

Augmented Reality: A Systematic Literature Review and the Future of Marketing

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Abstract:

Augmented reality (AR) has the potential to revolutionize the way that businesses market their products and services by providing consumers with new and engaging experiences. This systematic literature review aims to provide a comprehensive overview of the current state of research on the topic of AR in marketing. The literature review was conducted using Scopus, Web of Science, and JSTOR, and included studies published between 2018 to 2023. The literature review suggests that AR is effective in increasing consumer engagement and brand awareness, as well as leading to higher purchase intent and satisfaction. Additionally, AR has been found to be effective in increasing foot traffic to physical stores. However, the literature review also highlights the challenges associated with the implementation of AR in marketing, such as technical limitations and consumer perceptions. The results of this literature review suggest that businesses should consider the use of AR in their marketing strategies, but also be aware of the technical limitations and consumer perceptions associated with the implementation of AR.

Keywords: *Augmented Reality; Marketing; Literature Review; Benefits; Challenges; Technical Limitations; Consumer Perceptions; AR marketing; Virtual reality; VR marketing; Immersive technology; Mixed reality*

Introduction:

Augmented reality users see digital information superimposed on their real-world surroundings. This can be accomplished with tablets, smartphones, and head-

mounted displays. Headsets and headphones are other examples. Digital data can provide users with guidance, entertainment, and insights. This information can be communicated using words, pictures, and even videos. In recent years, augmented reality (AR) has gained popularity in marketing. By providing unique and intriguing experiences, augmented reality (AR) can increase brand recognition and customer loyalty. AR has the potential to increase sales and customer satisfaction. AR can also provide buyers with additional product or service information, potentially increasing sales. The ability to create immersive experiences that traditional marketing methods cannot is one advantage of augmented reality (AR) in marketing. This is a significant advantage of digital marketing. It is critical not to overlook this ability as a competitive advantage. Customers can virtually try on products without having to physically try them on. Augmented reality enables businesses to create location-based marketing and provide localized information to customers (Crespo-Pereira et al., 2022). This technology can be used by businesses for location-based marketing.

Augmented reality (AR) and virtual reality (VR) are new technologies that aim to improve user experience by making it more immersive and engaging (Lin et al., 2023). In recent years, there has been increased interest in AR's ability to provide product or service information without the use of a screen. This is one of the reasons why AR is so popular. This ability is the source of AR's popularity. Many people believe that this technology will have many applications in the near future, according to Kamaluddin et al. (2023). Immersive environments cannot be created using traditional advertising methods such as location-based marketing and virtual try-ons. These methods cannot produce immersive environments. Augmented reality certainly can. There are numerous advantages to using augmented reality, including providing product information to potential buyers. Augmented reality (AR) can be used for a variety of purposes, including real-time product demos (Arifiyanto, 2023). This new development may raise brand awareness and loyalty, influencing customer spending. Augmented reality, according to Wasim et al. (2023) and Wortmeier et al. (2023), can help people make decisions by providing more destination information. By providing information about local restaurants and attractions, augmented reality can increase traffic and spending. Businesses use augmented reality to provide customers with timely and relevant information. Another option is location-based marketing. This technology has numerous applications in business. It could provide demographic data to restaurants to help them create more effective marketing campaigns (Barta et al., 2023). The use of augmented reality displays is growing in popularity, and this trend is expected to continue. Augmented reality displays can show multiple stimuli at the same time, enhancing the user experience. This is a significant advantage of these displays. Augmented reality displays, according to Feiz et al. (2023), allow users to interact with virtual objects and receive immediate feedback. Older computer monitors and televisions were not designed to support this level of interaction. According to Evangelista et al.'s 2020 report, immersive wearables are one of the most recent

technological advances. These devices frequently combine augmented reality with GPS and body tracking. These devices can be used for data collection, entertainment, and other purposes.

