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A study of conceptual and practical shifts in contemporary advertising through AI-integrated Augmented Reality and Virtual Reality

Anchal Patel

Department of Journalism and Mass Communication, University of Allahabad, Prayagraj.

Email: anchalpatel1687@gmail.com

Abstract

In the contemporary digital age, Artificial Intelligence (AI) has equated with reshaping human life as it is crucial in performing difficult cognitive tasks like efficient learning, problem-solving and decision-making without any human interference. Artificial Intelligence is revolutionizing current scenario of advertising as it facilitates remarkable levels of personalization, automated content creation, and statistical analysis. AI-powered Augmented Reality (AR) helps in analyzing, interpreting and recognizing the physical world environment to ensure alignment of elements in virtual and real physical space. Virtual Reality (VR) enabled by AI helps in developing responsive stimulus which adapts and responds to user's action. With this metamorphosis and shift of paradigm, advertising adapts to more dynamic, interactive and user-friendly approach. Despite accelerated adaption of AI-driven AR and VR technologies in advertising through the lens of advancement holds potential, there is a need to analyse the conceptual and practical shifts brought by them in contemporary advertising strategies with special reference to their impact on audience engagement, ethics and creativity.

The objectives of the study aim to examine the transformation through AI integrated AR and VR in contemporary advertising strategies, analyse practical implications on brand perception, audience engagement, and communication effectiveness, and to explore future potential and limitations of integrating AI, AR and VR. The study has empirical orientation. To explore the conceptual and practical shifts caused in advertising patterns the research uses qualitative and conceptual research design. The aim of the study is to analyse advertising in Myntra, which is a fashion and lifestyle e-commerce platform and Lenskart an online-offline optical retail chain which uses AI-integrated Augmented Reality and Virtual Reality by using existing scholarly analysis, published reports and case studies.

Keywords

Artificial Intelligence, Augmented Reality, Virtual Reality, Contemporary Advertising

*Corresponding author

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1.0 Introduction

Artificial Intelligence (AI) is defined as a technology-enabled system for evaluating real-time service scenarios using data collected from digital and/or physical sources to provide personalized recommendations, alternatives, and solutions to customers' enquiries or problems, even very complex ones (Xu et al., 2020). The emergence and growth of Artificial Intelligence have developed a base for intelligent automations in the advertising industry (Lai, 2021). The contemporary advertising ecosystem is going through transformation which can be understood by efforts to utilize digital technology to adjust to evolving commercial environment to face competition (Verhoef et al., 2021).

AI in advertising helps with personalization and manipulation with the aim to high contextual customization which enables tailoring advertisement to individual needs by using the data extracted from social media, retail sensors and loyalty programs based on individual consumer (Campbell et al., 2020). In developing advertising strategies AI technology provides useful insights which helps in increasing the efficiency, with the help of AI in advertising one can get useful insights which aids in constructing effective strategies (Haleem et al., 2022).

Studying the conceptual and practical shifts in contemporary advertising through AI-enhanced Augmented Reality (AR) and Virtual Reality (VR) is essential as it provides valuable insights into how advertising pattern is reshaping through the technological advancement, the audience engagement and brands updating the methods of delivering messages. The inclusion of AI might have provided a space for integration of creative, interactive and narrative experiences but it is important to understand the brand perception, audience engagement, communication effectiveness, and to explore future potential and limitations of integrating AI, AR and VR. To examining these developments and to understand it further the case studies of Myntra, which is a fashion and lifestyle e-

commerce platform and Lenskart, online-offline optical retail chain is studied.

Review of Literature

Donthu et al. (2021) state that in past few decades there has been an evolution in the advertising landscape. Qin & Jiang (2019) found that with the advancement in technology in digital media, advertising industry has also changed over time. There has been a shift in technology from traditional forms, like newspapers, radio, billboards, and television to various other new innovative media and platforms. To increase ad delivery optimization and effectiveness, advanced advertising media uses AI. Chen et al. (2019) asserts that use of AI in advertisement has increase the competency, personalization, facilitating niche advertising, and helped in obtaining valuable information regarding consumer insight, media planning, advertisement creation, buying and impact evaluation.

