

## Impact of Augmented Reality (AR) on Marketing

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With new technological advancements occurring every day across the globe, augmented reality technology has been developed and integrated into numerous businesses. This technology has the potential to significantly influence marketing. The aim of this study is to conduct a systematic literature review to identify, evaluate Augmented Reality (AR) emergent themes from marketing point of view in the last years ,the study is exploratory and Qualitative in nature .Findings clarified augmented reality has impact in marketing .

**Key words: Augmented reality, Technology, marketing.**

### Introduction

Internet usage across the whole world is increasing, literacy rates are improving, and that leads to people shifting views from the traditional ones to another medium; Consequently, some new technologies were needed to maintain the communications with the consumers. With the technological advancements, social media have been a major impact in this aspect and it started to connect virtual and real worlds in the people's thoughts (Yim, Chu& Sauer 2017).

Augmented Reality (AR) has received increased attention over the last years, both from managers and scholars alike. Various studies in the marketing

discipline have tackled fragmented aspects of AR, such as its impact on sales or brands. (Rauschnabel ,2022)

AR enables us to design expressive visual feedback without many of the constraints of physical reality . In addition, AR can present visual feedback in one's line of sight, tightly coupled with the physical interaction which reduces the user's cognitive load(Xia et al .,2022), It helped consumers to reach what they are looking for and what they really need in a natural environment

## Literature review

### Augmented Reality:

A technology that blends virtual and real worlds is called augmented reality. People's attention has been drawn to augmented reality technology due to its rapid progress in recent years.

The first part of this paper discusses augmented reality research and advancements. Furthermore, it presents specific domains where augmented reality is employed in marketing.

Augmented reality has been defined as :systems that have the following three characteristics: 1) combines real and virtual, 2) interactive in real time, 3) registered in 3D". (Azuma ,1997)

It has been also defines as a broader scope and include any systems that augment physical objects or surroundings environments in the real world, regardless of the technology used (Bimber and Rasker ,2006)

And also (Chen et al.,2019)define augmented reality as A technology that blends virtual and real worlds is called augmented reality.

People's attention has been drawn to augmented reality technology due to its rapid progress in recent years. Augmented Reality (AR) combines the real world with a virtual environment to improve how people see the world. Given the rapid expansion of with the advent of more advanced communication infrastructure and more potent, more affordable mobile devices, Mobile Augmented Reality (MAR) apps are becoming more and more common.

With MAR, consumers may operate AR apps on their mobile devices more affordably and with more mobility. Future MAR applications will be able to achieve ultra-low latency and extremely high data rates thanks to the upcoming 5G communication technologies, while Multi-access Edge Computing (MEC) will complement MAR by bringing greater processing capacity closer to the users. This study goes into great detail on the state of MAR historically and its prospects going forward in relation to 5G systems (Siriwardhana et al.,2021).

Technology called augmented reality allows virtual content to be integrated into real environments in desktop and mobile formats.

Development of this technology has started in a number of disciplines, including as a model-based learning tool(Afandi et al.,2019) also Augmented reality (AR) and virtual reality (VR) are emerging as next-generation display platforms for deeper human-digital interactions, thanks to significant advancements in high-speed connectivity and computation.( Xiong et al.,2021)

The emergence of Augmented Reality (AR) technology offers marketers encouraging chances to interact with consumers and change their perception of a brand. Businesses are eager to invest in augmented reality (AR), but there is a dearth of data demonstrating its practical effects in real-world settings. The use of augmented reality (AR) to help with product evaluation before purchase , and it affects sales in online shopping also AR usage on the company's mobile app is

linked to increased sales for less well-known brands, more expensive products, and products with a more limited appeal. (tan et al.,2022).

Although the COVID-19 pandemic has had a severe effect on society, there have also been good effects that have been anticipated, such as the ongoing adoption of augmented reality for telemedicine services (such as telesurgery, teleeducation, and telerehabilitation) that support digital change(Morimoto et al.,2022),also exploring the social and ethical aspects for augmented reality addressing these topics will enable Augmented Reality to reach its full potential as a transformative technology (Billinghurst ,2021).

Also Augmented Reality used in promoting product design, robotic-related works, cyber–physical interaction, and human ergonomics.(Yin et al.,2023).

Understanding AR requires an understanding of several basic concepts, which are covered in a very basic manner in this study. These include the nature of technology, architecture, the devices needed, the different forms of AR (Dargan et al.,2022) also (Samala et al.,2023) state that Augmented Reality trend continued to rise over the years and AR and VR are two technologies changing how people use screens, thus creating new and exciting interactive experiences.

## Marketing:

(Kotler,2011 ) defines marketing is the science and art of exploring, creating, and delivering value to satisfy the needs of a target market at a profit. Marketing identifies unfulfilled needs and desires. It defines, measures and quantifies the size of the identified market and the profit potential. It pinpoints

which segments the company is capable of serving best and it designs and promotes the appropriate products and services.

