



# The Impact of Personalized AI-Generated Video Ads on Consumer Click-Through Rates

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## Abstract

This study investigates the impact of personalized AI-generated video advertisements on consumer click-through rates (CTR), aiming to understand the effectiveness of personalized content in the digital advertising landscape. Utilizing a mixed-methods approach, including quantitative analysis and qualitative feedback, we examined the correlation between ad personalization, emotional engagement, and consumer behavior across various demographics. Data collected through a structured questionnaire revealed that personalized ads significantly improve CTR compared to traditional formats, primarily attributable to higher perceived relevance and emotional appeal. The findings suggest that when consumers perceive ads as personally relevant, their likelihood to engage with the content increases, thus enhancing marketing strategies. Furthermore, the moderation effects of perceived relevance on emotional appeal were explored, highlighting the necessity for advertisers to consider consumer preferences to maximize engagement. This research contributes to the evolving discussion surrounding AI in advertising, providing insights into effective personalization strategies that may lead to improved consumer-brand relationships in digital marketing.

## Subject Areas

Advertising, Artificial Intelligence

## Keywords

Personalized Advertising, AI-Generated Content, Click-Through Rates, Consumer Engagement, Emotional Appeal, Digital Marketing, Advertising Effectiveness, Consumer Behavior

## 1. Introduction

The rapid evolution of technology has significantly altered the landscape of advert-

ising, particularly through the integration of artificial intelligence (AI). In recent years, brands have increasingly adopted AI to generate personalized content that caters to individual consumer preferences, aiming to enhance engagement and increase click-through rates (CTR). This shift towards personalization stems from an understanding of consumers' demands for relevant and tailored experiences amidst an overload of information in the digital marketplace [1] [2]. Marketing campaigns that utilize AI not only optimize the personalization process but can also adapt in real-time to changing consumer behaviors, making them more effective than traditional advertising strategies. As companies strive for a competitive edge, the capability to deliver targeted and personalized messages has become a key differentiator in the industry.

Personalized AI-generated video ads represent a cutting-edge approach that combines data analytics with creative automation, allowing marketers to dynamically create content that resonates with target audiences more effectively than traditional, generic advertisements. Studies have shown that consumers are more likely to respond positively to ads that reflect their unique preferences and interests. This relevance facilitates an emotional connection between the consumer and the brand, which can further enhance brand loyalty [3] [4].

Video marketing has emerged as a central player in digital advertising strategies, capitalizing on its ability to engage viewers through visual storytelling. The increasing popularity of platforms such as YouTube, TikTok, and Instagram, where video content prevails, exemplifies this trend [5]. The proliferation of video content across social media and streaming platforms has strengthened the importance of video marketing, making it essential for brands to adapt to consumer preferences for visually driven messages [6]. However, despite the attractiveness of video content, the challenge remains to capture consumer attention effectively, leading to the exploration of how personalization influences engagement levels and ultimately, advertising success.

Previous literature underscores the correlation between personalization and enhanced consumer engagement, positing that when advertisements align more closely with consumer interests and preferences, they are likely to elicit favorable responses [7] [8]. The notion of emotional appeal further complicates this relationship. Emotionally engaging content has been shown to drive higher levels of interaction and connection with the audience, thereby facilitating better advertising outcomes [9] [10]. However, the intricate dynamics of how personalization and emotional appeal together impact CTR remain underexplored in existing research. This gap highlights the need to delve deeper into not just the effectiveness of personalized ads but also the mechanisms through which personalization operates in an advertising context.

The growing body of evidence suggests that the effectiveness of personalized marketing strategies is contingent on various factors, including the timing of the ad presentation and the alignment with the consumer's psychological state at the moment of exposure. This signifies the importance of contextual relevance in creating

effective advertisements that resonate with consumers [11] [12]. Additionally, the increasing scrutiny surrounding privacy issues in data collection necessitates an ethical approach to personalized advertising, ensuring that consumer trust is maintained while still reaping the benefits of targeted marketing strategies.

The primary purpose of this study is to empirically investigate the effects of personalized AI-generated video ads on consumer click-through rates, addressing the aforementioned gaps in the literature. The study aims to ascertain not only whether personalized ads outperform traditional formats in terms of CTR but also to delve into the moderating roles played by emotional appeal and perceived relevance. Through the formulation of specific hypotheses and a structured methodology, this research endeavors to provide actionable insights for marketers seeking to optimize their advertising strategies in an increasingly competitive digital environment. This study ultimately contributes to the broader discourse on the efficacy of AI in advertising and its implications for consumer behavior in the digital age.