Nikolajeva & Teilans (2021) highlights that personalization in advertising in the form of recommendation systems with the integration of AI has become non-negotiable tool for major technology corporations like Facebook, Netflix, Amazon, Yahoo and YouTube. Labib (2024) argues that the contemporary concept of advertising and advertising content is being challenged by recent technological advancements, specifically due to the inclusion of Artificial Intelligence (AI) and machine learning. Laux et al. (2022) suggest that behavioral targeting is used by advertisers to track online behavior of consumers, such as frequency of visited website and liking social media posts.

Malthouse & Copulsky (2023) state that with the help of AI technology valuable insights can be obtained by analyzing behavior of consumers that helps in formulating effective strategies which further reinforces decision-making and efficiency in processing advertising information. According to Ford et al. (2023) Artificial Intelligence uses various functions such as Image Recognition (IR), Speech, Recognition (SR), Natural Language Generation (NLG), Machine Learning (ML), Natural Language Processing (NLP) and Image and speech generation

is responsible for Add optimization, Personal, Generation

Most of the previous studies do not focus on the conceptual or practical shifts of contemporary advertising specifically because of Artificial Intelligence integrated Augmented Reality and Virtual Reality.

Research Methodology

Research Problem

With the introduction of AI in the advertising field there has been a transformation. This can be observed through the creative expression which uses Augmented Reality and Virtual Reality but there lies a gap in understanding how AI redefines the core concept of communication through new means. The paradigm shift and its effect the global diaspora of advertising is also unexplored.

Research Objectives

- To understand the transformation through AI integrated AR and VR in contemporary advertising strategies.
- To explore practical implications on brand perception and communication effectiveness.
- To analyse future potential and limitations of integrating AI, AR and VR.

Research Questions

RQ1: How do advertising professionals conceptualize the role of AI-integrated AR and VR in contemporary advertising?

RQ2: What practical transformations have emerged in advertising strategies and consumer engagement due to these technologies?

RQ3: What ethical, creative, and methodological implications arise from this shift?

Theoretical Framework

Technology Acceptance Model (TAM)

This model provides the basis of understanding the willingness of users to engage and adapt new technology as it is perceived as a tool to ease the association and help in engagement (Davis, 1989).

Stimulus Organism Response (SOR) Framework

This framework highlights how external stimuli such as AI-powered AR/VR in advertising is responsible for affecting individual's cognitive, psychological, emotional acceptance and behavioral responses (Mehrabian & Russell, 1974).

Research Design

The study adopts an empirical orientation with a qualitative and conceptual research design. It aims to analyse how AI-integrated Augmented Reality (AR) and Virtual Reality (VR) are transforming conceptual approaches and practical strategies in contemporary advertising. This is a secondary data based and non-experimental study. The research relies on available research and scholarly sources.

Data Sources

The sources of data include books, theoretical literature, peer-reviewed journal articles, marketing-related publications, insights from digital industries, case studies of fashion and lifestyle brand 'Myntra' and optical retail e-commerce platform 'Lenskart' using AI-powered AR/VR in advertising. These sources provide insight of conceptual and practical shifts with integration of AI.

Sample design

The study uses purposive sampling technique for the selection of data which represent transformative role of AI-integrated AR and VR. Myntra, a prominent fashion and lifestyle brand and Lenskart a known optical retail e-commerce company is selected as these use immersive technology in their advertisement's strategy.

Data collection

Keyword-based searches related to AI, AR and VR-integrated advertising is studied. Systematic review of academic researches. Case studies of fashion brand

‘Myntra’ and e-commerce platform ‘Lenskart’ using AI-powered AR/VR in advertising.

Data analysis and representation

Case Study analysis of AI-integrated AR/VR advertising campaigns in Myntra and Lenskart.

In this study available scholarly journals, data from global management and consulting firm, reports of India E-commerce Index, data from sales over years of company, and advertisement campaigns are studied thoroughly in which integration of AI, AR and VR in advertisements is observed, the comparison of increase in sales rate with this integration is noted and also the decline of rate of return is considered.

