

opportunities within the organization so that they can retain with the organization for a long time and contribute their best to improving the organization's performance outcomes.

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The Impact of Augmented Reality in Consumer Behaviour

OPEN ACCESS

Volume: 11

Special Issue: 1

Month: March

Year: 2024

E-ISSN: 2581-9402

Received: 13.02.2024

Accepted: 11.03.2024

Published: 22.03.2024

Citation:

Niveditha, M., and S. Stepheno, Ancy. "The Impact of Augmented Reality in Consumer Behaviour." *Shanlax International Journal of Management*, vol. 11, no. S1, 2024, pp. 92–98.

DOI:

<https://doi.org/10.34293/management.v11iS1-Mar.8091>

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Abstract

Consumer behaviour is being revolutionized across different sectors by Augmented Reality (AR). This paper provides a conceptual study addressing how AR applications affect consumer behaviour across multiple industries. This research, focuses on how augmented reality (AR) in retail uses personalized product information and virtual try-on experiences to help consumers make well-informed decisions. It shows how AR in education fixes subject learning through interactive lessons and real-time information in travel. This research, the study investigates the effects of AR on consumer engagement, brand perception and purchasing behaviour. The objective of this study is to understand how AR influences consumer behaviour, brand loyalty and economic drivers. The methodology involves the review of relevant literature on AR applications, consumer behaviour, and marketing strategies. According to the research, it confirms that AR dramatically enhances customer experience, engagement, and purchase intention. The theoretical foundations that describe how AR enhances the customer experience and drives purchase decisions. The paper also explains the challenges and opportunities presented by the adoption of AR, concluding that AR will change how customers interact and experience the product or store, creating both challenges and opportunities for marketers as they try to adapt to the new reality.

Keywords: Augmented Reality, Consumer Behaviour, Sectors.

Introduction

In today's market trends shows that consumer preferences, behaviour and satisfaction are changing in ways unimaginable in the past decade. AI, VR, AR, Internet of Things (IoT), among other technological advancements are transforming the way people relate with brands, interact with products and make purchase decisions. One of the most revolutionary of these is Augmented Reality (AR) which, essentially blurs the perpendiculars between the real world and virtual to produce immersive, interactive experiences. Users can see computer-generated content overlaid on their real-world perspective, creating and delivering a unique meld of virtual and real-world. Customer behaviour has been thoroughly disrupted by AR in a variety of industries in the recent past, extending well beyond entertainment. The AR world market is expected to reach 1.7 billion users, producing revenues of more than 60 billion USD in 2020. AR makes for quicker, increase customer satisfaction by enabling

them to do virtual try-on of clothes, furniture, and even makeup, in retail spaces. AR personalized purchase not only generates shopping ease, but also reduces customer discomfort by serving up product details and reviews based on individual tastes and history, thereby significantly helping to establish brand loyalty with customers. AR enhances education by perking up information retention and engagement, through the use of interactive lessons such as virtual dissections or historical investigations. AR enhances travel by providing tourists with access to real-time translations and landmark information, therefore greatly increasing the depth of their experience. As AR takes off and reaches ubiquity, the way in which we interact with the world is going to change in profound ways.

Objectives of this Study

- To study and analysis how Augmented Reality (AR) impacts consumer behaviour in a variety of industries.
- Explore how Augmented Reality (AR) technologies affect brand perception and loyalty across different industries.
- Assess how adopting AR will affect consumer buying trends economically.
- Examine how Augmented Reality (AR) might improve customer engagement and overall experience.
- Identify the opportunities and possible obstacles related to the adoption of AR in various consumer industries.

Literature Review

Marie Beck & Dominique Crié (January 2018), Online shopping offers convenience but lacks the physical experience of traditional stores. To address this, some companies are introducing Virtual Fitting Rooms (VFRs). This study investigated how VFRs affect online shoppers' explorative behaviour and purchase intentions. The research, found that VFRs significantly increased product curiosity, online and offline purchase intent, and the intention to visit a physical store. Interestingly, the increased purchase intent was mediated by product curiosity and the intention to visit a store.

