



“A STUDY ON THE IMPACT OF AR AND VR ON CONSUMER BEHAVIOR FROM BROWSING TO EXPERIENCING”

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ABSTRACT

This study explores the transformative impact of Augmented Reality (AR) and Virtual Reality (VR) on consumer behavior, focusing on how immersive technologies influence purchase intentions, brand engagement, trust, and customer satisfaction in online shopping environments. As AR/VR becomes integral to marketing strategies, particularly among younger consumers aged 18–24, understanding psychographic and demographic influences is critical. The research highlights gender based differences in perception, with males responding more favorable to AR/VR benefits, shopping frequency remains unaffected by gender. Despite positive consumer attitudes, challenges like privacy concerns and technological complexity persist. The study emphasizes the need for userfriendly, secure AR/VR platforms and targeted marketing strategies to maximize consumer engagement. By analyzing real-world applications and psychological factors, the findings offer valuable insights for businesses aiming to leverage AR/VR for competitive advantage in an evolving digital marketplace.

KEYWORDS: AR, VR, Consumer behavior

INTRODUCTION:

Virtual Reality (VR) and Augmented Reality (AR) are revolutionizing consumer behavior by allowing users to experience digital elements in real-world or fully simulated environments. These immersive technologies are increasingly used by businesses for marketing, shopping, and brand engagement. However, there is limited research on their impact on consumer behavior, such as increased engagement, brand trust, and psychological factors driving

preference for AR/VR shopping over traditional ecommerce. Understanding these issues will help businesses optimize their use of AR/VR to enhance customer experiences and drive sales.

AR and VR are powerful tools that allow brands to create unique and memorable experiences for consumers, providing trust and transparency. By fostering trust and loyalty, the technologies contribute to long-term customer relationships and repeat business. Retailers can use AR and VR to create virtual stores, providing convenience, personalized recommendations, and a unique shopping experience. By integrating ecommerce with AR and VR, businesses can bridge the gap between online and offline retail.

However, AR and VR still face barriers to widespread adoption, such as specialized hardware, technical limitations, and privacy concerns. To overcome these challenges, brands must optimize their content, work within technology constraints, and maintain clear communication and transparent data practices.

Despite these challenges, the potential benefits of AR and VR in visual marketing are significant. Brands that address these obstacles and create immersive, accessible, and compelling experiences can stand out, capture consumer attention, and create memorable brand interactions.

OBJECTIVES OF THE STUDY

1. To investigate how AR and VR affect consumers' purchase intentions and decision-making processes.
2. To analyze how immersive experiences influence brand engagement and consumer perceptions.
3. To evaluate the impact of AR and VR on customer satisfaction and trust in online purchasing.
4. To assess psychographic and demographic elements affecting AR/VR adoption.
5. To study the long-term effect of AR and VR on consumer loyalty and behavior.

LITERATURE REVIEW

Liu, R., Balakrishnan, B. and Saari, E.M., (2024), This study shows the impact of augmented reality (AR) technology on customer shopping habits is examined in this article, with a focus on the shift from traditional retail to online try-on experiences. It draws attention to the difficulties and possibilities presented by e-commerce, especially with regard to personalized furniture, virtual reality shopping, and accessibility for people with visual impairments. The paper also addresses the growing popularity of AR, how it affects consumer choices, and potential directions for future research.

Rejeb, A., Rejeb, K. and Treiblmaier, H., (2023), This study Enhances the customer experience, strengthening customer-brand relationships, bolstering marketing initiatives, and fostering competition are the four main ways that augmented reality (AR) in retail marketing is enabled, according to a thorough literature study. Technical constraints, consumer-focused problems, technological immaturity, and organizational problems are among the difficulties.

de Amorim, I.P., Guerreiro, J., Eloy, S. and Loureiro, S.M.C, (2022), This study examines how augmented reality affects consumers' emotional and cognitive reactions, with a particular emphasis on a supermarket prototype application. The findings indicate that media richness affects brand engagement, customer decisions, and purchase intent. According to the survey, even in cutting-edge augmented reality retail shopping experiences, content is crucial for communication.

THEORETICAL FRAMEWORK:

Augmented Reality (AR) Definition:

Augmented Reality is a technology that overlays digital information—like images, videos, or 3D models—onto the real world through devices like smartphones, tablets, or AR glasses.

Virtual Reality (VR) Definition:

Virtual Reality is a fully immersive technology that creates a simulated environment using headsets and sometimes motion controllers, completely replacing the real world.

IMPORTANCE OF AR & VR:

- **Enhancing User Experience:** AR and VR enhance user experience by providing interactive, immersive environments, making learning, gaming, and shopping more enjoyable and meaningful.
- **Advancing Education and Training:** AR and VR are revolutionizing education by providing hands-on learning experiences, enhancing comprehension and retention through simulated environments and digital information overlaying on real objects.
- **Improving Productivity and Efficiency:** AR and VR enhance productivity and efficiency in industries like manufacturing, healthcare, and corporate work by providing real-time information and training employees in hazardous environments.

