

# Users' Emotional Responses and Behavioural Intentions to Augmented Reality Ad Content Designs

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**Abstract:** This article specifically examines the emotional implications of using augmented reality (AR) technology in advertising. It primarily focuses on how users' emotional reactions and subsequent actions are influenced by the design of AR advertisements. The text examines the multifaceted impact of emotion in commercial communication, encompassing diverse areas such as political advertising and online advertising that employs hilarious storytelling. The study subsequently examines the impact of emotional components of augmented reality (AR) advertisements on users, emphasizing the crucial roles played by immersive and interactive experiences, creative design, user engagement, and other aspects in guiding emotions and shaping behavioural intentions. Ultimately, the utilization of augmented reality (AR) technology is showcased in the domains of electronic commerce, internet-based food delivery, and educational gaming. In order to gain a comprehensive understanding of emotion in AR advertising, it is necessary to conduct thorough study on the particular application and implementation methods. Additionally, it is important to examine how technological, cultural, and societal factors impact user responses. This paper seeks to analyze and combine existing studies in order to uncover the potential of emotional applications in augmented reality (AR) marketing. Additionally, it attempts to offer guidelines for future research and practical implementation.

**Keywords:** Augmented reality, Advertising communication, Emotional response, Behavioural intention, Immersive experience, Interaction design.

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## 1. Introduction

In the context of the digital era, Augmented Reality (AR) technology has become an innovative tool in the field of advertising, which creates an immersive experience for the user by superimposing virtual information in the real world. AR advertisement is not only a visual presentation, but also a way of experience that enables interaction and participation. In such an experience, the emotional elements of advertisement content design become the key factors influencing users' perception and behaviour. Therefore, exploring "users' emotional response and behavioural intention towards augmented reality advertisement content design" has become a topic worthy of attention.

Emotion plays a crucial role in advertising communication. It not only influences users' cognition, attitude and memory, but also directly relates to users' behavioural intention, such as purchase intention, brand recommendation and repurchase. In AR advertising scenarios, due to its unique interactivity and immersion, the role of emotion may be amplified, which in turn occupies a more important position in the user's decision-making process. Emotionality in the content design of AR advertisements, including the visual elements, interactive design, and storytelling, can touch the user's emotions at different levels, thus influencing their attitudes and behavioural responses to the advertisements.

In existing research, although AR advertising and emotional ad design have become popular research areas respectively, the intersection of the two - how the emotionality of AR ad content design affects users' emotional responses and behavioural intentions - has not been fully explored. This research gap suggests that understanding the mechanism of the role of emotional elements in AR ads will

help ad designers use AR technology more effectively to create ad content that can touch users' emotions and thus achieve the goal of ad communication.

The purpose of this paper is to explore how the emotionality of AR ad content design affects users' emotional responses and behavioural intentions. We will analyse how emotional elements in AR advertisements can affect users' emotional state through immersive and interactive experiences from the perspective of emotion theory and AR experience, which in turn translates into positive advertising effects. We will explore the following key questions: which emotional elements in the content design of AR ads can trigger emotional responses from users? How do these emotional responses affect users' attitudes and behavioural intentions? And how do individual differences in users (e.g., technology acceptance, immersion perception, etc.) affect this process?

By exploring these questions in depth, this paper hopes to provide theoretical and practical guidance for the emotional design of AR ad content, and to help ad designers and marketers make more effective use of AR technology to create ad experiences that can move users' hearts and minds, so as to realise the goals of ad communication.

## 2. Literature Review

AR technology has the potential to be highly effective as a tool for engaging customers because it allows for sensory marketing. Sensory marketing refers to the use of marketing techniques that engage the consumers' senses and influence their perception, judgement, and behavior (Krishna, 2012). According to recent research conducted by tom Dieck et al. (2018), the use of AR technology in marketing has significant visual effects, especially when videos are utilized (Craig,