Virtual Reality in fashion industry creates a three-dimensional environment for involving user’s senses in shopping experience by increasing their involvement, heightening senses, providing a real store-like simulation and being cost-effective (Park et al., 2018).

Augmented Reality is also being used in fashion industry to enhance shopping experiences and inculcate sustainable practices (Li et al., 2021). AR is not only useful for entertainment purposes but also extends to redefining the new shopping experience and affect consumer behavior (Negm, 2024). AR creates immersive and interactive customer experience by connecting digital content to physical world in the form of detailed product visualization and virtual try-ons (Silvestri, 2020). The virtual try-ons help consumers to experience different articles before purchasing, it enhances consumer satisfaction and reduces rate of returns (Romano et al., 2021).

Myntra

The technological advancement has resulted into influencing and advancing the online retail scenario too. There is a transition in the technologies used in these industries. Previously the traditional technology was heavily based on static displays of products, advertisement banners, and a single type of audience tailored message, this is now replaced by more interactive, targeted and personalized approach

in the forms of virtual try-ons, dynamic displays, interactive tools, styling suggestions based on algorithm and targeted messaging with the help of AI-mediated Augmented Reality and Virtual Reality (Jin & Shin, 2020).

According to e-retail.com from Economic Times, Myntra uses futuristic technologies like AI and data mining to boost their retail segment by coming up with new apparel styles and patterns for their in-house brands like Moda Rapido and Here and Now. The integration of AR and VR features with AI in Myntra a significant evolution can be seen within Indian fashion industry landscape as it aligns with growing trends of interactive, data-backed, informed and engaging online shopping experience.

Myntra’s brought ‘Talking T-Shirts’ from the brand Roadster with the help of Augmented Reality. Myntra Chief Products Officer Ambarish Kenghe told PTI that new designs are created with the use of AI. It also uses the camera of the phone to figure out what a person is wearing provides a rating. It is for the fashion-conscious audience who would want to wear the latest trends and be seen as fashionable,

(Kumar & Sekhar, 2024) IEEE case study shows that Myntra uses AI into various areas including image-based search tools, prediction models, automated designs and personalized recommendations which shows a clear shift of paradigm from conventional catalogue model to smarter AI-driven engagement.

Research on generative AI in Indian fashion sector in brands such as Myntra shows huge reliability on AI-driven content generation, predicting fashion trends, and automation showing a shift from traditional inventory-driven responses to dynamic trend-based production management. This research shows that AI is being used not only personalization but also in reimagining the ideation, consumer preference analysis, visual trends and microtrends on social-media, thus, providing the solution to emerging demands (Ajay Kumar & Sekhar, 2024).

Although there is lack of peer-reviewed research specifically regarding Myntra’s AR/VR systems, the academic literature present on virtual try-on system

offers a prominent theoretical grounding for understanding how these systems work. For instance, virtual try-on systems usually require deep learning models including body segmentation, human-pose estimation systems and GAN-based rendering of garment to create realistic visuals of how the clothes would fit and appear. These changes in the advertising in Myntra resulted in reducing uncertainty about the size, style, and suitability of product which previously caused abandonment of cart and higher return rates (Xie, et al., 2021).

In this way AI has redefined advertising and marketing in past decades as it has dynamically transformed how people interact and associate with online shopping with the aid of generative fashion assistant, recommendations based of styling preferences and its algorithm-based experience making it less of promotional agenda and more of an integrated experience.

Thus, Myntra’s approach showcases how advertising has converted into something more than a display of product detail in a very static form but has transformed into personalization with unique experiences of immersive technology based on algorithm unified as one. Rather than depending on traditional methods, the approach is new with AI its basis, it uses augmented and Virtual Reality to back its work on mostly user experience. This shift highlights how the brands are adopting a different approach than persuasion which is a classic advertising pattern and are associating themselves with interactive models. This shows a paradigm shift in fashion and e-commerce industries with the example of shift in Myntra’s advertising ecosystem in contemporary advertising and retail practice.