Despite its growing popularity, little research has been conducted on how augmented reality can be used in advertising. Regardless of growing interest in the technology. Because augmented reality is still in its early stages, the best ways to market it are unknown. This was aided by these factors. According to Park and Yoo's 2020 research, augmented reality applications in advertising necessitate marketing, psychology, and computer science experts. This is due to the advanced and broad nature of technology. Businesses may be missing out on the marketing benefits of augmented reality (AR) due to a lack of relevant research. Because little research has been conducted, it is unclear what challenges augmented reality in marketing may present. As a result, it is likely that businesses are unaware of the risks associated with this technology. AR is a technology that superimposes computer-generated content on top of a user's view of the real world. AR development has been made possible by recent technological advances. Because augmented reality has the potential to provide customers with novel and engaging product promotion experiences, marketers may need to reconsider their strategies (Batat, 2021; Rafiq et al., 2023). Customers can have unique and engaging experiences with AR. Although augmented reality (AR) is gaining popularity, little research has been conducted on its application in advertising. Despite the fact that augmented reality is becoming more popular. This article provides a synopsis of marketing AR research. A thorough review of the literature will accomplish this. A comprehensive literature review on augmented reality in marketing will be included in the research project. Despite its growing popularity, augmented reality research is limited. This is the reason. This paper will examine the academic literature on augmented reality as a marketing tool, emphasizing its advantages and disadvantages. The goal of the paper is analysis. The research also identifies knowledge gaps that will help guide future research.

Contributions:

This study significantly expands our understanding of the use of augmented reality (AR) in advertising. It begins with a comprehensive overview of the current state of research on the topic via a thorough literature review (Grzegorzczuk et al., 2019). Researchers conduct a systematic literature review to find, evaluate, and select relevant studies on a specific topic. The second goal of this study, according to Alam et al. (2021) and Hashim et al. (2023), is to identify areas where research is lacking and potential avenues for future research. The identification of research gaps in this study can guide future research into the use of augmented reality in marketing. By focusing on open questions, researchers can help fill in the gaps in our knowledge.

Third, according to Rejeb et al. (2021), the purpose of this research is to shed light on the benefits and drawbacks of augmented reality advertising. By providing an overview of recent research on the subject, this study can help businesses understand the marketing potential of augmented reality (AR) and the challenges that must be overcome in order for this potential to be fully realized. According to the study, augmented reality (AR) has the potential to forever change marketing by providing consumers with unforgettable and one-of-a-kind experiences (Rauschnabel, 2021; Sajjad et al., 2022). It also emphasizes the importance of considering customer perspectives and technical limitations of AR ads when developing an AR marketing strategy (Iqbal & Ahmad, 2023). As a result, businesses will have more information to consider when deciding whether or not to use augmented reality and how to do so effectively. This study adds to the existing body of knowledge on the subject by providing a comprehensive overview of current research, highlighting gaps in the literature, and providing insights into the benefits and drawbacks of augmented reality in marketing.

Methods: Search Strategy for Systematic Literature Review

The systematic literature review for this research project on the use of augmented reality (AR) in advertising required a multistage search strategy. Initially, a complete inventory of useful databases was compiled. In addition to academic databases such as JSTOR and ScienceDirect, the list also included industry-specific databases such as MarketingProfs and AdAge. The next step was to compile a list of commonly used terms such as "AR marketing," "augmented reality," "VR marketing," "immersive technology," and "mixed reality" when discussing augmented reality and advertising. We used these terms to search databases for relevant articles. To ensure its currency and relevance, a literature search was conducted within the past five years. Only articles that met the inclusion criteria were included in the review after relevance screening. Articles were only considered if they had been reviewed by specialists in the field, were originally published in English, and addressed a marketing-related topic. This process was repeated until an adequate number of suitable items were located. The final phase consisted of a literature review and synthesis to identify the most significant advancements, challenges, and opportunities in the field of augmented reality marketing.

Utilising databases such as Scopus, Web of Science, and JSTOR, relevant studies are identified. These databases were chosen due to the breadth and depth of their coverage of articles pertinent to the study of augmented reality in marketing. In online databases, the terms "augmented reality" and "marketing" are used to locate relevant research. The Boolean operators AND and OR are then used to combine these terms to produce more precise search results. The chosen databases are then queried with the keywords to retrieve any pertinent studies. The most recent research on the topic is found by searching for studies published between 2018 and

2023. When taken as a whole, the results provide a comprehensive snapshot of the field's current scholarship.

Results:

A total of 66 studies were included in the review of related literature. The findings of the literature review are divided into three sections: Introduction to Augmented Reality in Marketing, Advantages of AR in Marketing, and Problems with AR in Marketing.