2013). Augmented reality (AR) technology, incorporating sensory marketing components such as audio, visual graphics, and touchpoints, facilitates human-computer interaction and has the potential to enhance consumer engagement (Biswas et al., 2019; Petit et al., 2015; Satti et al., 2021). Sensory marketing is commonly implemented in augmented reality (AR) through the use of sensory interfaces, such as mobile touchscreens, that offer virtual and augmented solutions. These types of human-computer interactions involve multiple senses, specifically those that elicit emotional responses, such as touch/haptics and olfaction (Petit et al., 2015). AR marketing refers to the utilization of 3D visualization and technologies that facilitate human-computer interaction in order to stimulate user engagement. It is an interdisciplinary concept that capitalizes on these elements (Tom Dieck et al., 2018). Within the realm of AR marketing, sensory elements such as augmented visual graphics with audio and touchscreen features are utilized. These elements are part of the promotion mix and have been identified by Dwivedi et al. (2021). Among these elements, the virtual element, specifically augmented visual graphics, is supported by AR technology. This virtual element has the potential to enhance brand awareness. The use of sensory aspects is crucial in augmented reality (AR) marketing. Augmented reality (AR) applications featuring captivating virtual graphics and audio have the ability to captivate consumers. Notable instances include Burger King's augmented reality (AR) application, which allows users to virtually burn advertisements from other companies in exchange for a complimentary burger. Another example is Pepsi's bus shelter promotion, where virtual monsters, animals, and meteors are displayed on a virtual window using advanced technology. Additionally, IKEA offers 3D-augmented graphical furniture items. The aforementioned examples illustrate how incorporating sensory components into technology innovation allows Augmented Reality (AR) to deliver genuine, remarkable, and unforgettable brand marketing experiences to consumers.

### **3. Exploring the Multidimensional Role of Emotion in Advertising Communication**

In the realm of advertising communication, the role of emotion has evolved into a factor that cannot be ignored under any circumstances. In their study, Kuzmenko et al. (2022) investigated the position and function of political advertising within the framework of manipulation techniques. They paid special attention to the linguistic aspect, analyzing the ways in which the linguistic traces of political discourse influence the population in terms of psychosociological and manipulative strategies. With regard to attitudes about advertising, Untarini et al. (2022) investigated the impact of hilarious narrative online advertising, as well as the moderating function that advertising interaction played in the link between the two. In their 2019 study, I. D. Romanova and I. Smirnova investigated several methods of persuasion in advertising. They focused on the utilization of pathos, which literally means "emotion," in advertisements that aim to evoke an emotional response from consumers. In their 2019 study, Qaswa Kamran and D. Siddiqui investigated the influence that emotional advertising has on the purchase behaviors of consumers, with a particular emphasis on consumers' preferences for home appliance companies. Salman Majeed and colleagues (2017)

investigated the ways in which women react to emotionally charged commercials. For example, the experience of virtual reality, the use of persuasive techniques, the impact of emotional advertisements on purchasing behavior, and the responses of specific target groups (such as women) to emotional advertisements are all examples of the numerous applications and impacts of emotion in advertising that are revealed by these respective studies. The findings of these research shed light on the ways in which sentiment can be utilized in advertising to effectively impact the responses of consumers and their intentions to make purchases. It would be a fascinating and valuable avenue for future research to further investigate emotional advertising methods across a variety of various sorts of emotions, different types of advertising mediums, and diverse cultural contexts.

### **4. Emotional Response and User Behavioural Intentions in the Content Design of Augmented Reality Ads**

Within the context of augmented reality (AR) advertising content design, we are able to conduct an analysis of this using a number of different variables in order to investigate the junction of emotional responses and user behavioral intentions. To begin, augmented reality commercials have the ability to elicit feelings from users by means of immersive experiences. For instance, Wai Han Lo and K. Cheng (2020) investigated the utilization of virtual reality, which is a technology that is immersive, in the promotion of tourism, with a particular focus on the function that presence plays in moderating consumer responses. Second, the content design of augmented reality commercials needs to display innovation. Salman Majeed et al. (2017) examined the ways in which women's reactions to emotional advertisements revealed the significance of celebrities, music, and colors in the process of eliciting emotional responses. Furthermore, augmented reality commercials are extremely interactive, and Kuzmenko et al. (2022) examined the use of language, images, text, and music in political advertisements. These are aspects that are also frequently employed in AR advertisements to connect with people. Last but not least, as Qaswa Kamran and D. Siddiqui (2019) note out, feelings (such as love, humor, and happiness) have a beneficial impact on the consumer's intention to make a purchase.

It has also been demonstrated through additional study that the deployment of augmented reality technology in a variety of fields reveals its potential to evoke emotional responses and behavioral intentions from users. For instance, Mirela-Catrinel Voicu et al. (2023) investigated the consumer experience and satisfaction with augmented reality (AR) applications in the context of online shopping for makeup and discovered that the willingness of consumers to utilize AR applications is influenced by a number of different aspects. The researchers Mikhael Ming Khosasih and Lisana Lisana (2023) conducted an investigation into the use of augmented reality mobile applications for online meal delivery. They discovered that hedonism was the sole factor that determined whether or not clients were ready to utilize AR online food delivery apps. Through the utilization of digital biomarkers, Sangjun Eom and colleagues hat augmented reality (AR) has on an individual's temperature perception as well as their emotional states. Within the context of augmented reality (AR)-mediated learning of mobile game

applications, Y. Yu et al. (2021) conducted an investigation on learning behaviors and discovered that various teaching methods and aids can assist students in efficiently learning.

