, businesses should not produce advertisements that are completely automated but should instead combine human involvement with AI creation. For example, AI-generated visuals can be integrated with real customer experience and brand storytelling. This approach may help advertisements maintain emotional appeal and still benefit from AI's efficiency.

Recent research has shown that consumer attitudes towards AI-generated advertisements are impacted by the way advertisements deliver social value and feelings, rather than technological capability alone [7]. Therefore, keeping human creativity and emotional communication is important in increasing consumer acceptance for AI-generated advertising.

4.3. Optimise information delivery and visual quality

Improving the information delivery and visual quality of AI-generated advertisements should not be ignored as well. The regression results showed that AI informativeness and visual appeal were very strong predictors of purchase intention, which means there is higher possibility for consumers to purchase products when advertisements provide useful information and attractive visual presentation.

Additionally, the paired samples t-test showed no clear difference between AI-generated and human-created advertisements in terms of informativeness. This suggests that AI-generated advertisements are already able to provide enough product information, and instead of increasing the amount of information, businesses should focus more on improving creative quality and visual attractiveness.

For short-video advertising, visual presentation is important as consumers often make quick judgements based on initial impressions. Businesses can use AI to generate different marketing content versions to figure out consumer preferences and optimize advertising content. However, human involvement is still necessary to ensure the final content aligns with brand objectives and consumer expectations. According to Kshetri et al., one of the main advantages of AI is that it can generate marketing content in a short time and it can support large-scale content personalization [2]. AI-driven insights can also be beneficial for customer engagement and marketing effectiveness when integrated in business decision-making process, but businesses should maintain the content quality and consumer trust to keep AI-generated advertising effective.

4.4. Overall recommendation

Overall, AI should not totally replace human-created advertising but should be used in a balanced way that combines AI efficiency with human creativity and strategic judgement. By improving authenticity, strengthening consumer trust, and enhancing advertising quality, consumer acceptance will increase and better value from AI-generated content can be achieved.

5. Conclusion

This study examined how consumers respond to short video marketing content created by AI and human through comparing consumers' evaluations of the two advertisement types and identifying the factors that impact engagement and purchase intention towards AI-generated advertising. Based on questionnaire data collected from 179 participants, the study combined statistical analysis and qualitative analysis to provide a comprehensive understanding of consumer perceptions. The findings suggest that human-created content generally received better scores than AI-generated content. Significant differences were found in authenticity, trust, visual appeal, professionalism, engagement, and purchase intention, while informativeness showed no clear difference between the two advertisement types. The regression analysis further indicates that trust plays an important role in both engagement and purchase intention. Moreover, visual appeal and informativeness have positive influences on purchase intention, which suggests that consumers regard both emotional connection and useful product information as important when evaluating. Based on these findings, this study indicates that AI is a supportive tool but not a complete replacement for human production. As AI's efficiency is combined with manual supervision and good visual communication, AI-generated advertising will be more consumer friendly and achieve better marketing performance. While this study has clarified the link between engagement intention, purchase intention, and the marketing content format, there do exist several limitations. First, the study used a relatively small sample size and mainly represented Chinese consumers. Second, only one product category was examined, so it may not be so generalizable. Future research could explore different product categories, brands, cultural, or consumer preferences and consumer attitudes to change as AI-generated advertising technologies continue to evolve.

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