
CONSUMER BEHAVIOR TOWARDS AI-GENERATED PERSONALIZED VIDEO ADVERTISEMENTS ON YOUTUBE AND INSTAGRAM

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The rapid adoption of Artificial Intelligence (AI) in digital advertising has led to the emergence of hyper-personalised video advertisements that are dynamically tailored to individual users based on their online behaviour, interests, and preferences. Platforms such as YouTube and Instagram play a pivotal role in driving this trend due to their extensive user bases and sophisticated recommendation algorithms. While AI-generated personalised video ads enhance relevance and engagement, they simultaneously raise concerns related to privacy, intrusiveness, and consumer trust. This study aims to examine consumer behaviour towards AI-generated hyper-personalised video advertisements on YouTube and Instagram, identify key factors influencing acceptance or rejection, and suggest ethical and effective implementation strategies. The research is based on both primary and secondary data. Primary data were collected through a structured questionnaire administered to 53 respondents comprising faculty members, research scholars, and students. Percentage analysis and pie diagrams were used to analyse and interpret the data. The findings reveal that a significant majority of respondents perceive AI-generated personalised video ads as more relevant than non-personalised ads and acknowledge their positive influence on engagement, such as watching, clicking, or purchasing. However, a substantial proportion of respondents also reported feelings of intrusiveness, describing such ads as "creepy" due to excessive personalisation. Platform-based differences were clearly observed, with personalised video ads perceived as more disruptive on Instagram than on YouTube, largely due to Instagram's feed-based, short-scroll browsing experience. Additionally, transparency emerged as a critical factor influencing acceptance, as respondents indicated higher comfort levels when platforms clearly explained why ads were shown and how their data were used. The study concludes that while AI-generated hyper-personalised video ads are effective in driving engagement, their success depends on balancing relevance with user comfort, ensuring transparency, and adopting platform-specific advertising strategies.

Keywords: Artificial Intelligence, Instagram, YouTube, advertising, video advertisements

1. INTRODUCTION

The digital advertising landscape has transformed significantly in recent years with the growing integration of artificial intelligence (AI). AI technologies, such as machine learning and generative tools, now allow for the development of hyper-personalised video advertisements that adjust content in real time according to individual user interests, online activities, and preferences. This evolution has changed the way brands reach audiences on popular social media platforms like YouTube and Instagram, which attract large numbers of users through their engaging formats and intelligent content recommendation systems.

YouTube, known for its longer video experiences and built-in ad placements, and Instagram, with its visually appealing, quick-scroll feeds and short-form content like Reels, have become central spaces for delivering these AI-driven advertisements. The goal of hyper-personalisation is to make ads feel more relevant to each viewer, encouraging greater interaction—such as watching the full ad, clicking through, or showing interest in the promoted products or services. However, this heightened level of personalisation also introduces certain challenges. When ads reflect too much personal information, they can sometimes feel overly intrusive, leading some users to perceive them as unsettling or invasive of privacy. This situation illustrates a common personalization paradox: the features that make advertisements more appealing and effective can simultaneously create discomfort or reduce trust, particularly in environments where personal data is extensively used for targeting. Differences between platforms add another layer—Instagram's rapid, feed-based browsing often makes ad interruptions seem more noticeable and disruptive compared to YouTube's more seamless, video-focused flow. Transparency has become an important element in managing these issues. When users understand how their data is collected and why certain ads are shown, they generally feel more comfortable and are more likely to respond positively. Adopting ethical approaches, including offering users greater control over their information and designing strategies that suit each platform's unique style, helps strike a balance between achieving meaningful engagement and respecting individual boundaries.

Although discussions around AI in advertising are increasing, there remains a need for deeper exploration of how consumers actually respond to hyper-personalised video ads, especially across different platforms like YouTube and Instagram, and what influences their acceptance or resistance. This study addresses that need by examining consumer attitudes and behaviours toward AI-generated hyper-personalised video advertisements on these two platforms. It draws on primary data collected through a structured questionnaire from 53 respondents—comprising faculty members, research scholars, and students—and employs percentage analysis along with visual representations to interpret the responses. The research identifies key factors affecting acceptance or rejection and provides practical suggestions for responsible and platform-sensitive implementation.