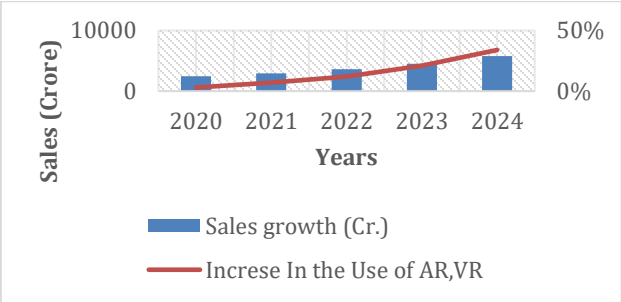


Fig.A. Sales Growth (Cr.) and Increase in AR/VR Adoption: 2020–2024

(Source: Bain & Company — How India Shops Online 2025)

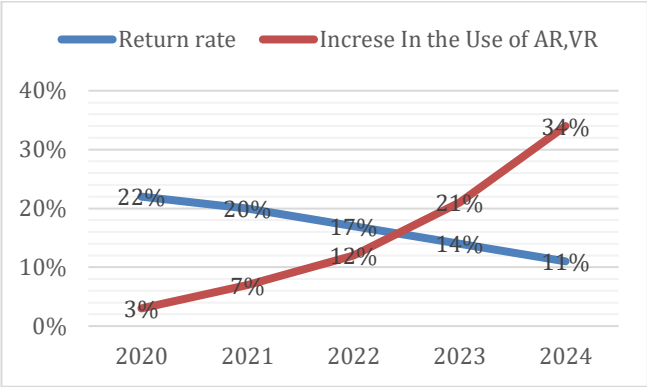


Fig.B. Return Rate Reduction (%) with Increasing AR/VR Usage: 2020–2024

(Source: India AR market report, 2024)

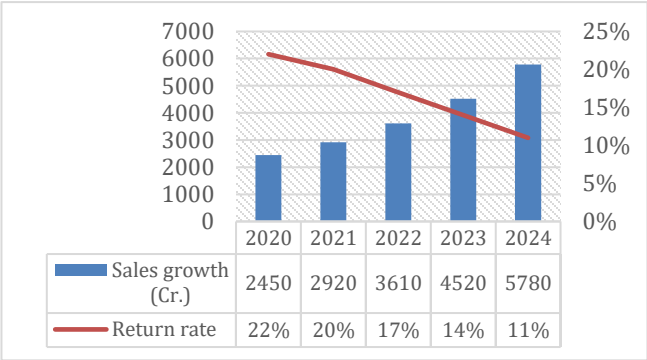


Fig.C. Year-wise Sales Growth (Cr.) and Return Rate Performance: 2020–2024

(Source: India E-commerce Index 2023 / Unicommerce reports)

Lenskart

Lenskart is India’s one of the leading eyewear brands to incorporate AI in form of AR/VR. Its novel approach has resulted in redefining the customer experience, easing operation and marketing. The mobile application of Lenskart uses 3-D AI-embedded virtual try-ons which helps the customers to virtually try the desired product using their phone camera. This helps customers to ease up the process of choosing and reduces the necessity of being physically present or visiting the store to check the right product, style and fit. This becomes possible with the help of AI backed facial features recognition and mapping virtual eye wear with the help of computer vision techniques. This showcases the emphasis on personalization by the use of AI by Lenskart (Ashlin & Chitra, 2025).

Stock management, demand prediction and pricing supervision in Lenskart is also carried out with the use of AI in the backend from operational perspective to empower inventory management. The company also analyses seasonal demand, geographical trends and buying patterns using data analytics to stock up the right product of need and manage the supply chain (Amosu et al., 2024).

From the advertising perspective, the campaigns done by Lenskart shows use of AI in great detail. The prominent among them being:

1. “Nazar Ghati, Durghatna Ghati 2.0” campaign
This campaign uses IPL footage to highlight that if the vision is not clear it can result in mistakes both on and off the field. In this ad lenskart promoted its blue lenses and showcases the use of AR/VR in the form of virtual try-on. It also shows the availability of over 10,000 styles of frames and the mechanism of face detection to the users.
2. K-pop advertisement campaign
Lenskart used AI-backed ad campaigns for the K-pop eye wear collection with collaboration with Astro IRIS, the K-pop band. It was a blend of AI, marketing and fashion.
3. Lenskart’s YouTube campaign

According to the Outlook business report to educate consumers on YouTube, Lenskart demonstrated its visual of try on glasses with the help of video. This video has been a part of advertising campaign partnered with Vikrant Massey for launch. According to the company 1.3 million users installed it and 70% of those users have tried virtual try-ons.