## **2. Literature Review**

### **2.1. Integration of AI in Advertising**

The advent of artificial intelligence (AI) has significantly transformed the advertising landscape. AI allows marketers to harness large-scale data analytics to deliver more targeted and relevant advertisements. According to Kumar and Khanna [13], AI-driven advertising models enhance click-through rates (CTR) by analyzing consumer behavior and generating messages that align with individual preferences. This customization fosters greater emotional connection and engagement with consumers [1], making AI an essential tool in modern marketing strategies.

### **2.2. Role of Personalization in Advertising**

Personalization has emerged as a key component in effective advertising. Studies show that personalized advertising enhances message relevance and builds stronger brand-consumer relationships. Aaker and Jacobson [14] emphasize that such advertising strategies cater to individual needs and motivations, leading to increased trust and consumer loyalty [2] [3]. Furthermore, research by Jones [15] and Biplab [4] demonstrates that contextual factors, such as the timing and placement of ads, significantly influence their impact, reinforcing the importance of delivering personalized messages at opportune moments.

### **2.3. Consumer Engagement with Video Advertising**

Video advertising has proven to be an effective medium for capturing consumer attention and eliciting emotional responses. Chaffey [16] notes that the visual and auditory elements of video content facilitate storytelling, which enhances consumer engagement. Emotional content plays a critical role in this process; Muehling and McCann [17] suggest that video ads that trigger strong emotional reactions tend to

achieve higher CTR. Additional studies [6] [18] highlight that emotional appeal not only improves ad recall but also fosters favorable brand attitudes, underlining the strategic advantage of video-based storytelling.

## 2.4. Emotional Appeal and Its Effect on CTR

Emotional appeal is widely regarded as a significant determinant of advertising effectiveness. Arora and Soni [19] argue that emotionally resonant content can increase trust and deepen the consumer-brand relationship. When integrated with personalization, emotional narratives can significantly improve the perceived relevance of advertisements [9]. This synergy is supported by Yazdani [20], who found that combining personalization with emotional storytelling results in higher engagement and click-through behavior, especially in competitive digital environments [10] [11].

## 2.5. Research Gap

Although existing studies have explored the independent roles of personalization and emotional appeal in advertising, limited research examines their combined influence on CTR particularly within AI-generated video content. Moreover, the moderating role of perceived relevance and the effect of ad frequency have received insufficient empirical attention. This study aims to address these gaps by investigating how personalized AI-generated video ads, emotional appeal, and relevance perception interact to influence CTR.

## 2.6. Research Hypotheses

Grounded in the thematic findings from the literature review, it is evident that personalized AI-generated video advertising presents new opportunities for enhancing digital marketing performance, particularly in terms of consumer click-through rates (CTR). Video advertising continues to dominate digital channels due to its immersive storytelling potential and strong emotional appeal, while AI enables advertisers to tailor content precisely to audience preferences. The convergence of these technologies allows marketers to deploy engaging, contextually relevant, and emotionally compelling advertisements that may significantly outperform traditional strategies. Additionally, psychological factors such as emotional appeal and perceived relevance further shape how consumers respond to advertising stimuli. Based on these insights, the following hypotheses are proposed to explore how personalization, emotion, and ad relevance collectively influence consumer CTRs.

### 2.6.1. Personalized AI-Generated Video Ads and Click-Through Rates

The first hypothesis focuses on the core assumption that personalized AI-generated video advertisements enhance consumer engagement and lead to improved CTRs. In a saturated digital environment, consumers increasingly disregard generic content that does not align with their needs or interests. AI technologies empower advertisers to deliver tailored experiences by analyzing individual consumer

data, behaviors, and preferences in real-time. This personalization increases content relevance and visibility, which in turn improves user engagement and response rates.

Studies such as those by Kumar and Khanna [13] and Gao [1] have shown that personalized content, particularly in video format, commands higher attention and interaction compared to non-personalized formats. The dynamic nature of AI allows for continuous adjustment of video ads, ensuring that the right message reaches the right user at the right time. These targeted strategies result in more meaningful interactions and improved outcomes for marketers. Therefore, the following hypothesis is proposed:

**Hypothesis 1:** Personalized AI-generated video advertisements result in significantly higher click-through rates compared to non-personalized video advertisements.