By investigating these aspects, the study offers insights into how hyper-personalised advertising can effectively connect with audiences while maintaining user comfort and trust in a digital environment increasingly shaped by AI.

2. REVIEW OF LITERATURE

Bharathi N (2025) examined the challenges faced by YouTubers in a highly competitive digital environment and explored ways to enhance their performance through data-driven support systems. The study highlights the importance of real-time data collection and robust processing frameworks to generate actionable insights for content creators. By integrating advanced analytical methods and predictive modelling, the research demonstrates how creators can better understand audience behaviour and optimise their content strategies.

Goel P et.al (2025) analyse the inventive use of AI in commercials in terms of their content, looking at new trends in AI use in the advertising sector in terms of how they are presented, and talking about the moral implications of using AI in commercials. The study draws attention to the problems of deepfakes, emotional manipulation, deceptive images, and data privacy. The study recommends striking a balance between utilising clever technologies and maintaining the integrity and originality of advertisements. The results could assist companies in producing ads that use AI to engage viewers while retaining their confidence.

Joseph O. et al. (2025) examined how Artificial Intelligence (AI) can be integrated to analyse large volumes of structured and unstructured data for understanding consumer behaviour. Their study highlights that traditional analytical tools are inadequate in today's data-heavy environment, making AI-based techniques essential. They propose a comprehensive framework that demonstrates how machine learning and advanced analytics generate deeper, real-time consumer insights. The research also shows that AI improves the accuracy of identifying consumer preferences and predicting future behaviour. Overall, the study contributes to existing literature by establishing AI as a critical driver of data-driven consumer insight and strategic business decision-making.

Ogbaba I et.al. (2025) research analyses the effectiveness of AI-created advertisements among Generation Z (Gen Z) Nigerian online users. The data was examined to identify trends in user feedback across various platforms, emotional resonance, and demographic traits. The outcome of the research indicated that personalisation and emotional resonance greatly improve the effectiveness of AI-generated advertisements, with humour. The research uncovered that AI-created ads have a moderate impact on the online behaviour of Gen Z Nigerians, indicating significant room for enhancement.

A Lebrun (2025) examined how generative AI enables hyper-personalised digital advertising. The study finds that AI-generated ads are more persuasive than traditional ones. Studies state that ads can exploit users' cognitive biases. Studies note rising risks of misinformation through personalised content. The study suggests clearer disclosure for AI-generated ads. The study recommends stronger regulation to prevent manipulation. The study suggests combining technical and legal safeguards to reduce risks.

Research Gap of the study

A notable research gap across the reviewed studies (Lebrun, 2025; Paridhi et al., 2025; Ogbaga & Nweke, 2025; Joseph et al., 2025; Bharathi, 2025) is the absence of integrated, empirically validated frameworks that combine technical AI applications in advertising such as generative content, personalization, and real-time analytics with robust ethical and regulatory safeguards against risks like manipulation, misinformation, deepfakes, and privacy violations. Although these studies identify benefits (e.g., enhanced persuasiveness and consumer insights) and propose preliminary recommendations, they lack comprehensive models addressing long-term impacts on diverse demographics. This highlights the need for future interdisciplinary research to develop and test scalable solutions that balance innovation with consumer trust and societal well-being.

3. OBJECTIVES OF THE STUDY

- 1) To identify the key factors that influence consumer acceptance or rejection of AI-generated hyper-personalised video ads on Instagram and YouTube.
- 2) To analyse the role of platform differences (YouTube vs. Instagram) in shaping consumer behaviour to real-time AI-generated personalised video content.
- 3) To provide actionable recommendations for marketers and platforms on ethical and effective implementation of real-time AI-generated hyper-personalised video advertising while minimising consumer backlash.