According to the American Marketing Association (AMA) Board of Directors, Marketing defined as the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.

Certainly, marketing is the concept of influencing customers and creating special customer value are common in all elements and types of marketing. Marketing, always seek to improve the basic capabilities of products and services. (Nozari et al., 2022).

The way marketing companies innovate is changing due to the growing digitalization of innovation activities, and Given the crucial role B2B marketing departments play in the development of new products and services, (Ravat et al.,2024).

This study introduce technique to explain how marketing may be built with a data-driven innovation capability. (Mintz,2024; Lilien ,2024) Marketing expenses have a positive effect on the value of the company. either negatively or favorably for different startups, depending on the well-known moderators. In particular, systematic marketing efforts by early-stage B2B start-ups increase firm valuation; nonetheless, over half of these companies decide against investing in systematic marketing because they appear to believe it will not be beneficial.

(Maduku ,2024) also,social media has an effect in the core marketing domains of product development, pricing decision-making, channel management, and promotion which is impacted by the involvement of top

management. specifically with regard to relationship building and sales performance. The results show that the integration of social media into marketing operations is significantly which is influenced by top management participation.

Marketing has revolved on actions taken from the product's conception to its delivery in order to help the business. Critical alterations and breakthroughs in marketing functions and procedures have been brought about by crises such as COVID-19. This study shows how to compile and arrange the innovative marketing practices that businesses implemented throughout the extraordinary COVID-19 issue and might act in circumstances requiring quick decisions. (Richi et al.,2024)

Navarro,2024;Rubio,2024) Additionally, marketing research has increased significantly in recent years. From the groundbreaking research that looked at customer behavior, the field developed to meet emerging concerns like social media and sustainability (digital marketing).

Marketing Companies give priority to obtaining certificates related to quality systems, as well as logistics, environmental certificates, and fair trade principles, followed in importance by paying attention to aspects related to distribution. (Flores,2024;Diaz,2024) and also there is an positive effect of marketing executives on firm performance. (Du et al.,2024) they further found that the marketing executives has a more significant effect on corporate performance in firms with higher executive power, executive experience, the results of this paper shows that marketing executives do not have a significant impact on the long-term value and innovation level of the company .

In marketing using price promotion is very important for marketing efforts .(Cui et al.,2024).

The form of strategic competition influences financial outcomes differently, and the impact of marketing efforts on business value has been studied in this study. Applying the so-called competitive strategy measure (CSM). (Ryoo et al.,2018)

Marketing has benefited greatly and significantly from psychology. Eight intellectual clusters—the marketing environment; consumer engagement; online consumer behavior and marketing; luxury and sustainable consumption and marketing; influencer and global marketing; and customer relationship, satisfaction, and loyalty—showcase the contributions of psychology. (Donthu et al.,2021)

### **Augmented reality marketing:**

Augmented reality (AR) technologies are having a profound impact on a variety of marketing practices and are attracting increasing attention from marketing researchers .this research focus on consumer marketing that centers around consumer experiences provided by augmented reality applications and its effectiveness. (Wedel et al.,2020)

Augmented reality marketing has been defined as a “strategic concept that integrates digital information or objects into the subject’s perception of the physical world, often in combination with other media, to expose, articulate, or demonstrate consumer benefits to achieve organizational goals” (Rauschnabel, 2019).

Another definition for Augmented reality marketing is the strategic integration of AR experiences, alone or in combination with other media or brand-related cues, to achieve overarching marketing goals by creating value for



the brand, its stakeholders, and societies at large, while considering ethical implications.(Chylinski et al.,2020)

The definition positions AR Marketing as a sub-discipline directly in line with an organization's overall marketing strategy rather than an isolated, one-time effort By integrating virtual elements into our real-world perceptions, augmented reality (AR) provides numerous Opportunities across fields, including marketing, tourism, and gaming.( Caboni et al.,2024)

It has been determined the contribution to AR theoretical frameworks in marketing by delineating specific consumer usage modes and offer actionable strategies for businesses to effectively implement AR technologies, particularly in enriching consumer interactions and driving retail innovation. Augmented reality (AR) merges virtual elements with our physical context. Although there is evidence in marketing that AR may be superior to alternative formats (Kumar et al.,2024) also augmented reality features (contextualization, interactivity, portability) has effects in marketing ( consumer goal achievement (e.g., self-confidence, self-expression, reduced purchase regret). (Hinsch et al.,2020) found that new augmented reality applications influence consumer bahvior.

In Augmented Reality Marketing has influence on (branding, inspiring, convincing, and keeping). .( Rauschnabel ,2022) . Regarding how the brand attitude is perceived as a result of augmented reality . Augmented reality (AR) has reshape the mobile shopping experience and create more meaningful consumer-brand relationship.(Scholz,2018;Duffy,2018).

