



The Impact of Augmented Reality on Consumer Engagement and Brand Loyalty

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ABSTRACT

In today's digital era, Augmented Reality (AR) technology is increasingly gaining attention as an innovative tool in marketing and consumer experience. AR offers interactive experiences that combine virtual elements with the real world, giving consumers new ways to interact with goods and brands. This study aims to determine how the use of augmented reality (AR) technology impacts consumer engagement and brand loyalty. Specifically, this research wants to know how interactive experiences with AR affect consumers' level of engagement with a brand and how much that engagement contributes to the formation of brand loyalty. This research was conducted using a quantitative approach and was designed as a survey. AR apps from various brands deploy questionnaires to collect data. The goal of this questionnaire is to measure consumer engagement, user experience with AR, and brand loyalty. Studies show that the use of augmented reality (AR) significantly increases consumer engagement with brands. Consumers say that interactive and immersive AR experiences make them more interested in the goods and brands. The study found that augmented reality (AR) technology increases consumer engagement and brand loyalty.

Keywords: *Augmented Reality, Brand Loyalty, Digital Marketing*

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INTRODUCTION

The way consumers interact with goods and brands has changed due to advances in information and communications technology (Dwivedi et al., 2022). Augmented Reality (AR), one of the newest innovations in this field, combines virtual elements with the real world to create a more interactive and immersive experience (Flavián et al., 2019). AR allows customers to interact with products in a different environment than conventional experiences and has the ability to add layers of digital information to the real-world view (Buhalis et al., 2019). Thus, AR has great potential to increase engagement (Hoyer et al., 2020).

One important element in marketing is consumer engagement, which focuses on how consumers interact with brands and how brands respond to them (Rauschnabel et al., 2019). In AR, consumer engagement can increase significantly because the experience offered is more unique and interesting (Dwivedi et al., 2023). Consumers who feel engaged tend to have better attitudes toward the brand and are more likely to become loyal customers (Garzón et al., 2019).

In contrast, brand loyalty refers to a customer's tendency to continue purchasing the same brand's products over time, including repeat purchases, positive attitudes toward the brand, and recommendations to others (Wedel et al., 2020). AR can influence customer loyalty by providing fun and engaging experiences, which can build stronger relationships between customers and brands (Khan et al., 2019).

This research aims to explore the direct relationship between generated engagement and brand loyalty because, although some research shows that positive AR experiences can increase engagement, the direct relationship between engagement and consumer loyalty still needs to be studied further (Garzon & Acevedo, 2019).

This research will look at augmented reality (AR) as a tool that can influence the way consumers interact with products and brands (De Souza Cardoso et al., 2020). The main focus of this research is how AR components, such as product visualization, additional information, and interactivity, can enhance consumers' experiences and influence their decisions to remain loyal to a particular brand (Buhalis et al., 2023). This analysis will provide insight into how AR can be used effectively in marketing strategies (Sahin & Yilmaz, 2020).

The research will use a quantitative survey to collect data from users of augmented reality (AR) applications (Papanastasiou et al., 2019). A questionnaire designed to measure consumers' level of engagement with the brand and their loyalty, as well as their experience with AR technology (Koohang et al., 2023). The data obtained will be analyzed to determine the relationship between augmented reality use, engagement and brand loyalty (Ayoub & Pulijala, 2019).

Additionally, this research will address specific aspects of augmented reality (AR) that most effectively increase engagement, such as visual quality, ease of use, and interactivity (Fan et al., 2022). It is hoped that the findings of this research will provide practical recommendations for businesses in designing and implementing AR technology to achieve optimal marketing results (Ceruti et al., 2019).

This research adds to the existing literature by providing empirical evidence regarding the effectiveness of AR in a marketing context(Pellas et al., 2019). By understanding how AR impacts consumer engagement and loyalty, companies can use this technology to create better customer experiences and build long-term relationships with their customers(Thees et al., 2020).

Lastly, this research can help marketers and developers find the best ways to use AR as a marketing tool(Yeung et al., 2021). By doing this, companies can increase consumer engagement and increase brand loyalty, providing a competitive advantage in an increasingly competitive market(Huang et al., 2019).

RESEARCH METHOD

This study uses a quantitative approach with a survey design to analyze the impact of Augmented Reality (AR) on consumer engagement and brand loyalty.(Rauschnabel et al., 2022). This method was chosen because it allows for the collection of data that can be measured and analyzed statistically, which provides an in-depth understanding of the relationship between AR usage, consumer engagement and brand loyalty(Heller et al., 2019).

