A Study On Consumer Awareness, Benefits, And Challenges Of Virtual Reality In Advertising With Special Reference To Coimbatore City

Ms. P. MAHESHWARI[1]

Assistant Professor, Department of Commerce with Professional Accounting

Dr. N. G. P Arts and Science College, Coimbatore, Tamil Nadu, India

HARIHARAN T[2]

Department of Commerce with Professional Accounting

Dr. N. G. P Arts and Science College, Coimbatore, Tamil Nadu, India.

ABSTRACT:

The swift evolution of Virtual Reality (VR) technology has created significant opportunities across various industries, particularly in marketing and advertising. This research investigates the application of VR in advertising to understand how immersive experiences can improve consumer engagement, foster emotional connections, and increase purchase intentions. It assesses both the advantages and challenges of VR advertisements from the viewpoint of consumers.The study identifies key factors that affect customer adoption, including perceived interactivity, personalization, and the realism of the experience. It also addresses concerns such as high development costs, limited availability of VR devices, and potential health risks. Data was gathered through a structured questionnaire distributed via Google Forms and analyzed using percentage analysis and Likert scale techniques.

The research is bolstered by a thorough literature review that examines the strategic use of VR in marketing and its effects on consumer behavior. Ultimately, the findings enhance the understanding of how VR can be effectively incorporated into advertising strategies, providing valuable insights for marketers, developers, and businesses aiming to gain a competitive advantage in the digital landscape.

INTRODUCTION:

Virtual Reality (VR) is an immersive technology that creates a simulated environment, allowing users to interact with and experience 3D worlds that feel real, even though they are entirely computer-generated. Using devices like VR headsets, motion controllers, and sometimes haptic feedback systems, users are transported into a digital realm where they can explore, interact, and even manipulate objects, as if they were physically present in that space.

The technology has applications in many fields, including gaming, education, healthcare, training, entertainment, architecture, and even therapy. VR relies on high-quality graphics, precise motion tracking, and real-time interaction to create a convincing illusion of presence, making it a powerful tool for both practical and recreational purposes.

Over time, VR has evolved from early simulations used for research and military training to a more accessible form of entertainment and education, and is now becoming a key element in emerging technologies such as metaverse platforms.

The HMD headset covers the user's vision and creates an immersive experience.

Virtual reality (VR) can be used in advertising to increase customer experience and engagement towards concerned products. There are some health concerns associated with using VR (Virtual reality)

It looks like you've shared a really solid introduction to VR! It's a great overview of the key concepts and applications of this technology. If I were to add something, I think the concept of social VR could be interesting too—VR is not just about solitary experiences but also about connecting with other people in virtual environments, whether that's through virtual meetups, concerts, or multiplayer games.

STATEMENT OF THE PROBLEM:

This study aims to identify the factors that are benefits and challenges to the customer while using VR

The discomfort faced by the customer through VR nowadays. To give awareness to customers through VR.

VR has the benefits of giving a live experience of their dream house or cars through VR. The adoption of the customer in VR.

The people are not willing to use the technology wisely.

The children above 12 years are allowed to see VR.

OBJECTIVES:

To assess the awareness level of consumers of virtual reality advertisements

To identify the benefits of virtual reality in advertising

To explore the challenges and difficulties of virtual reality advertisement

RESEARCH METHODOLOGY:

Research methodology pertains to the structured strategy employed to tackle a research issue. It can be regarded as the discipline that investigates the systematic procedures involved in carrying out research.

RESEARCH DESIGN:

- **Sampling size:** 115 Respondents

- **Sampling Technique:** Convenience Sampling Technique

- **Statistical Tools used:** Percentage Analysis, Likert Scale Analysis.

- **Primary data:** Collected 115 respondents.