### 2.6.2. Emotional Appeal in Personalized Video Ads and Consumer Response

The second hypothesis addresses the emotional dimension of advertising effectiveness. Emotional appeal has long been recognized as a critical factor in influencing consumer behavior. With video content, marketers can harness both visual and auditory cues to evoke emotional reactions, fostering deeper connections between the brand and the consumer. When such emotional storytelling is paired with personalization, the resulting advertisement becomes more resonant and persuasive.

Research by Muehling and McCann [17], as well as Laux [6], supports the idea that emotionally rich video content significantly increases CTRs. Furthermore, when AI customizes these emotionally driven narratives based on consumer data, the effect is magnified, as individuals are more likely to respond to content that feels personally relevant and emotionally engaging. This interplay is particularly crucial in competitive digital spaces where emotional resonance can differentiate a brand. Therefore:

**Hypothesis 2:** Emotional appeal in personalized AI-generated video advertisements positively influences consumer click-through rates.

### 2.6.3. Perceived Relevance as a Moderator of Emotional Appeal and CTR

The third hypothesis explores the moderating effect of perceived relevance in the relationship between emotional appeal and CTR. While emotional content can capture attention, its effectiveness often depends on how relevant the content is perceived to be by the viewer. Ads that evoke emotion but fail to align with consumer needs or preferences may be dismissed or ignored. Perceived relevance enhances cognitive processing, increases message credibility, and amplifies emotional resonance, resulting in stronger behavioral responses such as clicks or shares.

Studies by Thompson and Skau [21] and Dolor and Noll [22] indicate that ad relevance is a critical determinant of engagement. Personalized AI-generated video

ads can optimize relevance by dynamically adapting content to match viewer characteristics. When consumers perceive an emotional ad as both meaningful and relevant, they are more likely to engage with it, suggesting a moderating relationship. Thus, the third hypothesis is proposed as follows:

**Hypothesis 3:** Perceived relevance of personalized AI-generated video advertisements moderates the relationship between emotional appeal and click-through rates.

#### 2.6.4. Frequency of Exposure and Long-Term Ad Effectiveness

The fourth hypothesis considers the role of exposure frequency in driving consumer interaction over time. While personalization and emotional appeal are crucial for initial engagement, repeated exposure can reinforce message retention, build familiarity, and enhance trust in the brand. Familiarity through repeated viewing may reduce consumer hesitation and increase the likelihood of clicking on an ad in future exposures.

Existing literature suggests that frequency contributes positively to consumer-brand relationships, especially when the content is perceived as relevant and non-intrusive [23] [24]. Repeated exposure to personalized AI-generated video content not only improves ad recall but also strengthens brand perception and increases cumulative engagement. Hence, this study posits that:

**Hypothesis 4:** The frequency of exposure to personalized AI-generated video advertisements increases their effectiveness, leading to improved click-through rates over time.

### 3. Research Design and Methodology

#### 3.1. Research Design

The research adopts a quasi-experimental design, which is particularly suitable for examining the effectiveness of personalized ads in a real-world context where random assignment may not be feasible. This design enables comparison between participants exposed to personalized AI-generated video ads and those exposed to traditional video ads [25]. The study involves two primary groups: the experimental group receiving personalized ads and the control group receiving standard ads.

##### 3.1.1. AI Tools and Data Used for Personalization

The personalized AI-generated video advertisements were created using a combination of machine learning algorithms and automated video generation platforms, specifically tools like Synthesia and Pictory, which allow dynamic insertion of personalized elements such as names, locations, and interests. The personalization process was driven by consumer profile data collected during the participant recruitment phase. This data included demographic attributes (age, gender, location), behavioral data (click history, content engagement preferences), and declared interests obtained through preliminary survey questions. A decision-tree-based recommender model segmented users and assigned them specific video ad

variants with tailored scripts, visuals, and calls to action. This ensured that the video content reflected both emotional appeal and contextual relevance for each participant, enhancing the realism and validity of the experimental condition.

### 3.1.2. Traditional Ad Control Condition

In the control group, participants were shown non-personalized, traditional video ads that were matched to the experimental group's personalized ads in terms of duration (30 - 35 seconds), visual style, product category, and overall tone. These traditional ads featured generic messaging with no references to individual user data. For example, where a personalized ad might include phrases like, "Achieve your goals, [Name], in [City]," the traditional version used more general wording such as, "Take your next step toward success—wherever you are."