4. RESEARCH METHODOLOGY OF THE STUDY

The study is based on both primary and secondary sources of data to ensure a comprehensive and well-rounded analysis of the research problem. Primary data were collected through a structured questionnaire designed to capture respondents' perceptions, attitudes, and behavioural responses toward AI-generated hyper-personalised video advertisements. The questionnaire was administered to a sample of 53 respondents comprising faculty members, research scholars, and students, representing an informed and digitally active group of users. This approach enabled the researcher to obtain first-hand insights into consumer acceptance, perceived relevance, intrusiveness, and engagement related to personalised video advertising on digital platforms. Secondary data were collected from a wide range of reliable sources, including books, academic journals, research articles, and online publications relevant to artificial intelligence, digital advertising, and consumer behaviour. The collected primary and secondary data were systematically organised, analysed using appropriate analytical techniques, and interpreted to derive meaningful findings and conclusions for the study.

5. DATA ANALYSIS AND INTERPRETATION

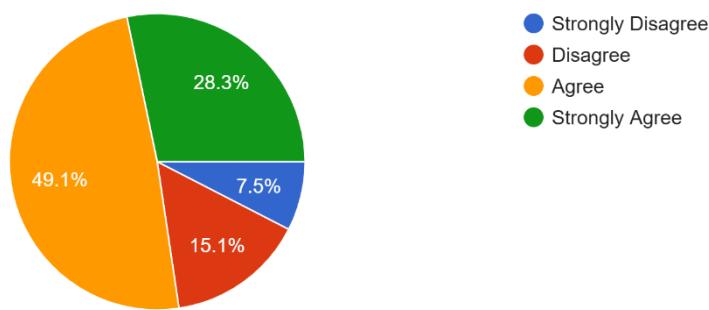
The data collected through the structured questionnaire were analysed using percentage analysis and are presented using pie diagrams for better clarity and visual representation. To assess respondents' perceptions of AI-generated personalised video advertisements, they were asked whether such ads on YouTube and Instagram are more relevant to their interests compared to non-personalised advertisements.

5.1 Relevance of AI generated Personalised Video advertisements

The responses are presented through Figure-1

Figure 1: Relevance of AI generated Personalised Video advertisements

53 responses



Source: Compiled by the researcher on the basis of primary data

- 1) 49.1% of respondents agree and 28.3% strongly agree that AI-generated personalized video ads on YouTube and Instagram are more relevant to their interests compared to non-personalized ads while 15.1% of the respondents disagree and 7.5% of the respondents strongly disagree that AI-generated personalized video ads on YouTube and Instagram are more relevant to their interests compared to non-personalized ads.
- 2) The findings reveal that a majority of respondents perceived AI-generated personalised video ads as more relevant.
- 3) Specifically, 49.1% of the respondents agreed and 28.3% strongly agreed that personalised video advertisements on YouTube and Instagram align better with their interests.
- 4) In contrast, 15.1% of the respondents disagreed with this statement, and 7.5% strongly disagreed.

Interpretation:

The results indicate a strong positive inclination toward AI-driven personalised advertising, with over three-fourths of the respondents agreeing on its relevance. This suggests that AI-based personalisation effectively enhances ad relevance by tailoring content to individual preferences and browsing behaviour. However, the presence of a smaller segment of respondents who disagreed highlights potential concerns such as privacy issues, ad fatigue, or perceived intrusiveness. Overall, the findings underscore the growing effectiveness of AI-enabled personalised video advertising on digital platforms while indicating the need for balanced personalisation strategies to address varying consumer perceptions.