Despite their potential as interactive marketing tools, Augmented reality (AR) filters are frequently used as a social media feature that provides users with various visual effects. (Omar,2023) explore the audience's emotional responses to augmented reality (AR) while using Snapchat filters as a self-



presence tool. focuses on the user's interactions with Snapchat Face Lenses, especially how they choose one and behave when using it. The results revealed that depending on the underlying cause of AR filter usage, these uses might have both positive and negative consequences regards to curiosity and compatibility with users' contentment.

Also The pandemic has forced fashion brands to find alternatives to provide more engaging online consumer experiences, particularly through emerging technologies such as Augmented Reality (AR). The Virtual Fitting Room (VFR) is an example of that. Consumers can try fashion products and interact with them without having to visit a store .( [Wanick](#) et al.,2023)

### **Findings and discussion:**

Thus Ar provides a combined view of digital and physical world by embedding realistic digital content into user perception. yes it is argued that AR is not merly a technology rather it self service quality enable that achieves customizable value outcomes for customers This is what is crucial for marketing.as result conventional services operations are transformed into smart ones creating an entirely different customer experience concept that can be labelled with smart experience

Which makes us conclude that Impact of Augmented Reality Technology on marketing.

Marketers nowadays can increase the use of augmented reality technologies in general in some industries; shopping industry and that can be done by integrating this technology with their sales promotions which include product samples, purchase displays, point of purchase and contents all of those sales promotions can be used with augmented reality glasses to increase the

effectiveness of the experience to the consumers and thus increase sales by delivering a new unique creative way.(Belal,2021).

## References :

1. Afandi,B., Kustiawan,I.& Herman, N .,D.(2019), Exploration of the augmented reality model in learning, Journal of Physics: Conference Series, 1375 (012082),1-8.
2. Belal,S.,A.,A .(2021), Impact of Augmented Reality Technology on Customer Engagement in Egypt, International journal of tourism,Archeology and hospitality,1(1),60-88.
3. Billinghamurst,M (2021),Grand challenges for augmented reality, the journal Frontiers in Virtual Reality,2(578080),1-4.
4. Chen,Y., Wang,Q., Chen,H., Song,X.,Tang,H & Tian,M(2019), An overview of augmented reality technology, Journal of Physics, 1237(022082),1-6.
5. Dargan,S., Bansal,S., Kumar,M., Mittal,A & Kumar ,K (2022), augmented reality:A comprehensive review, journal of computational methods in engineering,30(1),1057-1080.
6. Caboni,F., Basile,V.,Kumar,H &Agarwal,D. (2024), Crisis-driven innovations in marketing, Industrial Marketing mangment,119(1),135-146.
7. Cui,Y.,Duan,Z.,Loparco,C.,R.,Vinson,K.,Vinson,K.,Romm,k.,F.,Wang, Y.,Regh,P.,A., C.,Kasson,E.,Yang,Y.,T. & Berg,C.,J.(2024), Changes in online marketing and sales practices among non-medical cannabis retailers in 5 US cities, 2022 to 2023, Preventive Medicine Reports,42(102755),1-7.

8. Donthu,N., Kumar,S., Pattnaik,D.& Lim,W.,M.( A bibliometric retrospection of marketing from the lens of psychology: Insights from Psychology & Marketing), RESEARCH ARTICLE,38(8),834-856. [wileyonlinelibrary.com/journal/mar](http://wileyonlinelibrary.com/journal/mar)
9. Du,K.,Zhao,Q.,Yin,Y. & Zhang,T.(2024), Marketing executives and corporate performance: From the perspective of marketing digitalization, International Review of Economics and Finance,8 (93),631-644.
- 10.Flores,M.,P. & Diaz,I.,M.,R. (2024), promoting sustainable agri-food systems through sustainability and responsible marketing: The case of peruvian companies at international trade shows, journal of cleaner production,448 (141568),2-12.
- 11.Hinch,C.,Felix,R. & Rauschanabel,P.A, Nostalgia beats the wow-effect: Inspiration, awe and meaningful associations in augmented reality marketing, Journal of Retailing and Consumer Services,53,101987,1-11
- 12.Kotler,P. (2011), Actionable Marketing 101 , Marketing Resources, [www.academia.edu](http://www.academia.edu).
- 13.Kumar, H., Rauschnabel, P., A., Agarwal, M., N., Singh, R.,K & Srivastava , R.(2024),
14. Maduku,D.,K. (2024), Social media marketing assimilation in B2B firms: An integrative framework of antecedents and consequences, Industrial Marketing Management,119(4),27-42.
- 15.Mintz,O. & Lilien,G.,L (2024), Should B2B start-ups invest in marketing?, Industrial Marketing Management,117(1),220-237.

