A STUDY ON INFLUENCE OF AUGMENTED REALITY (AR) ON CONSUMER PURCHASE DECISION WITH REFERENCE TO FLIPKART PVT. LTD. AND AMAZON.COM,INC.

Rutuja Gangadhar Ughade
P. R. Pote college of Engineering and Management, Amravati.
rutujaughade73@gmail.com

Prof. S. R. Shah
P. R. Pote college of Engineering and Management, Amravati
hodmba@prpotepatilengg.ac.in

Abstract
The integration of Augmented Reality (AR) in e-commerce has revolutionized the online shopping experience by offering consumers interactive and immersive engagement with products. This study investigates the influence of AR on consumer purchase decisions, with specific reference to Flipkart and Amazon, two leading e-commerce platforms in India. Employing a purposive sampling technique and scheduled data collection, the research examines consumer perceptions, behavioral responses, and the effectiveness of AR in facilitating informed purchase decisions. This study contributes to the existing body of knowledge on digital consumer behavior by providing empirical insights into the role of AR in enhancing customer engagement and influencing purchasing patterns. The implications of this research extend to e-commerce platforms, marketers, and technology developers, highlighting strategic opportunities for optimizing AR features to improve customer retention and conversion rates.
Keywords: *Augmented Reality, E-commerce, Consumer Behavior, Flipkart, Amazon, Digital Shopping.*

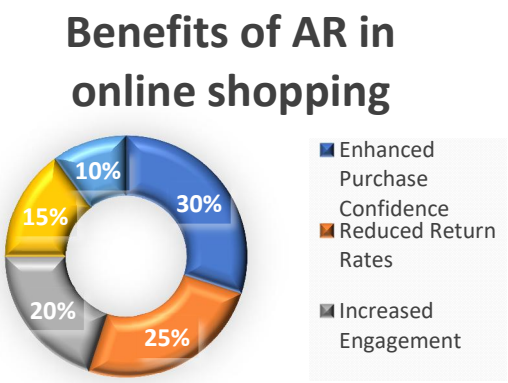
Introduction

The digital marketplace is evolving rapidly, with innovative technologies significantly enhancing the shopping experience. Augmented Reality (AR) has emerged as one of the most impactful tools, transforming the shopping process into a highly interactive and immersive experience. AR enables users to visualize products in their real environment, helping them make more informed decisions. E-commerce platforms like Flipkart and Amazon are integrating AR technology to enhance customer engagement and decision-making. Flipkart has incorporated AR features such as virtual try-ons and product visualizations, allowing customers to "try before they buy," thereby boosting confidence and satisfaction. Similarly, Amazon has introduced AR capabilities like Amazon AR View, enabling shoppers to visualize products like furniture, appliances, and decor in their real-world environment. Both platforms integrate AR to bridge the gap between online and offline shopping, addressing product uncertainty and enhancing trust in purchasing.

This study highlights the role of AR in shaping consumer interactions with products, with a focus on its impact on consumer trust, purchase intent, and decision-making. AR features such as 3D product views, enhanced displays, and immersive try-ons enhance the shopping experience by offering consumers realistic and dynamic product exploration. Amazon and Flipkart use AR to enhance personalization, leading to greater purchase confidence, reduced return rates, and elevated customer satisfaction. This platforms demonstrate the potential of AR to revolutionize retail experiences by addressing challenges like product uncertainty and creating seamless shopping journeys. This study aims to evaluate the success of AR initiatives on these platforms and their role in fostering consumer trust and satisfaction while providing insights for future developments in e-commerce.

Benefits of AR in Online Shopping:

Benefits of AR	**Percentage Contribution (%)**
Enhanced Purchase Confidence	30 %
Reduced Return Rates	25 %
Increased Engagement	20 %
Personalized Shopping Experience	15 %
Improved Brand Trust	10 %