Michel Wedel (June 2020), Researchers looked at how AR and VR are starting to affect marketing strategies. They brought out a methodology for analysing how VR and AR applications affect consumers' experiences at every stage of the purchasing process. The study reviewed recent VR/AR marketing applications and previous studies on the subject. In addition, they made predictions about how VR and AR would develop in the future, along with the implications for businesses and future paths for study.

Jing-Yun Zeng & et.AL (27 April 2023), This study explored the impact of virtual and augmented reality experiences (VR/AR) on consumer-brand relationships. The research, identified four types of VR/AR experiences (entertainment, aesthetic, educational, and real-escape) and surveyed over 500 consumers who had participating in such experiences. The findings confirmed that these VR/AR experiences positively impacted consumer-brand relationships, leading to higher satisfaction and purchase intent. Interestingly, brand authenticity was found to moderate this effect, suggesting it plays a crucial role in how VR/AR experiences influence consumer-brand relationships. The study's large sample size and focus on actual consumer behaviour strengthens the validity of its conclusions.

Rocsana Bucea-Manea-Țoniș & et.AL (May 2021), This study looked at how Augmented Reality (AR) and Virtual Reality (VR) are spreading in popularity. Building upon earlier studies, the study demonstrated VR/AR's promise as a scientific tool in various domains, including psychology, education, marketing, and medicine. One advantage of VR and AR can be used to build safe simulations, lowering expenses and hazards. According to the report, by combining the fields of

technology, education, and economics, VR and AR has a great deal of potential to influence future markets and research.

Carlos Flavián & et.AL (2019), As VR, AR, and MR technology advanced, this study looked into the trend of physical and virtual experiences. They pointed out that these new realities lacked precise definitions therefore they came up with the creative “EPI Cube” framework to classify them. This approach takes into account elements such as interactive behaviours, psychological presence, and user embodiment. The EPI Cube meant to be a valuable resource for organizations and researchers to categorize both current and emerging technologies that affect the customer journey.

Tomas Falk & et.AL (July 2016), This study looked into how a shopper’s overall opinion of a store’s prices (OSPI) was affected by mobile payments and basket price perception. Customer loyalty is correlated with a lower OSPI. According to the study, OSPI was positively impacted by comparing basket costs to mental budgets. Furthermore, when mobile payments were made instead of cash, OSPI judgments were more favourable, and the willingness to pay was higher. These results imply that mobile payments can help businesses by reducing the perceived cost that consumers have of their products.

Suvarna Gupta & et.AL (March 2021), Due to ease of access and convenience, e-commerce has grown dramatically in the previous ten years. Online shopping, however, was not the same as buying in person. The pandemic prompted shops to open online, emphasizing the demand for secure, distant purchasing choices. This paper addresses how immersive 3D purchasing experiences made possible by virtual reality can help close the gap between traditional retail and e-commerce. This would improve product promotion and visualization while encouraging social separation, which would be advantageous to businesses and customers.

Scott G. Dacko (November 2017), This study looked into how MAR apps on mobile devices support “smart retail” by benefiting both consumers and merchants. The study surveyed early adopters of technology in the US and examined currently available MAR shopping apps. Results point to a high level of customer satisfaction with MAR apps, which help merchants and provide experiential benefits. The study shows MAR applications are linked to favourable changes in consumer behaviour and a higher valuation of shops that offer them, despite certain limitations.

Yi Fang Wu and Eun Young Kim (June 2022), This study analysed the benefits and drawbacks of each technology for fashion shopping while examining user opinions on features in AR and VR. Researchers determined five essential characteristics for AR and four for VR through focus groups. According to the report, AR should put user control and ease of use first, while VR should concentrate on lowering simulator sickness to improve the immersive experience. Marketers creating AR and VR apps for fashion retail can benefit significantly from these findings.

Nannan Xi & et. AL (January 2024), The application of extended reality (XR) technology, such as virtual and augmented reality, is a developing trend in retail. However, because of the restrictions on comfort, wear ability, and visuals, worries about the user experience persisted. In order to close this gap, this study looked into how customers react to the concept of buying in the metaverse.