Both ad types promoted the same digital product category (e.g., productivity app) to ensure thematic consistency across groups. The aim of this control condition was to isolate the effects of personalization and emotional relevance, allowing for a valid comparison of engagement outcomes such as click-through rates and emotional responses.

## 3.2. Sample Selection

The sample consists of 400 participants from diverse demographics, including varying age groups, genders, and socioeconomic backgrounds, to ensure generalizability of the findings. Participants were recruited through online surveys distributed via social media platforms and email lists. This approach not only facilitates broad accessibility but also targets users who are likely to engage with digital advertisements, enhancing the relevance of the findings.

Participants were randomly assigned to either the experimental group ( $n = 200$ ), which received personalized AI-generated video ads, or the control group ( $n = 200$ ), which received traditional video ads. Randomization was conducted using a simple random assignment generator within the survey platform, ensuring unbiased group allocation. To verify baseline equivalence, independent samples t-tests and chi-square tests were performed on key demographic variables (age, gender, education level). The results indicated no statistically significant differences between groups across these variables ( $p > 0.05$ ), confirming that the two groups were comparable prior to exposure. This supports the internal validity of the comparative analysis.

## 3.3. Data Collection Techniques

### Quantitative Data:

A structured online survey was designed to measure the effectiveness of the ads. Respondents were exposed to either a personalized AI-generated video ad or a traditional video ad based on their assigned group. Key metrics collected include click-through rates (CTR), which track the number of users who clicked on the ad relative to those who viewed it, and consumer engagement measures, such as the

time spent viewing ads and feedback on the relevance of the ads.

#### **Qualitative Data:**

Following the quantitative analysis, participants were invited to provide qualitative feedback through open-ended questions regarding their perceptions of the ads. This feedback aimed to gain insights into emotional responses, perceived relevance, and overall satisfaction with the advertised content [26] [27]. The qualitative data will allow the exploration of deeper consumer insights and nuances that may not be captured in quantitative measures.

To evaluate the impact of exposure frequency on click-through rates, participants in the experimental group were shown a series of three personalized AI-generated video ads over the course of three consecutive days, simulating repeated exposure conditions. Each ad featured slight variations in messaging and visuals while maintaining core personalized elements to ensure consistency. The control group viewed a single traditional ad. Exposure was controlled via scheduled email delivery with view-tracking enabled to measure whether and how many times each participant engaged with the content. Participants' click-through behavior was recorded after each exposure to analyze cumulative engagement trends over time. This protocol allowed for a reliable examination of the relationship between frequency and long-term ad effectiveness, as proposed in Hypothesis 4.

### **3.4. Instrumentation**

The survey instrument includes validated scales for measuring emotional response, perceived relevance, and engagement with video content. The Likert scale will range from 1 (Strongly Disagree) to 5 (Strongly Agree) to capture participants' feelings accurately. The questionnaire was piloted prior to full deployment to ensure clarity, relevance, and reliability in measuring the intended constructs [28] [29].

#### **Emotional Appeal Design**

Emotional appeal in the personalized AI-generated video advertisements was operationalized using three core emotional themes: aspiration, belonging, and personal recognition. These themes were embedded into each video through scripted narratives and visual storytelling. For example, aspirational elements included messages about achieving personal goals or success ("This is your moment"), while belonging was evoked through inclusive language ("People like you are making a difference"). Personal recognition was emphasized by incorporating the viewer's first name, location, or expressed interests into the video dialogue and visuals (e.g., showing a coffee shop in their city or referencing hobbies like travel or fitness).

To ensure consistency, all personalized ads were generated using pre-scripted emotional templates, customized via AI tools (e.g., Synthesia) using participant-specific data. Each participant in the experimental group received content reflecting one of the three emotional categories, matched to their survey responses and preferences. The emotional content was designed to be relatable, empathetic, and

motivational, reinforcing positive feelings toward the advertised brand. These emotional elements were validated in a pre-study pilot test to ensure clarity and effectiveness before full deployment.

### **3.5. Statistical Analysis**

Statistical analyses will be conducted using software such as SPSS or R. Comparative analyses to evaluate differences between the experimental and control groups regarding CTR will involve descriptive statistics to summarize participant demographics and ad engagement metrics. Inferential statistics, such as t-tests and ANOVAs, will determine whether significant differences exist between the two groups in terms of CTR and engagement levels. Regression analysis will explore the moderating effects of emotional appeal and perceived relevance on CTR outcomes [30] [31].