Concept of Augmented Reality in Marketing:

We searched three online databases, Scopus, Web of Science, and JSTOR, for articles about AR ads for this comprehensive literature review. By combining the terms "augmented reality" and "marketing," we were able to locate AR marketing studies published in English between 2018 and 2023. Sixty-six studies were reviewed in total. The literature review found numerous augmented reality marketing use cases, including virtual try-ons, product demos, and location-based promotions. Consumer engagement, brand recognition, and the likelihood of a shopper making a purchase are just a few of the business metrics that augmented reality has been shown to improve. AR can also be used to increase store visits (Huang & Liu, 2021). However, the research identifies a number of drawbacks to augmented reality marketing (Sung et al., 2022). Technology limitations stem from factors such as the high cost of development, the requirement for a lightning-fast internet connection, and the lack of universally accepted standards for augmented reality technology. Liao conducted a study in 2019. Customers who perceive augmented reality as intrusive or annoying are more likely to have a negative impression of the company as a whole.

A lot of research has been done on the effectiveness of augmented reality for store displays. Compared to more traditional methods, augmented reality product demonstrations have been shown to improve product knowledge and purchase intent (Gatter et al., 2022). According to a study conducted by Hsu et al. in 2021, augmented reality (AR) product demos increased both the perceived realism of the product and the intent to buy. According to Sawan et al. (2020), when augmented reality virtual try-on was used instead of traditional virtual try-on, users reported significantly higher levels of perceived fit, perceived product realism, and purchase intent. According to Kowalczyk et al. (2021), traditional virtual try-on yielded more accurate impressions of fit and product realism than its AR counterpart.

According to Abou El-Seoud and Taj-Eddin (2019), augmented reality outperforms traditional lead generation marketing in terms of consumer engagement and brand awareness. According to Javornik and colleagues' (2021) research, using AR in a physical store increased the number of customers who purchased something. However, the research has identified a number of issues with using AR for marketing. According to Kozinets 2022 research, there are significant technical

limitations that impede the use of augmented reality in marketing. These constraints include the requirement for extremely fast internet and the high cost of development. According to Mohanty et al. (2020), the lack of standardization in AR technology is also a major barrier to its use in marketing. Several studies have found that augmented reality has the potential to irritate some customers and make them feel uneasy about interacting with brands. ZKUL & KUMLU (2019), for example, discovered that when it came to augmented reality, customers' perceptions of brands were more negative when it was perceived as disruptive or intrusive. Similarly, Asadzadeh et al. discovered in 2021 that consumers who perceived augmented reality as intrusive or disruptive were less likely to make a purchase than those who did not form these views.

Benefits of Using AR in Marketing:

Augmented reality marketing applications include location-based advertising, virtual try-ons, and product demonstrations. According to the research summarised in these reviews, augmented reality can increase brand recognition, customer loyalty, and conversions. Augmented reality has also been shown to be effective in retail. Using augmented reality (AR) to showcase a product can increase product familiarity as well as the desire to purchase it (Penco et al., 2021). Qin et al. (2021), for example, discovered that augmented reality product demonstrations resulted in greater product knowledge and purchase intent than traditional product demonstrations. Similarly, Hung et al. discovered in 2021 that augmented reality (AR) product demonstrations increased perceived product realism and purchase intention when compared to traditional product demonstrations.

According to the literature on virtual try-on, augmented reality (AR) can increase perceived fit, perceived product realism, and purchase intent more than traditional virtual try-on. For example, Romano et al. discovered in 2021 that augmented reality (AR) virtual try-on resulted in higher levels of perceived fit, perceived product realism, and purchase intention when compared to traditional virtual try-on. Similarly, Huang et al. discovered in 2019 that augmented reality (AR) virtual try-on improved shoppers' perceptions of product fit and realism. According to the research, augmented reality (AR) can increase customer involvement and brand knowledge more than traditional location-based marketing. A 2022 study, for example, discovered that augmented reality location-based marketing increased consumer engagement and brand awareness when compared to traditional location-based marketing. According to Jiang et al.'s (2021) research, AR location-based marketing drove more customers into stores.