In a nutshell, the realization of emotional responses and user behavioral intentions in augmented reality advertisement content design involves the activation of emotions, the creativity and personalization of content design, the engagement of users, the formation of behavioral intentions, and the establishment of brand image and loyalty. These factors are all depicted and investigated in the aforementioned literature, which offers useful insights into understanding the mechanisms of the function that emotional elements play in augmented reality marketing.

## 5. Conclusion

The convergence of emotional reactions and users' behavioral goals is of utmost importance in the realm of advertising communication, particularly in the design of augmented reality (AR) advertising material. Based on the reviewed literature, emotion has been found to have a multifaceted impact on advertising. It plays a crucial role in various types of advertisements, including those related to politics, humor, and virtual reality (Department of Management, Universitas Negeri Surabaya, Surabaya, Indonesia et al., 2022; Kuzmenko et al., 2022; Lo & Cheng, 2020). In the case of AR advertisements, emotional responses are particularly important in the design process. These advertisements aim to create immersive and interactive experiences that elicit emotional reactions from users. These emotional responses, in turn, have an influence on users' intentions to make a purchase and their subsequent behavior (Kamran & Siddiqui, 2019; Majeed et al., 2017). Moreover, AR technology has showcased its capacity to elicit users' emotional reactions and behavioral intentions across several fields (Eom et al., 2023; Khosasih & Lisana, 2023; Voicu et al., 2023). In the field of AR ad content design, achieving emotional responses requires the activation of emotions, the development of innovative and personalized content, the increase of user involvement, the creation of behavioral intents, and the establishment of brand image and loyalty. Utilizing these aspects in the design of augmented reality (AR) advertisements not only elicits emotional reactions from users and subsequently impacts their behavioral intentions, but also establishes and strengthens brand image and loyalty to some degree.

The significance and impact of emotion have been extensively acknowledged and studied in the complex realm of commercial communication. The convergence of emotional responses and user behavioral goals has become a central area of investigation, especially in the realm of augmented reality (AR) advertising content design. Through a comprehensive examination and synthesis of the current body of literature, it becomes evident that emotion holds significant importance in political commercials, hilarious story web advertisements, virtual reality advertisements, and AR advertisements (Department of Management, Universitas Negeri Surabaya, Surabaya, Indonesia et al., 2022; Kuzmenko et al., 2022; Lo & Cheng, 2020). Emotion not only elicits viewers' innate reactions, but also impacts viewers' behavioral intents and purchase decisions to some degree (Kamran & Siddiqui, 2019). The elicitation of emotional reactions in augmented reality (AR) commercials is typically linked to elements such as the artistic composition of the material, the immersive nature of the experience, the level of

user involvement, and the degree of interactivity (Majeed et al., 2017).

The utilization of augmented reality (AR) technology in the advertising industry has showcased its distinct benefits and untapped potential. AR technology can elicit an emotional reaction in users through immersive and interactive experiences, hence impacting their behavioral intentions (Khosasih & Lisana, 2023; Voicu et al., 2023). Furthermore, AR technology has shown its capacity to elicit emotional reactions and influence users' behavioral intents in several fields, such as e-commerce, online food delivery, game-based learning, and others (Eom et al., 2023; Yu et al., 2022).

Subsequent investigations could go deeper into the precise applications and implementation processes of emotions in augmented reality marketing. Research could investigate the methods by which various emotions (such as happiness, surprise, rage, etc.) are expressed and elicited in AR commercials, and how these emotions impact the behavioral intentions of diverse target demographics. Furthermore, future investigations should explore the impact of interactivity and user engagement in augmented reality advertisements on the correlation between emotional reactions and behavioral intentions.

Future research could investigate how the most recent augmented reality (AR) technology and tools can be used to more efficiently stimulate and guide users' emotional reactions. Research might investigate the potential of augmented reality in enhancing advertising by creating a highly engaging and interactive experience. Additionally, it could explore the effectiveness of personalized and customized AR advertising content in precisely targeting certain users.

Future research should investigate variations in users' emotional reactions and behavioral intentions towards augmented reality (AR) advertisements across diverse cultural contexts, focusing on the cultural and social aspects. Research could investigate the perception and interpretation of emotional aspects in AR advertisements across various cultural contexts, and examine how these cultural variations impact the efficacy of AR advertisements.

To summarize, the utilization of emotion in the design of AR advertising material presents both challenges and opportunities in the realm of research. By thoroughly examining the interplay between several factors, including emotion, technology, and culture, we may gain a deeper understanding of the future prospects and trajectory of AR ads.

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