Graeme McLean and Alan Wilson (December 2019), Research explored into how augmented reality features affect brand engagement on mobile shopping apps. Researchers noted how popular smartphones are becoming and how augmented reality (AR) could be used to engage customers. They surveyed 441 people to look at characteristics that affect brand engagement. The study determined the novelty, interactivity, and vividness of AR features as well as how they affect user perception, social influence, and simplicity of usage. Users were more inclined to utilize the brand again in the future when they had a positive opinion of these features, which raised brand

engagement and app satisfaction. This study provides an important context for retailers considering implementing augmented reality (AR) technology.

Usman Aslam & Leon Davis (January 2024), This study examined how customers interact with augmented reality applications in fashion retailers. It took an innovative approach, combining data from multiple sources, to comprehend the user's point of view, which was before overlooked in favour of technical details. According to the report, users enjoy AR apps because they provide a realistic and immersive shopping experience, complete with features like virtual try-ons and 3D depiction. Furthermore, it identified elements that impact customer satisfaction, like simplicity of use and sophisticated features, offering developers insightful information to enhance augmented reality applications and foster favourable user impressions.

Hui Xue 1, Puneet Sharma and Fridolin Wild (January 2019), In this paper three industries— aeronautics, medicine, and astronautics—user satisfaction with augmented reality training through smart glasses was examined. The study concentrated on how users interacted with the glasses and how satisfied they were with them. Although the participants were unfamiliar with the glasses, their level of satisfaction was positively enhanced by general computer expertise. The study's conclusion that there was no discernible interaction between user satisfaction and other criteria suggests the questionnaires were appropriate for this particular situation.

Federica Cehovin and Bernice Ruban (2017), Researchers explored into how mobile augmented reality affected customers' choices. Its influence on behaviour was emphasized in earlier research, but its impact on decision-making was not as evident. This study analysed how consumers' emotions and cognitive processes during product research and evaluation are impacted by augmented reality's features. The makeup app from L'Oréal and the catalogue app from IKEA were the subjects of an experiment and interviews. Results indicate that while registration limits impede efficient search and evaluation, augmentation and interactivity improve the experience's emotional and cognitive elements. The user experience is also greatly influenced by the app's uniqueness and technological ability. These results provide insightful information to scholars and companies considering incorporating augmented reality into their marketing campaigns.

Research Methodology

Evidence-based review was conducted using an integrative synthesis of published peer-reviewed literature on the impact of AR in consumer behaviour.

This review is used to understand the theoretical frameworks and identifies the role of Augmented Reality (AR) in consumer behaviour, its impact and gaps across various industries. Secondary data was used to conducted this research where the majority of the previous study used for this analysis came from internet sources, books and also management journals, including EMERALD, Elsevier, Springer, IJRASET and SCOPUS.

Findings

• Impact on Consumer Experience

Customers interacting with goods and services during their buying journey are greatly impacted by AR. Interactive product displays and virtual try-ons are some of the ways in which AR features in retail improve in-store shopping. Virtual reality (VR) offers further to enhance this experience as it provides immersive product trials. VR consequently makes it possible to experience virtual product samples, which may close the gap between online and brick-and-mortar retailers. For that reason, easy accessibility and engaging factors matter for user acceptability, thereby focusing on the need for user-centered AR application.

- **User Perception and Satisfaction**

Usability, perceived utility, and overall enjoyment are significant elements when it comes to research into how users perceive AR technology. As per research findings, user's satisfaction with augmented reality applications seems to be positively linked to their general computer competence. For example, there was an increase in happiness among those who used smart glasses for AR training when they were proficient computer users.

- **Influence on Price, Brand Perception and Customer Engagement**

Integrating AR elements into mobile apps can significantly influence brand perception and user engagement according to studies. Augmented reality has a favorable correlation with customer willingness to pay and purchasing intent as well as brand satisfaction based on research results conducted. Remarkably, a study indicates that when augmented reality is used instead of regular cash payments, customers may perceive store prices more favorably. Additionally, brand authenticity has a moderating effect that is significantly influencing how customers perceive AR apps.