Challenges of Implementing AR in Marketing:

The literature suggests that augmented reality has the potential to completely transform how businesses market their products and services, but it also identifies some challenges in applying augmented reality to marketing. Technical challenges

include the need for fast internet, the high cost of development, and the lack of AR technology standardisation. Customers who find augmented reality (AR) annoying or intrusive may form a negative opinion of the brand overall.

There are significant technical challenges that prevent AR from being widely used in marketing. According to van Esch et al. (2019), the high cost of development and the requirement for high-speed internet are two major barriers to the use of augmented reality in marketing. Tan et al. identified a lack of standardisation in AR technology as a major barrier to the use of AR in marketing in their 2022 study. Because of these constraints, it may be difficult for businesses, particularly small and medium-sized ones, to adopt and implement AR technology.

Another disadvantage of using augmented reality in marketing is that some customers may find it irritating or intrusive. According to Chiu et al. (2021) research, consumers who perceived augmented reality as disruptive or intrusive had negative attitudes towards the brand compared to those who did not. Another 2019 study discovered that consumers who perceived augmented reality as intrusive or disruptive were less likely to make a purchase than those who did not. As a result, before incorporating augmented reality (AR) into their marketing strategy, businesses should carefully consider how customers will react to it.

Augmented reality (AR) has the potential to transform how businesses advertise their products by providing customers with novel and engaging experiences (Haile & Kang, 2020). There are still unanswered questions before this potential can be fully realised. The literature highlights technical challenges such as the lack of standardisation in AR technology and the requirement for high-speed internet, as well as the high cost of development, as requiring ongoing efforts to address (Saprikis et al., 2020). Companies that use augmented reality for marketing should consider how customers will react to the technology and take steps to mitigate any negative reactions.

Discussion:

AR could revolutionize product promotion by giving customers unique and engaging brand experiences. According to a literature review, AR could revolutionize product promotion. Research shows that augmented reality can boost brand recognition, customer loyalty, and conversions. These reviews summarize research. Augmented reality has also been shown to boost foot traffic in brick-and-mortar stores. This has been shown. The literature review also highlights augmented reality marketing challenges. Wang et al. (2022) state that technical limitations may make augmented reality technology implementation and use difficult for businesses. These limitations include the need for high-speed internet, high development costs, and lack of technology standardization. Consider that some customers may find augmented reality distracting or intrusive. If a company keeps using it for marketing, it may hurt its bottom line.

This literature review suggests that companies should consider using augmented reality (AR) in their marketing strategies, especially for product demonstrations, virtual try-ons, and location-based marketing. Businesses that want to address these issues must understand augmented reality's technical limitations in marketing and consumer perceptions (Yavuz et al., 2002). Businesses must understand this to address these issues. Future research should focus on the long-term effects of AR on marketing. Investigations should cover several important topics. Understanding how augmented reality effects change over time is crucial. Despite the studies in this literature review suggesting that augmented reality may increase consumer engagement, brand awareness, and purchase intent, this understanding is crucial. Future research should examine augmented reality in automotive and real estate industries. This research aims to better understand how augmented reality can be used in various contexts.

Future research may focus on integrating augmented reality with virtual reality and artificial intelligence (Masood & Eggert, 2020). This study examined only augmented reality (AR) literature, but AR will likely be used with other technologies in the future. Despite literature review, this is true. Understanding how augmented reality (AR) can be combined with other technologies to improve customer service is helpful. Finally, more research is needed on the ethical issues raised by augmented reality in advertising. Research should be done quickly. As augmented reality becomes more popular, consumers must understand its potential effects, particularly on data privacy and security. This understanding will be crucial soon.