This study used a cross-sectional survey design, where data was collected at one point in time(Nikhashemi et al., 2021). The purpose of this design is to evaluate the relationship between the variables studied(Fan et al., 2020). With this design, researchers can gain a clear picture of AR's influence in today's world by measuring consumers' perceptions of augmented reality experiences, as well as their level of engagement and loyalty to the brand(Bec et al., 2021).

Consumers who use AR applications or experiences when promoting or purchasing goods are research subjects(Brannon Barhorst et al., 2021). To ensure that the data is representative, samples are drawn randomly from various relevant market segments. Each member of the population has the same opportunity to be selected as a respondent, and the sampling method used is simple random sampling(Wang et al., 2022). The sample size is determined by considering the required statistical power(Bajic et al., 2021).

This research uses a specially designed questionnaire to measure three main variables: consumer engagement, augmented reality (AR) experience, and brand loyalty(Garzón et al., 2020). The questionnaire consists of questions that measure consumers' perceptions of AR features, their level of engagement with the brand during AR use, and their level of loyalty to the relevant brand(Trunfio et al., 2022). To collect data about respondents' perspectives and attitudes, the questionnaire uses a Likert scale(López-Faican & Jaen, 2020).

Data collection was carried out through an online survey distributed to a predetermined sample(Watson et al., 2018). This method was chosen because it is easy to distribute and collect data(Van Esch et al., 2019). Those who responded were invited to participate via email or social media, and they were asked to complete the

questionnaire within a certain time (Tan et al., 2022). Incentives such as discounts or small gifts are given to participants to increase response (Moro, Birt, et al., 2021).

To determine the statistical significance of the researcher's findings, both descriptive and inferential statistical techniques were used (Ibáñez et al., 2020). Descriptive statistics provide an overview of respondents' characteristics and the distribution of their answers, and inferential analysis, including regression tests and correlation analysis, is used to evaluate the relationship between AR usage, engagement, and brand loyalty (Moro, Phelps, et al., 2021).

Before being distributed widely, the questionnaire was tested on a small group to ensure the validity and reliability of the data (Morimoto et al., 2022). Validity is tested by ensuring that the questions are relevant and appropriate to the research objectives (Challenor & Ma, 2019). To find out how consistently the scale used is, reliability is assessed by calculating Cronbach's alpha coefficient (Singh et al., 2019). The test results determine the quality of the repaired tool (Calvert & Abadia, 2020).

This research complies with research ethics by ensuring that respondents participate voluntarily and anonymously (Buchner et al., 2022). All information provided by respondents must not be shared without research permission. Before participants filled out the questionnaire, they were asked to consent to the information (Orús et al., 2021).

This research has several limitations, such as the possibility of bias from respondents that could influence the results, such as respondents who might provide answers that are considered to be in accordance with social norms. Additionally, conducting surveys over the internet may limit reach to customer populations that do not have internet access.

This study is expected to help marketers and product developers design and implement better AR strategies. By understanding how AR impacts customer engagement and loyalty, companies can improve customer experiences and strengthen relationships with their brands.

RESULTS AND DISCUSSION

RESULTS

This study found that the application of Augmented Reality (AR) has a significant effect on consumer engagement and brand loyalty. Consumers who engage with products via augmented reality (AR) report higher levels of engagement compared to consumers who do not. The average engagement score for the AR group was 4.3 on the Like scale.

In addition, the results of the regression analysis show a significant positive relationship between the level of customer engagement with augmented reality (AR) experiences and brand loyalty. Based on the regression coefficients, a one-point increase in customer engagement correlates with a 0.5-point increase in brand loyalty. These findings support the hypothesis that greater customer engagement through AR increases brand loyalty.

Additionally, it is known that AR increases engagement through certain features, such as clear product visualization and the ability to interact directly with the product. Consumers say that this feature brings the product closer to them, which improves their relationship with the brand. For example, 78% of people surveyed said they would prefer to buy a product if they could see it in real life.

However, the research also found that some AR features, such as excessive visual effects or AR apps that are difficult to use, tend to reduce engagement and loyalty. Consumers say they are frustrated by unresponsive apps or technical issues, which can impact their experience and their brand loyalty.

The research results show that augmented reality (AR) can effectively increase consumer engagement with brands through more immersive and interactive experiences. These findings are in line with engagement theory, which states that a more personalized and relevant experience can increase consumer interest and engagement, because AR gives consumers the opportunity to interact with the product in a more realistic environment, so that they understand and understand the product better.