### **3.6. Ethical Considerations**

Adhering to ethical guidelines is paramount in this study. Informed consent will be obtained from all participants prior to their involvement in the research. Participants will be assured of the confidentiality of their responses, and the option to withdraw at any stage will be clearly communicated. This ethical framework aligns with the standards set by the Institutional Review Board (IRB), ensuring the protection of participants throughout the research process [32].

### **3.7. Limitations**

While this study aims to provide valuable insights, acknowledging potential limitations is vital. The quasi-experimental design may limit causal inferences due to the absence of randomization. Additionally, self-reported measures in the survey may be subject to bias. Future recommendations include the incorporation of longitudinal studies to assess the long-term impacts of personalized advertising on consumer behavior and ad effectiveness [31] [33].

## **4. Data Analysis**

### **4.1. Sample Characteristics**

A total of 400 participants were involved in the study, with a diverse representation across demographic categories, including age, gender, and educational background. The sample was balanced, with approximately 50% of participants being male and 50% female. The distribution of age groups shows that 32% of participants were between the ages of 18 and 24, while 28% were between 25 and 34. The remaining 40% were split evenly between the 35 - 44 and 45+ age groups. Educationally, 50% of participants had a Bachelor's degree, 27.5% had a Master's degree, 17.5% had a high school diploma, and 5% held a Doctorate (Table 1). This diverse sample allows for the generalization of findings across various consumer segments and provides a robust basis for evaluating the effectiveness of personalized versus traditional advertising.

**Table 1.** Demographic characteristics of participants.

Demographic Variable	Frequency	Percentage (%)
Gender		
Male	200	50.0
Female	200	50.0
Age Group		
18 - 24 years	128	32.0
25 - 34 years	112	28.0
35 - 44 years	80	20.0
45 years and above	80	20.0
Educational Background		
High School	70	17.5
Bachelor's Degree	200	50.0
Master's Degree	110	27.5
Doctorate	20	5.0

#### 4.2. Click-Through Rate Analysis

A comparison of click-through rates (CTR) showed that personalized AI-generated video ads yielded a significantly higher average CTR of 28% compared to the traditional ads, which had an average CTR of 15%. A t-test analysis confirmed that this difference was statistically significant ( $t(398) = 6.24, p < 0.001$ ). This finding supports Hypothesis H1, which posited that personalized ads would outperform traditional ads in terms of engagement. The observed CTR of personalized ads (28%) indicates that nearly three in ten viewers engaged with the ad, suggesting the effectiveness of personalization in driving consumer interest. In contrast, the CTRs for traditional ads (15%) suggest a markedly lower engagement level, indicative of consumers' increasing aversion to generic advertisements.

As shown in **Table 2**, the significant difference in CTR underscores that personalized advertisements resonate better with consumers, compelling them to take action. This aligns well with existing literature on the importance of customization in digital marketing [1] [2].

**Table 2.** Click-through rates comparison.

Ad Type	Average CTR (%)	Standard Deviation (%)
Personalized AI-generated Ads	28.0	5.2
Traditional Ads	15.0	4.8

#### 4.3. Emotional Appeal and Relevance

Further analysis revealed a positive correlation between participants' emotional responses to the ads and their likelihood of clicking. For personalized ads, the average emotional response rating was 4.3 out of 5, compared to a rating of 2.7 for

traditional ads ( $t(398) = 10.12, p < 0.001$ ). This suggests that emotional engagement significantly influences consumer behavior, as participants found personalized content more relatable and impactful.

The substantial emotional response to personalized ads highlights their effectiveness in creating a strong connection with viewers, reinforcing Hypothesis H2 (Table 3). Emotional engagement plays a critical role in advertising, as studies have shown that content that resonates emotionally with consumers can create lasting impressions that increase brand affinity and purchase intent [3] [4].

**Table 3.** Emotional response ratings.

Ad Type	Average Emotional Response Rating	Standard Deviation
Personalized AI-generated Ads	4.3	0.6
Traditional Ads	2.7	0.5

#### 4.4. Moderating Effects of Perceived Relevance

A regression analysis was conducted to examine how perceived relevance moderates the relationship between emotional appeal and CTR for personalized ads. The analysis revealed that when participants rated the personalized ad's relevance as high (above 4 on a 5-point scale), the CTR increased to an average of 35%. In contrast, when relevance was rated low (below 3), the CTR dropped to 18%. These findings confirm Hypothesis H3 and emphasize the importance of creating ads that not only evoke emotional responses but also align with consumer interests. The ability of personalized ads to resonate with individual preferences enhances the overall effectiveness of advertising strategies.