- **Secondary data:** journals, books, and websites

AREA OF STUDY:

Coimbatore

PERIOD OF THE STUDY:

The period of the study ranges from **December 2024 to April 2025**

REVIEW OF LITERATURE:

Losheniuk.I, et.al (2023) The study aims to summarise the application's features, advantages, and disadvantages and develop a practical tool kit for implementing virtual reality as a means of marketing promotion for modern companies. This study is a literature review of scientific publications indexed in Scopus and Web of Science from 2010 to 2022. As a result of the study and achievement of the set goal, the following results were obtained: the essence and features of the use of virtual reality in business and product promotion were determined. The advantages and disadvantages of using virtual reality in marketing were specified; the main tools for implementing virtual reality in the marketing activities of modern companies were systematized.

Dr. ANAND MULEY, et.al (2023) Virtual reality (VR) and augmented reality (AR) have recently emerged as potent technologies that provide immersive experiences and make it possible for marketers to engage customers in novel ways. When it comes to digital marketing, the advantages of virtual reality (VR) and augmented reality (AR) include their capacity to deliver highly immersive experiences, establish emotional connections with users, and supply valuable data and insights. The attention of users is captured by these technologies, which also make it possible to tell interactive stories and enable personalized marketing campaigns based on users' actions. When analyzing the applications of virtual reality and augmented reality in digital marketing, several challenges and factors need to be taken into consideration.

Rohit Bansal, et.al (2022) Technological developments have advanced significantly. Augmented reality and virtual reality are emerging technologies and rapidly gaining popularity. Augmented reality combines the virtual world with real environment using digital visual elements, sound, or other sensory stimuli delivered via technology and creates an interactive experience. Virtual reality creates a 3D-simulated immersive environment. AR and VR are two sides of a coin. Virtual reality replaces what people see and experience whereas augmented reality actually adds to it. The study aims at understanding applications of augmented reality and virtual augmented technologies for optimizing customer engagement and challenges in implementing these technologies for developing customer engagement.

Anouk de Regt, et.al (2021) Marketing managers strive to build branded experiences that both excite and engage their customers in novel ways in order to enhance attitudes and encourage positive behaviours towards their brands. As it offers immersive and interactive encounters, Virtual Reality (VR) technology is a promising tool for managers to create these experiences, evidenced by increasing and successful VR marketing applications. Yet, the literature offers little guidance on how VR experiences can be strategically designed to create favorable customer perceptions, attitudes, and behaviors. Based on five semi-structured focus groups of 27 VR consumers, this article constructs a framework that deconstructs VR branded experiences into both narrative and social interactions to optimize strategic customer outcomes.

Abhishek Srivastava, et.al (2021) The purpose of this paper is to investigate the role of the "Big Five" personality traits (extraversion, openness, agreeableness, conscientiousness and neuroticism) on the adoption of augmented reality (AR), with a particular focus on the role AR may play in interactive marketing. A quantitative-based approach was followed by a questionnaire survey, which was completed by 230 respondents comprising graduate and postgraduate students, using structural equation modelling.

Syed Muhammad Farhan Syed Azman, et.al(2021) Virtual Reality (VR) is a technology that provides users with a whole new experience by immersing them into a virtual world. Based on a previous study made by researchers, they have found that VR has many advantages compared to disadvantages. However, few studies have been conducted regarding virtual reality as an advertising tool since the technology is still in its early stages. The purpose of this study is to identify issues and drivers, thus determining the future with this technology. This study uses future wheel implication and uses both qualitative and quantitative methods. STEEPV analysis will be used to identify key drivers of the technology and analyze the data using SPSS. Return rate of the questionnaire was 15.63% which was 60 out of 384 questionnaires distributed. The data was collected through online questionnaires. The highest key drivers of the technology are growth of VR users, increased brand recognition and brings emotional value. The least discussed drivers would be regarding the environment.

PROFILE OF THE STUDY:

INTRODUCTION OF VR:

The technology has applications in many fields, including gaming, education, healthcare, training, entertainment, architecture, and even therapy. VR relies on high-quality graphics, precise motion tracking, and real-time interaction to create a convincing illusion of presence, making it a powerful tool for both practical and recreational purposes.