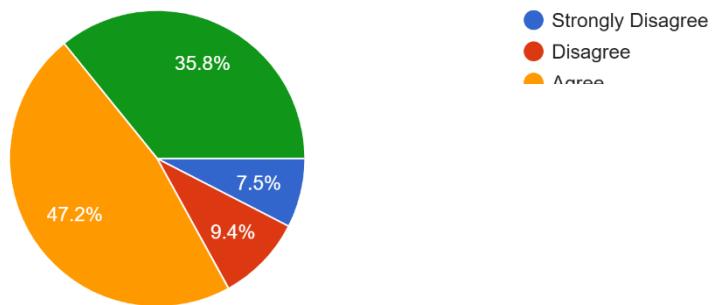
5.2 Perceived Creepiness and Intrusiveness

Following the assessment of respondents' perceptions regarding the relevance of AI-generated personalised video advertisements, the subsequent question examined whether such a high degree of personalisation results in feelings of creepiness or perceived intrusion.

After understanding respondents' views on the relevance of AI-generated personalized video ads, the next question investigates whether this high level of personalization leads to feelings of creepiness or intrusion. The respondents responded as follows:

Figure 2: Perceived Creepiness and Intrusiveness

53 responses



Source: Compiled by the researcher on the basis of primary data

A majority of respondents comprising 47.2% of the respondents agreed and 35.8% strongly agreed that AI-generated personalized video advertisements are intrusive and creepy in nature. A small minority comprising 9.4% of the respondents disagreed and 7.5% strongly disagreed that AI-generated personalized video advertisements are intrusive and creepy in nature. The pie diagram on perceived intrusiveness indicates that most respondents felt AI-generated personalized video ads know too much about their preferences or behaviour, making them appear creepy or intrusive, whereas only a limited number of respondents disagreed with this perception.

The analysis of responses, as illustrated through the pie diagram on perceived intrusiveness, indicates that a majority of respondents felt that AI-generated personalised video advertisements possess excessive knowledge about their preferences or online behaviour, thereby making them appear intrusive or unsettling. In contrast, only a relatively small proportion of respondents disagreed with this perception.

Interpretation:

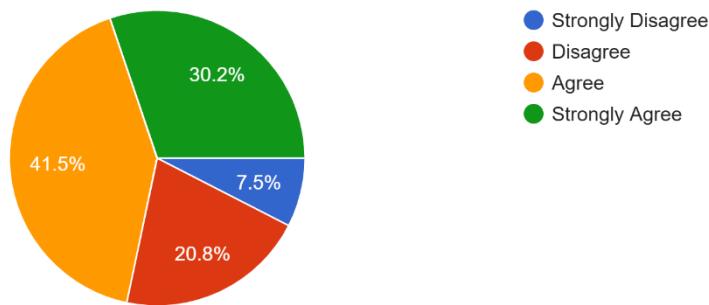
These findings suggest a paradox in consumer responses to AI-driven personalisation. While personalised video advertisements are largely perceived as relevant and aligned with individual interests, they simultaneously evoke concerns related to privacy and psychological discomfort. The perception that such advertisements "know too much" reflects growing consumer sensitivity towards data collection practices and algorithmic surveillance. This highlights the importance for marketers and platform providers to strike a balance between delivering personalised content and maintaining transparency and ethical data usage to mitigate feelings of intrusion among users.

5.3 Interruption Caused by Personalized Video Advertisements

Building on the findings related to perceived intrusiveness and over-awareness of AI-generated personalised video advertisements, the subsequent question examined whether such personalisation results in greater disruption of the user experience across digital platforms, with a comparative focus on Instagram and YouTube.

Figure 3: Interruption Caused by Personalized Video Advertisements

53 responses

**Source:** Compiled by the researcher on the basis of primary data

41.5% of the respondents agree and 30.2% strongly agree that AI-generated personalized video ads are more interruptive on Instagram than on YouTube while 20.8% of the respondents disagree and 7.5% strongly disagree that AI-generated personalized video ads are more interruptive on Instagram.

The analysis of responses, as presented in the pie diagram on platform-based interruption, indicates that AI-generated personalised video advertisements are perceived to interrupt the user experience to a greater extent on Instagram than on YouTube. A higher proportion of respondents expressed agreement with the statement that personalised video ads are more disruptive on Instagram.