CONSUMER BEHAVIOR – MEANING

Consumer behavior is the study of how individuals, groups, or organizations choose, purchase, use, and dispose of goods, services, or experiences to satisfy their needs. It helps businesses predict consumer needs, adjust marketing strategies, and identify problems. Factors affecting consumers include personal values, social norms, marketing campaigns, product features, and environmental conditions.

IMPORTANCE OF CONSUMER BEHAVIOR:

- **Helps Understand Consumer Needs and Wants:** Studying consumer behavior allows businesses to identify what customers truly need and prefer, helping them develop products and services that satisfy those needs.
- **Improves Product and Service Development:** By analyzing how consumers react to different features, businesses can design better products, improve quality, and introduce innovations that appeal to the target audience.

- **Enables Effective Marketing Strategies:** Knowledge of consumer behavior helps in creating targeted marketing campaigns, choosing the right advertising channels, and crafting messages that resonate with customers.

DATA ANALYSIS AND INTERPRETATION:

This chapter describes the steps taken in the process of choosing the subjects, variables, research design, reliability of data, subject orientation, test administration, and statistical methods used in the study

RESEARCH DESIGN:

The study examines the relationship between AR/VR experiences and various aspects of consumer behavior in online shopping. A structured questionnaire was used to collect primary data, while secondary data was gathered from journals, articles, websites, and published research. The research design is exploratory and descriptive, aimed at understanding perceptions, behaviors, and intentions of online consumers when exposed to immersive technologies. Convenience sampling was employed due to the accessibility of respondents with prior exposure to AR/VR interfaces.

DATA COLLECTION METHOD:

- Data was collected using both primary and secondary sources.
- Primary data was gathered through a well-structured questionnaire using Google Forms.
- Secondary data helped in designing the questionnaire and framing the study background.
- The questionnaire was circulated among diverse consumers across professions and geographic locations.

TOOLS FOR DATA COLLECTION:

- Utilized Google Forms for quantitative data collection
- Review of secondary data sources like literature and government reports.
- Utilized statistical software like SPSS & Excel for data analysis.

DATA ANALYSIS:

Respondent Profiles:

- Focuses on respondents' personal and professional information.
- Uses frequency analysis for data presentation.

Hypothesis Testing:

- Conducts hypothesis testing using Chi-square, standard deviation, and anova tests.

Chi – Square Statistics for the Relationship Between Different Age Groups and Likelihood.

Null Hypothesis (H₀): There is no significant association between age group & likelihood.

Alternative Hypothesis (H₁): There is a significant association between age group & likelihood.

| AGE | LIKELIHOOD | | | | | Chi Square | significance | P Value |
|----------------------|------------|---------|----------|-------------|---------------|------------|--------------|---------|
| | Likely | Neutral | Unlikely | Very likely | Very unlikely | | | |
| 18 - 24 years | 14 | 17 | 0 | 5 | 1 | 28.601 | 0.05 | 0.02 |
| 25 - 34 years | 0 | 3 | 1 | 0 | 0 | | | |
| 35 - 44 years | 1 | 3 | 0 | 0 | 0 | | | |
| 45 - 55 years | 0 | 1 | 1 | 0 | 1 | | | |
| Below 18 | 0 | 1 | 1 | 0 | 0 | | | |

Source: Computed Data

Interpretation:

This table shows correlation between age group and the likelihood variable, according to the chi-square test result with a chi-square value of 28.601 and a p-value of 0.02, which is less than the significance level of 0.05, the null hypothesis is rejected. This suggests that individuals' responses regarding likelihood whether they are likely, neutral, unlikely, very likely, or very unlikely are not independent of their age group. In other words, age plays a significant role in influencing how likely someone is to respond in a particular way. For instance, a greater number of respondents in the 18–24 age group reported being "likely" or "very likely," whereas other age groups showed more neutral or unlikely responses.

FINDINGS:

- AR and VR positively influence purchase intentions and decision-making.
- Consumers show increased trust and satisfaction when using AR/VR in online shopping.
- Younger consumers (18–24) are the most active adopters of AR/VR.
- AR/VR reduces product returns by providing better product visualization.
- Privacy concerns and lack of accessibility are barriers to adoption.

SUGGESTIONS:

- Develop user-friendly AR/VR platforms to improve accessibility.
- Address privacy and security concerns to build consumer trust.

- Provide affordable AR/VR solutions to encourage adoption. • Launch awareness campaigns highlighting AR/VR benefits.
- Encourage businesses to integrate AR/VR into e-commerce and retail strategies.

CONCLUSION:

AR and VR are reshaping consumer behavior by offering immersive, engaging, and trustworthy shopping experiences. These technologies enhance brand engagement, reduce uncertainty, and increase satisfaction. However, challenges such as privacy concerns, technical complexity, and affordability must be addressed for widespread adoption. Businesses that integrate AR/VR strategically can gain a competitive edge in the digital era.

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