Over time, VR has evolved from early simulations used for research and military training to a more accessible form of entertainment and education and is now becoming a key element in emerging technologies such as metaverse platforms.

Virtual reality (VR) is a computer-generated environment that can be used to stimulate reality using a head-mounted device called (HMD)-Head-mounted display.

OBJECTIVES OF VR:

1. To evaluate VR's impact on customer engagement, investigate how virtual reality advertising enhances consumer interaction compared to traditional methods. Explore whether immersive experiences lead to higher engagement rates.

2. Investigate how virtual reality influences emotional responses and brand awareness to gauge brand recall and emotional ties. Determine if VR advertising enhances the relationship between brands and consumers.

3. Explore whether VR experiences enhance purchase intentions to assess VR's effectiveness in shaping buying decisions. Look into cases where virtual reality has directly influenced consumer behavior.

4. To identify VR's advantages in advertising, compare VR advertising with digital and traditional marketing strategies. Assess how early adopters of VR gain a competitive edge over others.

FEATURES OF VR:

1. Immersive Experience - VR enables consumers to interact more realistically and engagingly with advertisements within a 360-degree, fully immersive setting.

2. High Consumer Engagement - VR succeeds more effectively in capturing the attention of users and maintaining it for extended periods compared to traditional advertisements.

3. Interactive Storytelling - Rather than merely allowing consumers to observe or read about a brand's narrative, brands can leverage virtual reality (VR) to create captivating stories.

4. Product Visualization - Consumers can virtually test-drive vehicles or arrange furniture in their space before making a purchase.

ADVANTAGES OF VR:

1. Enhanced consumer engagement makes advertisements more interactive and memorable, increasing the likelihood that VR ads will capture consumers' attention compared to traditional formats.

2. Brand Recall and Emotional Connection: Virtual reality allows brands to share stories in an interesting and immersive format, thereby strengthening emotional bonds.

3. Customized and Interactive Experiences: Through virtual reality (VR), advertisers can craft experiences tailored to individual user preferences, boosting customer satisfaction and engagement.

DISADVANTAGES OF VR:

1. By creating incredibly immersive experiences, VR makes advertisements more engaging and memorable, leading to a greater likelihood of capturing consumer attention compared to traditional approaches.

2. When brands utilize virtual reality (VR) to convey stories in an engaging and immersive style, they foster stronger emotional connections. This enhances both loyalty and brand recall.

3. Customized and Interactive Experiences: Advertisers can use virtual reality (VR) to design experiences suited to each user's preferences, thereby improving customer engagement and satisfaction.

4. Improved Purchase Intent and Consumer Confidence: VR enables customers to experience products before making a purchase. For example, car manufacturers allow potential buyers to virtually "test drive" vehicles, while furniture retailers enable customers to visualize products in their homes.

ANALYSIS AND INTERPRETATION:

SIMPLE PERCENTAGE ANALYSIS:

PERCENTAGE = NUMBER OF RESPONDENTS/TOTAL NUMBER *100

EMOTIONS UNDER GONE	RESPONSES	PERCENTAGE
EXCITEMENT	18	15.7%
CURIOSITY	24	20.9%
ENJOYMENT	36	31.3%
CONFUSION	21	18.3%
DISCOMFORT	10	8.7%
INDIFFERENCE	6	5.2%
TOTAL	**115**	**100**

INTERPRETATION

It is inferred with 31.3% (36) of the respondent's emotions are Enjoyment. 20.9% (24) of the respondent's emotions are Curiosity. 18.3% (21) of the respondent's emotions are Confusion. 15.7% (18) of the respondent's emotions are Excitement. 8.7% (10) of the respondent's emotions are Discomfort. 5.2% (6) of the respondent's emotions are Indifference

INFERENCE

- o Majority [31.3% (36)] of the respondents have the enjoyment.