Interpretation:

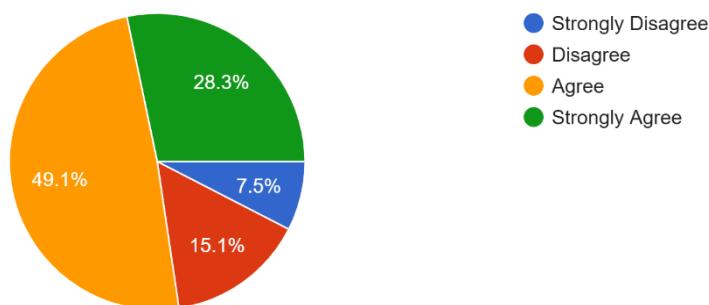
This result suggests that platform characteristics play a significant role in shaping user responses to personalised advertising. Instagram's immersive fast-scrolling and visually driven interface may heighten users' sensitivity to interruptions, making personalisation more disruptive to content flow. In contrast, YouTube users may be relatively more tolerant of video advertisements, as ads are often expected within longer-form content consumption. These findings imply that advertisers should adopt platform-specific personalisation strategies, ensuring that the intensity and format of AI-driven ads align with user expectations to minimise perceived disruption and enhance overall user experience.

5.4 Acceptance of AI-Generated Personalized Video Advertisements.

Following the examination of platform-based interruption, the subsequent question assessed whether transparency in data usage and ad targeting influences users' acceptance of AI-generated personalised video advertisements.

Figure 4 : Acceptance of AI-Generated Personalized Video Advertisements.

53 responses

**Source:** Compiled by the researcher on the basis of primary data

49.1% of the respondents agree and 28.3% strongly agree that they would be more accepting of AI-generated personalised video ads if the platform clearly explained why they are seeing the ad and how their data is collected and used. 15.1% of the respondents disagree and 7.5% strongly disagree that they would be more accepting of AI-generated personalised advertisements if the platform clearly explained why they are seeing the

ad and how their data is collected and used. The pie diagram related to transparency shows that most respondents would be more accepting of AI-generated personalized video ads if platforms clearly explained why the ad was shown and how their data was used.

The analysis of responses, as depicted in the pie diagram on transparency, indicates that a majority of respondents reported higher acceptance of AI-generated personalised video ads when digital platforms clearly explain the rationale behind ad delivery and the manner in which user data are collected and utilised.

Interpretation:

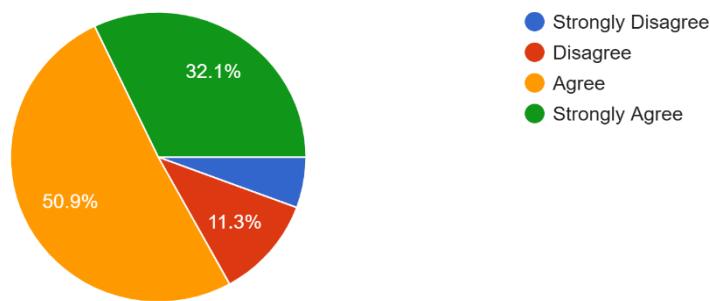
The findings highlight transparency as a critical factor in mitigating negative perceptions associated with AI-driven personalisation. Clear communication regarding data usage and ad targeting appears to foster trust and reduce feelings of intrusiveness, thereby enhancing user acceptance of personalised video advertisements. This suggests that transparency mechanisms—such as explicit disclosures, preference controls, and explanatory prompts—can play a significant role in balancing effective personalisation with ethical advertising practices. Consequently, platform providers and advertisers may improve consumer engagement by prioritising openness and accountability in AI-based advertising strategies.

5.5 Influence of AI-Generated Hyper-Personalized Video Advertisements on Consumer Engagement.

After assessing respondents' acceptance of AI-generated personalised video advertisements in the context of transparency, the subsequent question examined the impact of such advertisements on user engagement and behavioural intentions.