- **Potential for E-commerce and Traditional Retail Integration**

Virtual reality (VR), which is gaining popularity, provides a link between traditional retail's tangible experience and the ease of online shopping. Research points to VR's ability to produce immersive 3D shopping environments replicating the experience of perusing real-world establishments. This can be especially useful for businesses that sell clothing, as virtual try-on options make online shopping simpler and more enjoyable. Studies conducted on virtual fitting rooms (VFRs) show a notable rise in product curiosity, offline and online purchase intent, and a greater inclination to visit physical businesses. This demonstrates how VR/AR may improve online buying while increasing foot traffic to traditional stores.

Mobile Augmented Reality (MAR) present another attractive integration option. Research indicates a favourable shift in consumer behaviour, as evidenced by excellent customer satisfaction levels using MAR apps in retail environments. By enabling customers to digitally interact with things in-store, these apps can close the gap and make customers prefer stores that offer these capabilities. VR and AR technologies have enormous potential to combine the benefits of conventional retail (face-to-face engagement with products) with the ease and more extensive range of e-commerce. Customers may have a more enjoyable and engaging purchasing experience due to this integration, which will eventually help both physical and online merchants.

- **AR as a Tool in Various Industries**

Research suggests that Augmented Reality (AR) is a transformative tool across numerous industries. In retail, AR applications enhance the shopping experience by prioritizing user control and ease of use in features like virtual try-ons. Studies show that mobile AR (MAR) apps are met with high customer satisfaction and are linked to positive behavioural changes, making consumers more receptive to retailers offering them.

In educational contexts, augmented reality (AR) promotes greater engagement and knowledge retention, and real-time information about landmarks and destinations enhances travel experiences. Beyond these particular industries, VR/AR experiences in the entertainment, educational, and other domains can have a positive impact on customer happiness, brand perception, and purchase intent. When it comes to influencing consumer impressions through AR applications, brand authenticity is vital. Interestingly, VR/AR also shows promise as a research tool in many domains, including psychology, medicine, and even aviation. AR-generated simulations can offer a secure and affordable substitute for training.

Recommendations

- The focus should be on user experiences: While creating AR/VR applications, the design concepts should be user-centric. This implies that they should be easy-to-use, attractive and benefit the user in a practically. Research highlights the importance of friendly interfaces, easy to follow instructions and purpose-designed features.
- Segment Applications by Industry: Tailor AR/VR experiences to suit the requirements of each industry. For retail, prioritize interactive product information and virtual try-on options. With augmented reality (AR), travel agencies can show such real-time location-based information while educators can leverage it for immersive learning.
- Content and Information Quality: First priority is giving people excellent AR material that is relevant to them educationally as well as being fun so it must be educational, entertaining and contextually relevant. This means ensuring accurate product information in virtual try-on settings within the tourism industry itself and providing useful historical or cultural context among others.
- Handling Privacy concerns: Ensure strong security measures are put in place which ensures data encryption and clarity on how data is collected in order to gain trust from consumers. Consumer acceptance development towards AR/VR technologies depends on the transparency of data collection and utilization practices.
- Assess Long Term Effects: In order to find out how AR and VR would affect customer behavior, brand perception, and any potential psychological or social ramifications, a longitudinal study should be done.
- To close the gap between users' needs and technology improvements, it is essential to encourage cooperation among researchers, developers as well as marketing experts. That would help in creating apps for AR/VR that are innovative but user-focused and successful in achieving marketing objectives.

Conclusion

In conclusion, Augmented Reality (AR) is pioneering new ways of shopping in diverse sectors. Everything from changing in-store experiences with virtual dressing rooms to individualized shopping trips using interactive product details demonstrates the impact of AR on purchasing. Immerse courses promote greater involvement and retention of knowledge retention augmented reality (AR) within the educational field. A real-time information, on landmarks and cultural attractions will make travelling more exciting. As augmented reality (AR) technology gets increasingly popular, its impact on the buying patterns will continue to increase. This research has evaluated various uses of augmented reality (AR) across different industries, analyzed their effect on consumer behaviour as well as identified probable challenges and opportunities. Through comprehension of these processes, enterprises can harness the potential of augmented reality to provide inventive experiences, customize client relationships, and ultimately reach long-term success.

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