

Enhancing Customer Engagement and Purchase Intent through Augmented Reality in Online Shopping Platforms

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Abstract

This research investigates the impact of Augmented Reality (AR) on customer engagement and conversion during online purchases on e-commerce platforms such as Amazon and Flipkart. The integration of AR tools in online retail has grown significantly, offering customers immersive, interactive experiences that simulate real-life product use. This study evaluates the effectiveness of AR by analyzing customer perceptions, engagement levels, and purchase intent using a structured survey and data analysis through SPSS. Findings reveal that AR not only increases customer engagement but also positively influences purchase decisions. The paper offers recommendations for online retailers seeking to implement AR technologies effectively.

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Introduction

With the evolution of digital technologies, e-commerce platforms are exploring innovative strategies to captivate customer attention. Augmented Reality (AR) has emerged as a powerful tool, blending digital content into the real world, allowing customers to interact with products virtually before purchasing. On platforms like Amazon and Flipkart, AR enhances decision-making by enabling customers to visualize products in real-world environments—such as trying on clothes, placing furniture virtually, or testing makeup—thereby increasing engagement and influencing buying behavior. This paper explores how AR contributes to online shopping success and its influence on customer behavior.

Statement of the Problem

Despite the growing adoption of AR in online retail platforms, there is a lack of comprehensive understanding of how these tools influence customer behavior specifically during the decision-making phase of a purchase. Marketers and e-commerce platforms need empirical evidence on whether AR tools effectively enhance engagement and drive purchase intent, or if they merely serve as technological novelties. This study addresses this gap by analyzing the measurable impact of AR experiences on users of Amazon and Flipkart.

Research Questions

- How do Augmented Reality features on Amazon and Flipkart influence customer engagement during online shopping?
- What is the relationship between AR engagement and customer purchase intent on these platforms?

Literature Review

Several studies highlight the growing role of AR in enhancing online marketing experiences.

- Pouchné & Vasquez-Parraga (2017)^[2] found that AR increases perceived value and enjoyment, leading to stronger purchase intentions in e-commerce environments.
- Javornik (2016)^[1] suggested that AR provides experiential value, increasing interactivity and customer satisfaction during online shopping.
- Yim, Chu & Sauer (2017)^[4] observed that AR applications bridge the gap between physical and digital shopping experiences, strengthening brand loyalty.
- Scholz & Smith (2016)^[3] emphasized AR's ability to influence consumer decision-making by reducing uncertainty.

- Pantano & Servidio (2012)^[5] explored AR's role in improving user experience through product visualization, concluding that AR increases confidence in online purchasing.
- Heller *et al.* (2019)^[6] investigated mobile AR interfaces and found significant improvement in product comprehension and intent to buy.
- Hilken *et al.* (2017)^[7] demonstrated that AR positively affects brand attitude and the perceived informativeness of online shopping.
- McLean & Wilson (2019)^[8] concluded that the realism provided by AR builds trust and reduces perceived risk in online retail environments.
- Olsson *et al.* (2013)^[9] analyzed customer expectations and motivations behind AR use and found it to be closely linked with personalization and novelty in shopping.

These studies collectively suggest that AR is more than a novelty; it is a strategic tool for online retailers like Amazon and Flipkart to drive measurable outcomes.

Objectives of the Study

1. To evaluate the impact of AR tools on customer engagement in online product promotion on sites like Amazon and Flipkart.
2. To analyze the influence of AR experiences on consumer purchase intent during online shopping.

Research Methodology

This study adopts a quantitative research approach.

- **Sample Size:** 100 respondents (consumers familiar with AR marketing tools on Amazon, Flipkart, and similar platforms).
- **Sampling Technique:** Convenience sampling.
- **Instrument:** Structured questionnaire with Likert scale items.
- **Data Analysis Tool:** SPSS software for statistical analysis (descriptive statistics, correlation analysis).
- **Study Area:** Urban online shoppers in Vijayawada.

Discussion on Objectives

Objective 1: To evaluate the impact of AR tools on customer engagement in online product promotion. Customer engagement refers to the emotional and cognitive connection between the consumer and the brand, often reflected in time spent, interactivity, and satisfaction levels. AR tools on e-commerce platforms like Amazon and Flipkart enhance this engagement by making product exploration more interactive and realistic.

Example: Amazon's AR View feature allows users to place 3D models of furniture in their living space using a smartphone. This interactive visualization creates a deeper involvement than static images, leading users to spend more time on the app.

Flipkart's Virtual Try-On for eyewear or makeup products lets users see how items look on their face using facial recognition. This not only boosts time-on-site but also reduces return rates by setting more accurate expectations.

Survey responses showed that 78% of users felt "more connected" to the product when they used AR features, and 65% reported increased satisfaction during browsing.

Thus, AR tools successfully enhance engagement by providing an immersive and informative product experience.

Objective 2: To analyze the influence of AR experiences on consumer purchase intent during online shopping. Purchase intent measures the likelihood that a customer will buy a

product. AR's contribution to this metric lies in its ability to reduce uncertainty and simulate real-world usage.

Example: On Flipkart, a customer buying a sofa can use AR to see if it fits in their room's dimensions. This eliminates doubt about size and appearance. Survey data indicated that 70% of participants were more confident in purchasing products after using AR tools.

Similarly, Amazon's AR clothing try-on feature allowed users to visualize apparel fit and color, increasing their confidence. In our sample, respondents who used such AR features rated their purchase intent at 4.5/5, compared to 3.8/5 for those who did not use AR.

Respondents also noted that AR made product information more tangible and trustworthy, leading to quicker and more informed decisions.

In conclusion, AR tools strongly influence both engagement and purchase intent, reinforcing their value in the digital marketing mix.

Data Analysis using SPSS and Interpretation

Descriptive Statistics

- Mean score for customer engagement using AR: 4.2/5
- Mean score for purchase intent using AR: 4.1/5

Correlation Analysis

- Pearson correlation between AR engagement and purchase intent = 0.936
- This indicates a very strong positive relationship.

Interpretation

The data reveals that the more engaging the AR experience on online platforms, the higher the customer's intent to purchase. Engagement acts as a strong predictor for conversion.

Conclusion

AR is transforming the landscape of online product promotion by offering customers a rich, engaging, and interactive shopping experience. This study confirms that AR tools on platforms like Amazon and Flipkart enhance customer engagement and significantly influence buying behavior. E-commerce companies should consider integrating AR into their digital marketing strategies to gain a competitive edge and improve customer satisfaction.

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