Figure 5: Influence of AI-Generated Hyper-Personalized Video Advertisements on Consumer Engagement.

53 responses



Source: Compiled by the researcher on the basis of primary data

A majority comprising 50.9% of the respondents agreed and 32.1% strongly agreed that AI-generated hyper-personalised video ads positively influence their likelihood to engage with the advertised product and service. A small minority comprising 11.3% of the respondents disagree and 5.7% strongly disagree that AI-generated hyper-personalised video ads positively influence their likelihood to engage with the advertised product and service.

The analysis of responses, as illustrated in the pie diagram on engagement impact, reveals that a substantial majority of respondents agreed that AI-generated hyper-personalised video advertisements positively influence their likelihood of engaging with the advertised product or service.

Interpretation:

These findings indicate that hyper-personalisation enabled by AI not only enhances perceived relevance but also translates into favourable behavioural outcomes, such as increased interest, attention, and engagement with advertised offerings. The positive influence on engagement suggests that when personalised content resonates with users' preferences, it can effectively motivate consumer interaction and decision-making. However, when considered alongside earlier findings on perceived intrusiveness, the results imply that the success of AI-driven advertising depends on achieving an optimal balance between personalisation depth and user comfort. Overall, the findings reinforce the strategic value of responsible AI-enabled personalisation in driving consumer engagement while maintaining user trust.

6. FINDINGS

The analysis of responses regarding AI-generated personalised video advertisements on YouTube and Instagram reveals a nuanced consumer perception shaped by both perceived benefits and concerns. Overall, the

findings indicate that respondents largely view AI-driven personalised video ads as highly relevant to their interests, with a substantial majority agreeing that such advertisements align better with their preferences compared to non-personalised ads. This highlights the effectiveness of AI-enabled personalisation in enhancing ad relevance and attention.

However, despite this perceived relevance, a significant proportion of respondents expressed concerns related to intrusiveness and creepiness, indicating discomfort with the extent of data awareness demonstrated by personalised ads. These concerns reflect growing consumer sensitivity towards privacy and algorithmic surveillance, suggesting that excessive or opaque personalisation may negatively affect user perceptions.

Platform-based differences were also evident. Personalised video ads were perceived to be more disruptive on Instagram than on YouTube, likely due to Instagram's fast-paced, immersive content environment, where interruptions are less expected. In contrast, YouTube users appeared more tolerant of video advertisements, as ads are more commonly integrated into longer-form content consumption.

Importantly, the findings underscore the critical role of transparency in data usage and ad targeting. A majority of respondents indicated greater acceptance of AI-generated personalised video ads when platforms clearly explained why the ads were shown and how user data were utilised. Transparency emerged as a key mitigating factor that can reduce perceptions of intrusion and foster user trust.

Finally, the study demonstrates that AI-generated hyper-personalised video advertisements positively influence user engagement and behavioural intentions. Most respondents reported a higher likelihood of engaging with the advertised product or service when exposed to personalised video ads, confirming their effectiveness in driving consumer interaction.

7. CONCLUSION

The study concludes that AI-generated personalised video advertisements have a strong influence on consumer engagement when they are perceived as relevant to individual interests. A majority of respondents acknowledged higher relevance and increased likelihood of engagement with hyper-personalised video ads. However, the findings also reveal notable concerns regarding intrusiveness, as many respondents felt that such ads know too much about their preferences or behaviour, leading to discomfort. Platform-wise differences were evident, with personalised video ads being perceived as more disruptive on Instagram compared to YouTube, likely due to differences in content consumption patterns. Additionally, greater acceptance of AI-generated personalised video ads was observed when platforms provided clarity on why the ads were shown and how user data was used. Overall, the effectiveness and acceptance of AI-generated personalised video ads depend on achieving a balance between relevance and user comfort, while accounting for platform-specific user experiences.

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