These results underline the necessity for marketers to assess consumer profiles and utilize data analytics to ensure that advertisements maintain high relevance as mentioned in Table 4. This approach is essential in maximizing CTR and improving ad effectiveness.

**Table 4.** CTR based on perceived relevance levels.

Relevance Level (1 - 5)	Average CTR (%)
Low (1 - 2)	18.0
Moderate (3)	25.5
High (4 - 5)	35.0

#### 4.5. Influence of Demographic Factors on CTR

ANOVA was conducted to explore differences in CTR based on demographic factors, specifically age and educational background. The analysis indicated that these factors significantly influenced engagement levels. For example, younger participants (ages 18 - 24) showed higher CTRs in response to personalized ads (30%) compared to older participants (ages 45+) (20%). This demographic trend suggests

that targeting strategies should account for the preferences and behaviors of different age groups.

As summarized in **Table 5** the data highlights the effectiveness of personalized ads, particularly among younger demographics, which may be attributed to their familiarity with technology and greater receptiveness to innovative marketing strategies [34]. These insights suggest that a targeted approach, tailoring advertising messages to specific age groups, will improve the overall effectiveness of advertising campaigns.

**Table 5.** CTR analysis by age group.

Age Group	Personalized AI-generated Ads CTR (%)	Traditional Ads CTR (%)
18 - 24	30.0	10.0
25 - 34	28.0	15.0
35 - 44	25.0	20.0
45+	20.0	25.0

#### 4.6. Qualitative Feedback

Participants were invited to provide qualitative feedback via open-ended questions. Thematic analysis of the responses identified several key themes regarding consumer perceptions of the ads. A common sentiment was that personalized ads felt more relevant to participants' interests and lifestyles, emphasizing the effectiveness of tailored content in fostering engagement. Additionally, many respondents appreciated the emotional narratives within personalized ads, which made them feel understood and more connected to the brand. In contrast, a significant number of respondents expressed skepticism toward traditional ads, stating that these often felt generic and uninteresting, leading to decreased engagement rates.

These qualitative insights complement the quantitative results, illustrating how emotional engagement and personal relevance influence consumer behavior and decision-making with regard to advertisements.

### 5. Discussion

The findings from this study reveal significant insights into the effectiveness of personalized AI-generated video ads compared to traditional advertising methods. The results indicate that personalized ads not only achieve higher click-through rates (CTR) but also foster stronger emotional connections with consumers. This discussion synthesizes the results and their implications, situating them within the broader context of digital advertising and highlighting key areas for future research.

#### 5.1. Implications of High Click-Through Rates

The significant difference in CTR between personalized AI-generated ads and traditional ads (28% versus 15%) underscores the power of personalization in

modern advertising. When advertisements are tailored to individual preferences, they are more likely to capture consumer attention and prompt engagement. This supports the growing body of literature emphasizing the importance of personalized marketing strategies in fostering consumer relationships and driving engagement.

The tailored nature of personalized advertisements aligns with experiential marketing frameworks, which posit that engaging consumers on emotional and experiential levels can lead to more profound brand connections. By utilizing AI to analyze consumer data and generate personalized content, marketers can create compelling narratives that resonate with their target audiences. This finding reflects the importance of embracing technology in advertising practices, as the convergence of data analytics and creative marketing strategies can enhance both consumer experience and commercial outcomes.

### **5.2. Role of Emotional Appeal in Engagement**

The emotional response ratings for personalized ads (4.3) compared to traditional ads (2.7) further illustrate the effectiveness of emotional appeal in advertising. Consumers reported feeling more engaged and connected to personalized content, suggesting that ads catering to emotional states capitalize on innate consumer psychology to foster interaction. This factor reinforces the notion that emotional elements in advertising are crucial for achieving higher engagement rates and should be integrated into ad design.

Understanding emotional engagement within a digital context can enhance the effectiveness of marketing campaigns. The ability to elicit emotional responses leads not only to higher CTRs but also establishes a foundation for brand loyalty, as consumers are more likely to develop favorable attitudes towards brands that resonate with them emotionally. These insights highlight the potential for marketers to leverage emotional storytelling as a primary strategy in creating impactful advertisements.

### **5.3. Importance of Perceived Relevance**

The findings regarding perceived relevance and its moderating effect are particularly noteworthy. CTR increased significantly among those who perceived the ads as relevant, particularly with ratings of 4 or above (35% CTR) versus those with lower relevance ratings (18% CTR). This establishes a critical connection between the perceived relevance of advertisements and their effectiveness in engaging consumers.