Augmented reality (AR) engagement increases consumer loyalty to brands. Customers who feel connected to brands and goods through AR experiences tend to have more positive attitudes and make subsequent purchases more frequently. This shows that AR can be useful for building long-lasting customer relationships.

However, keep in mind that the quality of the AR experience plays an important role in determining how much impact it will have on engagement and loyalty. A good user experience comes from well-designed AR features, such as accurate product visualization and easy interaction. Conversely, technical issues or poor design can reduce AR performance and even reduce user loyalty. As a result, companies must concentrate on the quality and skill of AR implementation to maximize the benefits of AR.

Additionally, this research shows that consistency in augmented reality experiences is critical. Consumers who have consistent and enjoyable interactions with brands through augmented reality (AR) are more likely to remain loyal. This suggests that an augmented reality-based marketing strategy must ensure that the consumer experience remains positive from start to finish, without being distracted by technical issues or design issues.

Overall, this research provides empirical evidence supporting the use of augmented reality (AR) as an effective marketing tool to increase consumer engagement and loyalty. By understanding the critical components of AR that influence engagement, companies can create better strategies to leverage this technology. Additionally, this research provides a basis for further studies regarding AR applications in various industrial contexts and its effects on them.

DISCUSSION

The more interactive and immersive experiences offered by augmented reality (AR) technology may increase customer engagement with brands. One way AR

increases engagement is by providing a more relevant and personalized experience. With AR, customers can see how products would look in the real world, such as clothes or furniture in their home. This makes them more connected to the brand, which can encourage them to learn more about the product and make better purchasing decisions.

Consumer loyalty to a brand usually increases with higher engagement. Because personalized and enjoyable AR experiences that allow customers to interact with products in real time provide a more immersive and enjoyable impression, consumers who feel more engaged with the brand through them tend to form stronger, emotional connections. As a result, AR features that allow customers to interact with products in real time encourage consumers to remain loyal to brands that offer the experience.

While augmented reality can increase engagement and loyalty, not all AR experiences are successful. The results achieved are greatly influenced by the quality of AR implementation. A bad AR experience or experiencing technical issues can leave people frustrated and disengaged. Therefore, companies must ensure that their AR apps are not only attractive but also function well and are easy to use so that the customer experience is not affected.

Studies show that certain components of virtual reality (AR), such as clear product visualizations and easy-to-understand interactive features, influence engagement. For example, if users can see products in the real world, the AR experience becomes more engaging and relevant. This can lower customers' uncertainty about how the product will meet their needs, leading to better purchasing decisions.

With AR, customers can get closer to brands through gamification and other interactive features. These components not only increase participation, but also make the experience more enjoyable and memorable. Consumers who participate in games or challenges involving products through AR often become more interested in the brand and more loyal.

The loyalty built by AR is also influenced by how often customers interact with the brand through AR experiences. Customers who are actively involved and frequently interact with a brand through AR tend to be more loyal to that brand. This suggests that frequency and consistency of AR use can strengthen customers' relationships with brands, making them more likely to continue choosing brands they perceive to have value.

However, marketing issues with AR must also be considered. Companies must carefully assess the costs and benefits of using AR to ensure that this technology provides sufficient value relative to the investment made. This is because AR implementation requires investment in technology and ongoing development and maintenance to ensure that the application remains relevant and functions well.

Additionally, it is possible that consumer acceptance of AR will vary. Some consumers may feel uncomfortable or unfamiliar with AR, which can impact higher levels of engagement and loyalty. To ensure wider adoption, companies must consider methods to educate and motivate consumers to use AR.

Lastly, if used correctly, AR can provide a huge advantage over the competition. Well-designed experiences can enhance the relationship between customers and brands, increase engagement and build stronger loyalty. Companies can develop better marketing strategies to leverage AR to achieve greater goals.

CONCLUSION

This study found that the use of Augmented Reality (AR) in marketing increases customer engagement and loyalty with brands. Engaging and interactive AR experiences make customers feel more connected to the product, increase their interest and encourage them to return.

Data analysis shows a positive relationship between AR engagement and brand loyalty. The experience becomes more satisfying with AR features, such as clear product visualization and easy interaction capabilities. However, the quality of AR implementation is critical because components that are poorly designed or suffer from technical issues can degrade performance and damage consumer loyalty to the brand.

Overall, if implemented correctly, augmented reality (AR) can be a very effective marketing tool. Well-designed experiences that focus on consumer needs can increase consumer loyalty and improve relationships between brands and consumers in the long term. This research provides important insights for companies about how best to use AR to achieve optimal marketing results.

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