This shows a shift in approach from traditional advertising in the form of printed banners and television ads to experiment based, tech-backed advertising. It shows ad is not just a way of conveying message but it is more interactive tool.

Lenskart has also expanded its dimension to next level by introducing it’s smart-glasses platform called ‘B by Lenskart’. This will integrate AI, hardware and software to build wearable ecosystem (Gupta & Nair, 2021).

The inference concludes that from an ordinary optical retail company, Lenskart is transforming with the help of AI-integrated AR/VR technologies to showcase holistic advanced version of itself by including AI-powered wearables, blending fashion with technology and improving user experience.

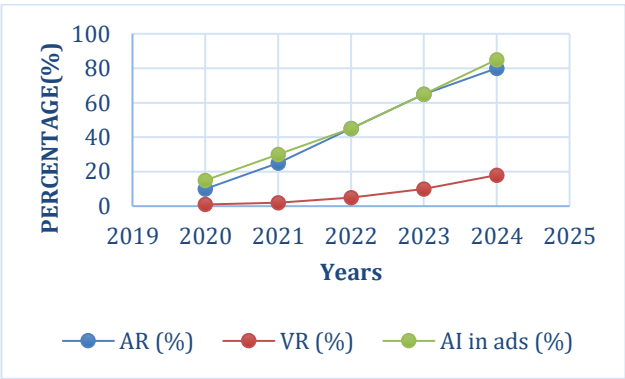


Fig.D. Growth in the Use of AR, VR, and AI in Lenskart Advertising (2020–2024)

(Source: Lenskart blog — Virtual AR Experience (June 2022))

Result and Discussion

The figure A. shows a graph of increase in sales at the y-axis and years from 2020 to 2024 at the x-axis. The sales of products have increased over the years with the integration of AI in advertising in the given graph. The source of derived data is *Bain & Company*, a global management and consulting firm who published a report in which it analyses the evolution of online e- retail (online retail) in India in a report '*How India Shops Online 2025*'. The data of sales over years is obtained from Myntra's sales reports.

Figure B. shows the decline in rate of returning products on Myntra over the years with the integration of AI, AR and VR, as per *India AR market report, 2024*. Figure C. explains year-wise sales growth with decline in return rates of Myntra between 2020 and 2024 from the reports of *India E-commerce Index 2023/Unicommerce* reports, it tracks metrics like returns, order volume, merchandise value etc.

The graph in Figure D. shows growth in the use of AR, VR, and AI in Lenskart Advertising as per the report published by Lenskart blog in the report of 'Virtual AR Experience June 2022'. From the graph it can be understood that Lenskart has integrated AI over the years in their advertisements.

The future potential of integrating AI, AR and VR show hyper-personalization, effective collaborations and next generation immersive and dynamic approaches in advertisement. This helps to understand a dynamic approach which is engaging the world in new ways. However, the limitation lies in data privacy and over dependence on data to improve advertising ecosystem.

Conclusion

The evolution of advertising through AI-integrated Augmented Reality (AR) and Virtual Reality (VR) marks not just a technological shift, but a cultural shift in how brands and audiences relate to one another. Advertising in current scenario is not just limited to static display of messages on screen but it has taken a dynamic form with the integration of personalization, adaption of creative and emotional

outlook. This study highlights that AI, AR, and VR have reconstructed advertisements from uniform promotions to more engaging form in which the consumers are not spectators but actively participate and engage. The cases of Myntra and Lenskart show that the consumers are not seeking for products but also personalization, meaningful interaction which eases their life and help with their purchase decision. Ultimately, it can be seen that there is a prominent integration of AI in advertisement, and as this adaptation is increasing, it is responsible for boosting the sales of companies and resulting into decline in the return rates over the years.

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