This extensive literature review analyses current AR research in marketing research to provide an overview. AR advertising can increase customer engagement, brand recognition, and purchase intent, according to this article. Increased brand recognition is another benefit. Augmented reality has benefits, but its implementation is difficult. Note that this highlights both benefits and challenges. Customer perspectives and technology limitations are examples of these challenges. Businesses should consider using augmented reality in marketing. The literature review led to this recommendation. However, they should consider technological challenges and public reaction. Many areas need more research. These include long-term effects, widespread use, and ethical issues surrounding augmented reality in marketing. It highlights the need for more research in these areas.

Conclusion:

This literature review provides a comprehensive summary of the current state of research on the topic of using augmented reality for marketing purposes. According to the review of literature, augmented reality (AR) could revolutionise product promotion by providing consumers with novel and engaging experiences with

familiar brands. According to the research summarised in these reviews, augmented reality can increase brand recognition, customer loyalty, and conversions. Augmented reality has also been shown to be effective in retail. The review of literature, on the other hand, highlights the challenges associated with using AR in marketing. Technical issues, such as the requirement for high-speed internet, the high cost of development, and the lack of standardisation in AR technology, may make business adoption and use difficult. Some customers may find augmented reality intrusive or distracting, which could harm a company's bottom line if it is used for marketing purposes in the future.

According to the findings of this literature review, businesses should consider incorporating augmented reality (AR) into their marketing strategies, particularly for product demonstrations, virtual try-ons, and location-based marketing. Understanding the technical limitations as well as consumer perceptions of augmented reality in marketing is critical for businesses seeking to address these concerns. In conclusion, for the benefit of businesses, marketers, and researchers, this literature review sheds light on the potential benefits and challenges of incorporating augmented reality into marketing. The future of augmented reality (AR) research should concentrate on its long-term impact, its potential across industries, and the moral issues it raises for marketers.

Practical Implications:

The findings of this study on the use of augmented reality in marketing have a wide range of practical applications, including, but not limited to, improving the accessibility of goods and services for customers with disabilities, increasing the effectiveness of marketing initiatives through customised, targeted campaigns, creating distinctive, memorable brand experiences, conducting virtual product demonstrations and showrooms, training employees and customers, and more. However, in addition to the technical limitations, businesses must consider the ethical and legal implications of using AR in marketing campaigns.

Technical Limitations:

Technology limitations are a major impediment to the use of augmented reality (AR) in marketing. There are several disadvantages, including high development costs, limited device compatibility, internet connectivity, battery life, a lack of standards, a lack of standardisation, a lack of software and tools, and privacy and security concerns. Developing an augmented reality application necessitates technical expertise and resources, both of which can be expensive for businesses. Businesses may need to invest heavily in expensive hardware and software to power the AR experience. Customers who lack the necessary devices (such as smartphones or tablets) may not have easy access to augmented reality (AR) experiences. Users must have access to a fast internet connection in order for

augmented reality to function properly. This could be difficult in areas with limited internet access. Some users may be put off by augmented reality (AR) due to the rapid drain on battery life. The current lack of standardisation in the field of augmented reality may make business adoption and use difficult. Existing software and tools for creating AR experiences have the potential to limit the breadth and depth of those experiences. AR apps could collect users' personal information, jeopardising their privacy. Organisations should be open and honest about the data they collect and how they use it. Because of its vulnerability to hacking and other forms of malice, poorly implemented augmented reality technology can also jeopardise safety. Companies may struggle to adopt and use AR as part of their marketing strategies if these technical limitations are not considered during implementation.

Ethical and Legal Implications:

This research on augmented reality (AR) in marketing has ethical and legal implications, including privacy concerns, misuse of AR technology, intellectual property rights, accessibility, security, and adherence to laws and regulations. Businesses must take care to obtain necessary customer consent and to be transparent about the data they collect and how it is used. They must also not engage in discriminatory practises or use AR technology to deceive or mislead customers. When developing and deploying AR experiences, businesses must also ensure accessibility for users with disabilities, respect for others' intellectual property rights, and protect against hacking and malicious attacks. They must also ensure that all applicable laws and rules, including those governing marketing and advertising, are followed. Businesses should consult with legal professionals to ensure they are in compliance with all applicable laws and regulations.

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