Review of Literature

Augmented Reality (AR) is revolutionizing the retail sector by enhancing consumer engagement, purchase intent, and brand loyalty through immersive experiences such as virtual fitting rooms, real-time product displays, and virtual product interactions **(Balakrishnan & Saari, 2024)**. By bridging the gap between physical and digital shopping, AR enables consumers to visualize products in real-world settings, increasing confidence in purchase decisions and reducing uncertainty. **(Taneja & Dutta, 2024)** highlight AR's influence across all stages of consumer decision-making—need recognition, information search, evaluation, purchase, and post-purchase evaluation—enhancing engagement and satisfaction. Despite its potential, challenges such as high implementation costs, limited device adoption, privacy concerns, and consumer resistance persist **(Balakrishnan et al., 2024; Taneja & Dutta, 2024)**. (Kumar, 2021)emphasizes AR's ability to drive both hedonic and utilitarian shopping values, while **(Chakraborty & Gupta, 2021)**note that tech-savvy consumers and frequent online shoppers are more likely to adopt AR-based experiences. In the cosmetics industry, AR-powered virtual trials have been shown to improve purchase intentions and brand differentiation, though technological complexities and privacy issues remain concerns **(Baliyan, Chaudhary, Chauhan, Verma, & Madhukar, 2024)**. Similarly, in online apparel shopping, Virtual Try-On (VTO) technology and 3D virtual models provide interactive experiences that boost consumer confidence and reduce return rates.

Research Problem definition:

This study examines the impact of Augmented Reality (AR) on consumer purchase decisions in e-commerce, focusing on Flipkart and Amazon. While AR features like virtual try-ons and 3D product views enhance the shopping experience, their actual influence on buying behavior remains unclear. Factors such as cost, technical challenges, and privacy concerns may also affect AR adoption. This research aims to assess whether AR truly drives purchases and improves the overall shopping experience.

Objectives of the Study:

- To evaluate the role of AR in improving product visualization.
- To examine the impact of AR features on consumer purchase decisions on e-commerce platforms like Flipkart and Amazon.
- To study the consumer attitudes toward AR technology in the shopping experience.

Research Methodology:

A. Research Design: A descriptive research design was applied to examine and highlight the key factors influencing consumer purchase decisions, specifically focusing on Augmented Reality (AR) features on Flipkart and Amazon.

B. Data sources:

- Primary Data Collection: The study uses a structured questionnaire as the primary data collection tool, ensuring a systematic and consistent approach to gathering information from respondents.
- Secondary Data Collection: Relevant studies, journal articles, and case studies on the role of AR in consumer decision-making, particularly in the e-commerce sector.

C. Data Analysis Techniques:

To analyze the data statistical tools like Mean, mode, median, etc., was used.

D. Sampling Design:

- Universe: It includes all consumers who have used AR on Flipkart or Amazon across Amravati city.

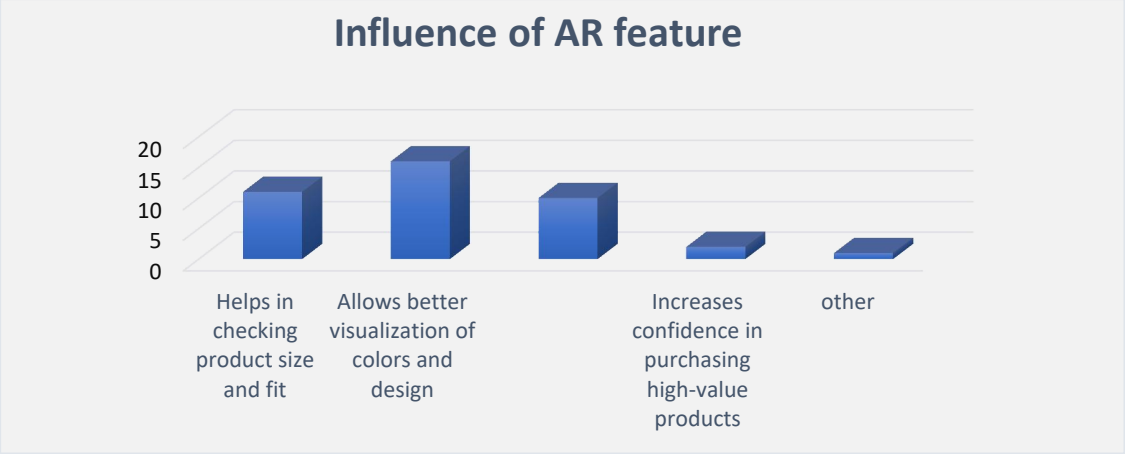
- Population: Consumers in Amravati city, who have shopped on Flipkart or Amazon and have used AR features (such as AR visualizations or virtual try-ons) during their purchase journey.
- Sample Unit: Individuals who have interacted with AR feature on Flipkart or Amazon in the past six months.
- Sample Size: The study included total sample of 40 respondents from Amazon and Flipkart.