This insight corresponds with the concept of contextual marketing, which posits that delivery of appropriate messages at pertinent times maximizes relevance and engagement. For advertisers, the implication is clear: leveraging data analytics to understand consumer preferences and behavior is crucial for creating relevant content. By ensuring that advertisements are meaningful to consumers, brands can significantly improve engagement levels.

## 5.4. Demographic Influences on Engagement

The analysis also revealed substantial demographic influences on CTR, particularly among younger participants. Younger demographics (ages 18 - 24) exhibited a higher engagement rate with personalized ads (30%) compared to older participants (ages 45+) (20%). This finding reinforces the suggestion that marketing strategies should be tailored to the preferences of specific consumer segments, especially in navigating the complex consumer landscape of the digital age.

Understanding the dynamics of online user behavior across different demographics is essential for developing effective marketing strategies. As organizations continue to refine their approaches to digital marketing, recognizing and responding to generational preferences will be key to maximizing ad effectiveness.

## 5.5. Limitations and Future Research

While the findings of this study are promising, certain limitations should be acknowledged. The reliance on self-reported measures of emotional responses and relevance could introduce bias, as participants may have subjective interpretations of these constructs. Future research could employ a mixed-methods approach, integrating eye-tracking or biometric measures to assess emotional engagement more objectively.

Additionally, exploring longitudinal data would provide insights into how repeated exposure to personalized ads influences engagement over time and contributes to long-term brand loyalty. The potential for automated analysis frameworks to enhance the analysis of consumer data should also be considered.

## 6. Summary of Findings

The findings of this study illuminate the significant advantages of personalized AI-generated video advertisements over traditional advertising formats. Below is a detailed summary of the core findings:

### 1) Higher Click-Through Rates (CTR):

Personalized AI-generated video ads achieved an average CTR of 28%, significantly outpacing the 15% CTR of traditional ads. This result strongly validates Hypothesis H1, indicating that tailored content effectively captures consumer attention and drives engagement. The findings suggest that consumers are more likely to click on ads that resonate with their preferences and personal interests, reflecting a shift in marketing efficacy where personalization plays a critical role. The enhanced CTR indicates not only immediate engagement but also a potential pathway to higher conversion rates and sales.

### 2) Significant Emotional Engagement:

Participants reported substantially higher emotional response ratings for personalized ads, with an average of 4.3 out of 5 compared to traditional ads, which received an average rating of 2.7. This correlation supports Hypothesis H2, underscoring the importance of emotional appeal in advertising. The results suggest

that personalized advertising can foster a deeper emotional connection with consumers, which may lead to stronger brand loyalty. The emotional engagement associated with personalized content signals to marketers the necessity of integrating emotional storytelling and relatable themes in their advertising strategies to elicit genuine consumer responses.

### **3) Perceived Relevance and Its Impact:**

The study revealed a significant moderating effect of perceived relevance on the relationship between emotional appeal and CTR. Ads that were rated as highly relevant (above 4 on a 5-point scale) exhibited an impressive CTR of 35%. Conversely, when the relevance was rated low (below 3), the CTR drastically fell to 18%. This discovery supports Hypothesis H3, highlighting that the effectiveness of emotional appeals is amplified when advertisements are contextually relevant to the consumer. These findings emphasize that not only should ads appeal emotionally, they must also align with the current interests and needs of consumers, reinforcing the importance of data-driven personalization in advertising strategies.

### **4) Demographic Influences on Engagement:**

The research indicated notable demographic differences in CTR, with younger participants (ages 18 - 24) responding more favorably to personalized ads, achieving a CTR of 30% compared to older participants (ages 45+) who had a CTR of 20%. This suggests that younger consumers are more adaptable to personalized marketing strategies. Understanding these demographic variances is crucial for marketers, as this insight implies the need for targeted advertising that considers the distinct preferences and behaviors of different age groups. Tailoring messaging can enhance engagement and efficacy among various demographics, allowing for more strategic allocation of advertising resources.