LIKERT SCALE ANALYSIS:

Likert scale = Σ (F x X)/TOTAL NUMBER OF RESPONDENTS * 100

FAMILIAR WITH VR TECHNOLOGY	RESPONSES	PERCENTAGE	TOTAL
Very familiar	15	5	75
Somewhat familiar	38	4	152
Neutral	39	3	117
Not very familiar	16	2	32
Not familiar at all	7	1	7
TOTAL	115		383

LIKERT SCALE = Σ(fx)/ TOTAL NUMBER OF RESPONDENTS

= 383 / 115

= 3.3

INFERENCE

- o The Likert value is 3.33, which is neutral with the midpoint value of 3. This suggests that customers are generally neutral with overall experience with customers are familiar with VR

SUGGESTIONS:

Brands and advertisers should launch initiatives to educate consumers about Virtual Reality (VR) technology, how it functions, and its advantages. This could include live demonstrations at public events or in-store VR experiences to engage and inform the audience.

Since younger consumers tend to be more receptive to new technologies, focusing on them with VR-driven experiences can help lay the groundwork for broader VR adoption in Coimbatore.

To make VR more accessible, businesses could explore mobile-based VR solutions that don't require costly headsets. This would allow a wider audience to experience VR ads through smartphones and affordable VR viewers.

Small and medium-sized businesses in Coimbatore could collaborate with VR development companies or startups to create budget-friendly VR content, sharing resources to maximize their impact Collaborating with tech providers or VR companies to offer subsidized access to VR headsets or rental schemes could make it easier for businesses to incorporate VR ads.

Since VR requires high-speed internet for smooth performance, investing in faster and more reliable internet infrastructure in Coimbatore would be crucial to support VR advertising.

CONCLUSION:

Though virtual reality (VR) in advertising is still nascent in Coimbatore, its ability to transform consumer interactions and marketing approaches is clear. However, achieving widespread use will necessitate addressing considerable challenges, especially those related to consumer understanding, infrastructure, expenses, and technical know-how. Companies in Coimbatore need to evaluate these issues and take thoughtful measures to incorporate VR in a way that is both feasible and advantageous for them and their intended audience.

In spite of its promise, the use of VR in advertising encounters numerous hurdles. The high expenses associated with development, the limited availability of necessary hardware (like VR headsets), and technological constraints create significant barriers. Moreover, there is a degree of consumer scepticism surrounding this innovative technology, in addition to a lack of qualified professionals and the infrastructure required to facilitate VR adoption in Coimbatore.

REFERENCE:

1) Iryna Losheniuk, Olena Kabanova, Alina Berher, Vitalii Karpenko, Denys Didyk (2023), "The Future of Virtual Reality in Marketing and Advertising: Benefits and Challenges for Business" Futurity Economics & Law,3(3), 176– 189. https://doi.org/10.57125/FEL.2023.09.25.10

2) ANAND MULEY, SAKSHI PANDEY, N.V.S. NATTESHAN, SHARDUL SINGH CHAUHAN, ARJUN SINGH (2023), "ANALYSING VIRTUAL AND AUGMENTED REALITY APPLICATIONS IN DIGITAL MARKETING" ISSN 2063-5346

3) Rohit Bansal, Gunjan Shukla, Arjun Gupta, Amandeep Singh, Nishita Pruthi (2022), "Optimizing Augmented Reality and Virtual Reality for Customer Engagement", D I 0. 0 .ch003

4) Anouk de Regt, Kirk Plangger, Stuart J. Barnes (2021), "Virtual reality marketing and customer advocacy: Transforming experiences from story-telling to story-doing", https://doi.org/10.1016/j.jbusres.2021.08.004

5) Abhishek Srivastava, Shilpee A. Dasgupta, Arghya Ray, Pradip Kumar Bala, Shibashish Chakraborty (2021), "Relationships between the "Big Five" personality types and consumer attitudes in Indian students toward augmented reality advertising", DOI 10.1108/AJIM-02-2021-0046

6) Syed Muhammad Farhan Syed Azman, Nurazwa Ahmad (2021), "The Foresight Study of Virtual Reality as An Advertising Tool", Vol. 2 No. 1 (2021) p. 166-183