E. Sampling Technique: The study employs purposive sampling to select respondents based on specific criteria, ensuring their relevance to the research objectives.

Data Analysis and Interpretation

Table no. 1

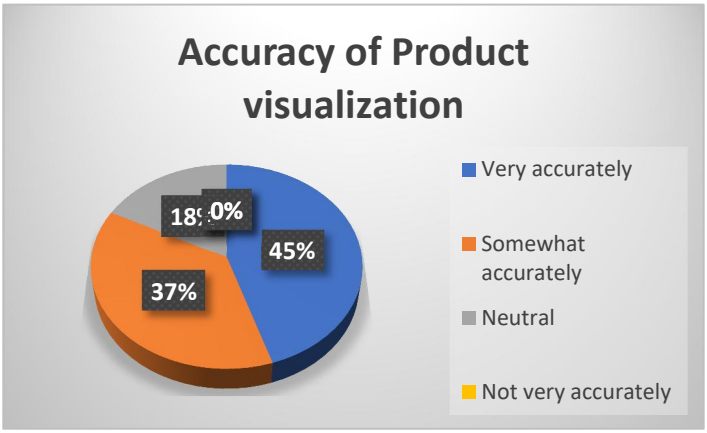
AR feature influence	No. of Respondent
Helps in checking product size and fit	11
Allows better visualization of colors and design	16
Reduces confusion when comparing similar products	10
Increases confidence in purchasing high-value products	2
Other	1



The data shows that AR features greatly influence consumer product selection. The majority (40%) find AR helpful for better visualization of colors and design, followed by 27.5% who use it to check product size and fit. Around 25% believe it reduces confusion when comparing similar products, while only 5% feel it boosts confidence in purchasing high-value products. A small 2.5% cited other reasons. These findings highlight AR's key role in enhancing visualization and decision-making, particularly in categories where size, fit, and design accuracy are crucial, making it a valuable tool for online retailers.

Table no. 2

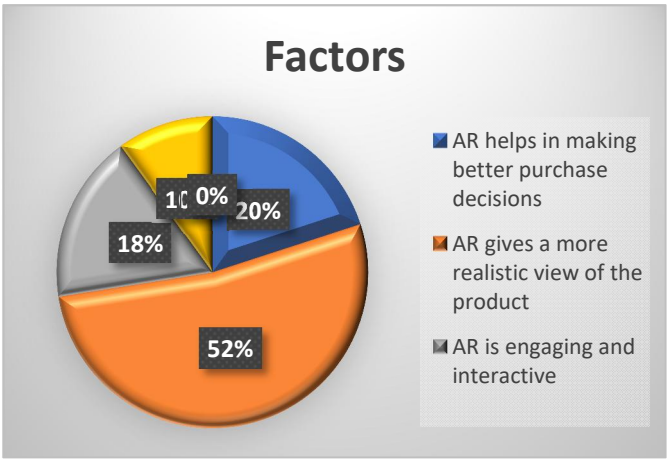
Accuracy of AR	No. of respondent
Very accurately	18
Somewhat accurately	15
Neutral	7
Not very accurately	0
Not accurately at all	0



The data reveals that 45% of respondents (18 out of 40) found Augmented Reality (AR) highly accurate for product visualization, while 37% (15 respondents) rated it as somewhat accurate. Only 18% (7 respondents) were neutral, suggesting some variability in user experiences. Importantly, no one rated AR as inaccurate, emphasizing its reliability in enhancing consumer confidence and supporting informed purchase decisions in e-commerce.