### **5) Qualitative Feedback Highlights:**

Qualitative feedback from open-ended surveys provided deep insights into consumer perceptions. Participants highlighted three primary themes:

- **Increased Relevance:** Many respondents felt that personalized ads were highly relevant to their interests and lifestyles, which significantly improved their overall perception of the brand.
- **Emotional Connection:** Respondents frequently expressed appreciation for the emotional narratives in personalized ads, stating that such narratives made them feel understood and strengthened their connection to the brand.
- **Skepticism Towards Traditional Ads:** A substantial number of respondents stated that traditional ads felt generic and unappealing, leading to decreased engagement. This skepticism highlights the importance of innovation in advertising practices, suggesting that brands must move away from one-size-fits-all messaging.

These qualitative insights complement the quantitative results and provide a comprehensive understanding of consumer behavior in response to personalized advertising strategies.

## 7. Implications for Marketing Strategies

### 1) Prioritizing Personalization

The significantly higher click-through rates (CTRs) observed with personalized AI-generated video ads underline the importance of personalization in modern advertising. Marketers should focus on utilizing consumer data to craft tailored advertising experiences that align with the specific interests and preferences of their target audience. Advanced analytics tools and machine learning algorithms can enable marketers to gain deeper insights into consumer behavior, facilitating the creation of ads that are both relevant and compelling. By personalizing content, marketers can increase engagement and enhance the effectiveness of their campaigns [35].

### 2) Emphasizing Emotional Engagement

The findings also highlight the importance of emotional engagement in driving consumer behavior. Personalized ads that evoke stronger emotional responses—such as happiness, nostalgia, or empathy—tended to generate higher engagement. Marketers should integrate emotional storytelling into their campaigns to establish deeper connections with their audiences. When ads resonate emotionally, they foster stronger brand loyalty and enhance customer retention, leading to long-term relationships and repeat purchases [36].

### 3) Optimizing Perceived Relevance

The significant influence of perceived relevance on consumer engagement suggests that marketers need to continually assess and adapt their advertising strategies to maintain relevance. A data-driven approach, which allows real-time tracking of consumer preferences and trends, is essential for ensuring ads remain aligned with audience interests. Additionally, conducting regular surveys and gathering feedback can provide valuable insights into how ads can be refined to stay relevant and engaging over time [37].

## 8. Conclusions

This study meticulously examined the effectiveness of personalized AI-generated video advertisements compared to traditional advertising formats, yielding significant insights into consumer engagement and digital marketing strategies. The empirical findings illustrate that personalized advertisements not only substantially increase click-through rates (CTR), achieving an average of 28% in contrast to 15% for their traditional counterparts, but also enhance emotional engagement among consumers. This study supports the premise that tailored advertising content crafted from extensive consumer data analysis resonates more profoundly with audiences, leading to higher engagement and, consequently, a greater potential for conversions.

The strong emotional responses associated with personalized ads, with an average rating of 4.3 compared to 2.7 for traditional ads, highlight the critical role of emotional appeal in the advertising landscape. This finding is consistent with existing literature suggesting that emotionally engaging content fosters stronger

consumer-brand relationships, thereby driving both immediate engagement and long-term brand loyalty. Marketers are therefore urged to incorporate emotional storytelling and relatable narratives into their advertising content to forge deeper connections with their target audiences.

Furthermore, the study's exploration of perceived relevance revealed its moderating effect on the emotional appeal-CTR relationship, validating the notion that advertisements tailored to meet the specific interests and needs of consumers significantly enhance engagement. Ads rated as highly relevant demonstrated a striking CTR of 35%, emphasizing the necessity for brands to leverage consumer insights and data analytics to deliver contextually resonant advertising content that appeals to the beliefs and preferences of their audiences.

Demographic analysis identified notable variances in ad effectiveness across different age groups, with younger consumers (ages 18 - 24) exhibiting a notable preference for personalized products and experiences. This reinforces the importance of targeted marketing strategies that cater to the distinct preferences and behaviors of various demographic segments, enhancing overall campaign effectiveness in an increasingly fragmented market.

In light of these findings, future research is well-positioned to delve into the long-term impacts of personalized advertising on consumer behavior and brand loyalty. Moreover, investigations into the ethical dimensions of data collection especially regarding privacy concerns are vital in ensuring that personalized marketing efforts foster consumer trust without compromising ethical standards.

Ultimately, this research significantly contributes to the discourse on evolving digital marketing strategies, underscoring the crucial interplay between AI, personalization, emotional appeal, and demographic influence in shaping consumer experiences. By embracing these strategic frameworks, marketers can effectively cultivate more meaningful connections with today's discerning consumers, enhancing not only engagement but also long-term loyalty in a dynamic digital marketplace.

## Conflicts of Interest

The authors declare no conflicts of interest.

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