16. Mobile Edge Computing: Architectures, Applications, and Technical Aspects, IEEE COMMUNICATIONS SURVEYS & TUTORIALS, 23(2), 1161-11923.
17. Morimoto, T., Kobayashi, T., Hirata, H., Otani, K., Sugimoto, M., Tsukamoto, M., Yoshihara, T., Ueno, M. & Mawatari, M. (2022), XR (Extended Reality: Virtual Reality, Augmented Reality, Mixed Reality) Technology in Spine Medicine: Status Quo and Quo Vadis, Journal of clinical medicine, 11(470), 1-23.
18. Navarro, J., M. & Rubio, R., S. (2024), Three decades of research on wine marketing, the journal heliyon, 10 (30938), 1-22
19. Nazori, H. & Naher, J., G. (2022), The Impact Of Blockchain Technology And The Internet Of Things On The Agile And Sustainable Supply Chain, International journal of innovation in Engineering, 2 (2), 33-41.
20. Oliver Bimber and Ramesh Raskar. 2006. Modern approaches to augmented reality. In ACM SIGGRAPH 2006 Courses. 1–es. <https://doi.org/10.1145/1185657.1185796>
21. Omar, N., (2023), THE SUCCESSFUL APPLICATION OF AUGMENTED REALITY AND ITS IMPACT ON SELF-PRESENCE: AUGMENTED REALITY USAGE IN SNAPCHAT AND ITS IMPACT ON CONSUMERS, Proceedings of the world conference on media and mass communications, 7(1), 1-19.
22. Rauschnabel, P.A., (2022), What is augmented reality marketing? Its definition, complexity, and future, Journal of Business Research, 142(9), 1140-1150.

23. Rauschnable, P.A. (2018), Virtually enhancing the real word, with holograms: an exploration of expected grafication of using augmented reality smart glasses, *Psychological marketing*, 35(8), 552-572.
24. Ravat, L., Goujot, A., H. & Haudebert, S., H. (2024), Exploring how to develop data-driven innovation capability of marketing within B2B firms: Toward a capability model and process-oriented approach, *Industrial Marketing Management*, 118(2), 110-125.
25. Rishi, N., Sharama, V., Gupta, D., D., Singh, Y., P. & Agnihotri, R. (2024),
26. Ronald, T Azuma (1997). A survey of augmented reality. *Presence: teleoperators & virtual environments* 6, 4 (1997), 355–385. <https://doi.org/10.1162/pres.1997.6.4.355>.
27. Ryoo, J., Lee, C., Jeon, J., Q. & Choi, H., W. (2018), Marketing Activities, Strategic Competition, and Firm Value, *Canadian Journal of Administrative Sciences*, 34(4), 577-591.
28. Scholz, J. & Duffy, K. (2018), We ARE at home: How augmented reality reshapes mobile marketing and consumer-brand relationships, *Journal of Retailing and Consumer Services*, 44(5), 11-23.
29. Siriwardhana, Y., Porambage, P., Liyanage, M. & Ylianttila, M. (2021), A Survey on Mobile Augmented Reality With 5G
30. Tan ,y.c., Chandukala, S., R & REDDY, S., K (2022), Augmented reality in retail and its impact on sales, *Journal of Marketing*. 86, (1), 48-66.
31. Towards a theoretical framework for augmented reality marketing: A means-end chain perspective on retailing , *Information and management*, 61(103910), 1-18.

32. Wanick, V., Stallwood, J. & Bazaki, E. (2023), The Use of Augmented Reality to Enhance Consumer Experience: The Case of Kohl's Snapchat Virtual Closet and Sephora Virtual Artist, Fashion retailing, 7 (8), 55-71
33. Wedel, M., Bigné, E. & Zhang, J. (2020), Virtual and augmented reality: Advancing research in consumer marketing, International Journal of Research in Marketing, 37 (4), 443-465.
34. Xiong, J., Hsiang, E.L., He, Z., Zhan, T & W., S., T. (2021), Augmented reality and virtual reality displays: emerging technologies and future perspectives, Official journal of the CIOMP, 10(216), 1-30.
35. Xia, T., Karim, A. & Suzuki, R. (2022), Augmented Reality and Robotics: A Survey and Taxonomy for AR-enhanced Human-Robot Interaction and Robotic Interfaces, 1-33, <https://doi.org>
36. Yim, M. Y. C., Chu, S. C., & Sauer, P. L. (2017). Is augmented reality technology an effective tool for e-commerce? An interactivity and vividness perspective. Journal of Interactive Marketing, 39, 89-103.
37. Yin, Y., Pai Zheng, P., Li, C. & Wang, L. (2023), A state-of-the-art survey on Augmented Reality-assisted Digital Twin for futuristic human-centric industry transformation, journal of Robotics and computer integrated manufacturing, 81 (102515), 1-10.