Table no. 3

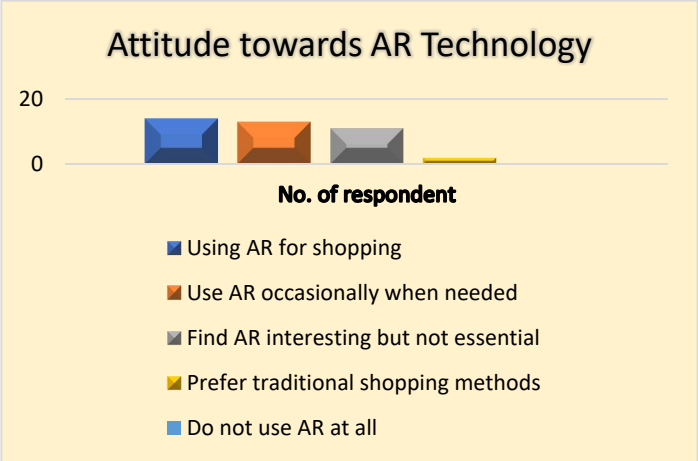
Factors Encourage to use AR in shopping online	No. of respondent
AR helps in making better purchase decisions	8
AR gives a more realistic view of the product	21
AR is engaging and interactive	7
AR is useful only for specific product categories	4
Other	0



The data reveals that the primary reason consumers use AR in online shopping is its ability to provide a more realistic view of the product (21 respondents, 52%), followed by aiding better purchase decisions (8 respondents, 20%). Additionally, 7 respondents (18%) find AR engaging and interactive, while 4 respondents (10%) believe it is useful only for specific product categories. These findings indicate that enhanced visualization and interactivity are key drivers of AR adoption, helping consumers make informed choices and improving their online shopping experience. This underscores AR's growing role in e-commerce, enhancing customer confidence and engagement.

Table no. 4

Attitude towards AR technology	No. of respondent
Using AR for shopping	14
Use AR occasionally when needed	13
Find AR interesting but not essential	11
Prefer traditional shopping methods	2
Do not use AR at all	0



The data shows a positive attitude towards AR in e-commerce, with 14 respondents (35%) actively using it for shopping and 13 respondents (32%) using it occasionally when needed. Additionally, 11 respondents (27%) find AR interesting but not essential, while only 2 respondents (5%) prefer traditional shopping methods, and none avoid AR entirely. This indicates a strong acceptance of AR, with most consumers recognizing its benefits, though some still see it as optional rather than essential in their shopping experience

Findings:

The study finds that Augmented Reality (AR) enhances consumer purchase decisions on Flipkart and Amazon by improving product visualization, engagement, and confidence. AR helps users assess colors, designs (40%), and sizes (27.5%), reducing uncertainty. It is considered accurate by 82% of respondents, with 35% actively using it for shopping. The main advantage (52%) is its ability to provide a realistic product view, though 27% find it interesting but not essential. Challenges like cost, privacy concerns, and device compatibility may limit adoption. Overall, AR boosts trust, reduces return rates, and enhances the online shopping experience.

Conclusions

- AR improves the online shopping experience by enabling consumers to accurately assess product features like colors, designs, and sizes, reducing uncertainty and increasing purchase confidence.
- AR positively influences consumer behavior by providing an interactive and realistic shopping

experience, aiding informed decisions, and enhancing trust in e-commerce platforms.

- Consumer attitudes toward AR are largely positive, recognizing its benefits. However, challenges such as implementation costs, privacy concerns, and device compatibility may hinder widespread adoption. Despite these barriers, AR remains valuable for enhancing engagement, satisfaction, and trust in digital shopping.

References

1. Balakrishnan, B., & Saari, E. M. (2024). The Impact of Augmented Reality (AR) Technology on Consumers' Purchasing Decision Processes. Frontiers in Business, Economics and Management, 181-185.
2. Baliyan, D. R., Chaudhary, M. D., Chauhan, M. P., Verma, D. S., & Madhukar, D. K. (2024). Effect of Augmented Reality on Consumer Purchase Behavior in E-Commerce Industry. https://www.researchgate.net/publication/38206 2015, 120-129.
3. Chakraborty, S., & Gupta, D. D. (2021). A Study of the Factors Impacting the Adoption of Augmented Reality in Online Purchases in India. Amrita Vishwa Vidyapeetham.
4. Kumar, H. (2021). Augmented reality in online retailing: A systematic review and research agenda. International Journal of Retail & Distribution Management .
5. Taneja, R., & Dutta, H. (2024). Influence of Augmented Reality on Consumer Decision-Making Process A Review of Literature. https://www.researchgate.net/publication/38502 1644.

Webliography:

https://www.researchgate.net/publication/378380632
https://www.researchgate.net/publication/377381990
https://www.researchgate.net/publication/354208440
https://webfiles.amrita.edu/2021/11/a-study-of-the-factors-impacting-theadoption-of-augmented-reality-in-online-purchases-in-india.pdf