

Augmented Reality Marketing: Must-have Tool to Stay in Business

Gururaj Koni¹ and Dr. Ashwini K.B²

¹⁻²RV College of Engineering, Department of MCA, Bengaluru, India
Email: gururajkoni.mca20@rvce.edu.in, ashwinikb@rvce.edu.in

Abstract—Marketers are eager to utilise augmented reality (AR) communication technology in order to entice potential customers to build favourable attitudes and behaviours with regard to their goods and services as AR technology progresses. Because augmented reality commercials are immersive, engaging, and lifelike, they may aid businesses in forging emotional bonds with their customers. This study shows how AR advertising taking over the world and users feel more engaged and joyful. AR offers extremely engaging experiences across platforms and media types, according to this research. It also reflects the passage of time of Augmented Reality, it has been called Augmented Reality Marketing by marketers as a critical tool to continue in business in this present era.

Index Terms— Augmented Reality (AR), Augmented Reality Marketing (ARM), Augmented Reality Technology, Engaging with customer, Marketing tool, Metaverse.

I. INTRODUCTION

The Real-World, Augmented Reality (AR), Enhanced Virtuality, and Virtual Reality Continuum, which considers four systems: the real world, augmented reality (AR), augmented virtuality, and virtual reality. AR is a more recent technological technology in which virtual objects are added to the real world in real time as the user interacts with it. An AR system should be able to: 1. combine actual and virtual objects in a real-world setting; 2. run interactively and in real time; and 3. register real and virtual objects with one another. If the experience is perceived as there is consistency as well as realism. between the user's expectation and participation inside the AR environment, the feeling of "being there" will increase physically, intellectually, and emotionally. In the world of augmented reality, a sensation of presence is essential for engaging in realistic activities.

In order to grab the attention of the targeted audiences, the marketing business has been constantly developing and adjusting to their needs. As a result, marketing tools are the most important in terms of running a successful firm. In today's marketing, augmented reality (AR) plays a significant role. Although the phrase "augmented reality" first appeared in the 1990s, it is not the first time it has been used. Morton Helig was the first making AR a reality in 1957 by inventing a machine called Sensorama. Imagine peering into a machine capable of provide you with a cinematic journey by bringing together all of your senses. It was able to deliver wide-angle stereoscopic 3-D visuals, stereo sound, a movable seat that tilts as needed, and during the movie, wind and aroma will be triggered staring with the aid of binoculars and films within. Although there are apparent features of augmented reality. It was used in this gadget formerly classified as if it were virtual reality Aside from that, Heliig was unable to persuade investors to put their money into this machine because it was both too expensive and not in the correct usage at the time [14].

II. LITERATURE REVIEW

Augmented Reality (AR) is a modern human-machine interface technology that allows people to engage naturally with superimposing digital data such as virtual objects, animations, and images on top of the real world. It employs computational methods to merge the virtual and real worlds, allowing users to read and manipulate information from their surroundings. Many of the world's major corporations have been adopting AR. Consumers will be able to experience AR in a new way through prototyping and visualisation of products [1]. In general, there are two forms of augmented reality (AR): marker-based AR and marker-less AR. Based on their literal meanings, marker-based AR requires the usage of a marker as a trigger, whereas marker-less AR does not. For marker-based AR, the marker can be a 2D image with easily retrieved visual properties [2].

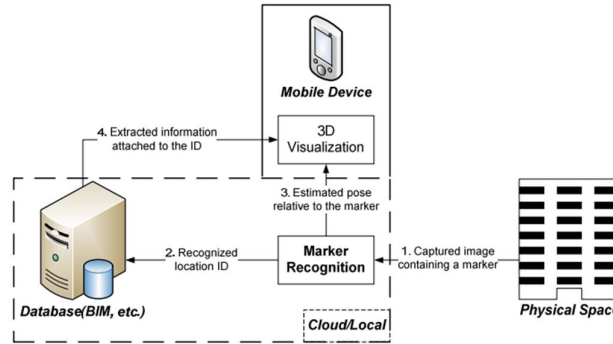


Figure 1. System overview of AR Marker [2]

TABLE I. MARKER LESS VS MARKER IN BLACK AND WHITE AUGMENTED REALITY [4]

Marker	Advantages	Disadvantages
Markers in black & white	It's common and simple to find and make. Computer requirements are minimal. Tracking that is effective.	Intrusive and invasive are two words that come to mind when describing this type of behaviour. Similarity in marker. All of the markers have black and white designs on them, which can be confusing for the user. The virtual model is lost if part of the marking is obscured.
Marker less	As a marker, any image with adequate detail can be used. Ubiquitous. There are no obtrusive identifiers that aren't naturally occurring.	The image must have a lot of details and be well-contrasted. Image tracking that is more complicated. More hardware is required.

The most important component of marketing is, obviously, extending your brand and raising customer awareness of your presence in the finished product, in addition to producing a crowd effect, which is what the marketer aspires to achieve the most. That clearly comes into play, and ARM is a key part of being unique in how you market yourself as a firm. AR revenue reached \$186 billion in 2020 [3]. It demonstrates that revenue is increasing as the marketing community's interest in augmented reality grows. At its foundation, augmented reality allows you to interact with the company while simultaneously allowing you to interact with the apps on your phone.

The technologies of virtual reality (VR) and augmented reality (AR) are gaining popularity and a significant impact on a wide range of marketing strategies, and marketing researchers are paying more attention to them. In paper [5], present a theoretical framework for VR/AR market study on consumers that focuses based on customer experiences given along the client lifecycle with VR/AR applications and their effectiveness, as well as the framework's major concepts and components [12].

In recent years, both managers and academics have been more interested in Augmented Reality (AR). A comprehensive strategy to AR is still lacking. As a result, in paper [6] describe "Augmented Reality Marketing" as an innovative, strategic, and potentially revolutionary marketing domain. Paper [13] describe a complex client journey model for augmented reality marketing, as well as the BICK FOUR framework (branding, inspiring, convincing, and keeping) as a tool for organising related objectives.

In 2020, the augmented reality market was worth \$ 1.98 billion, and it is predicted to grow at a CAGR of 151.93 Over the following five years (2021 - 2026). Retailers would most likely benefit from augmented reality because

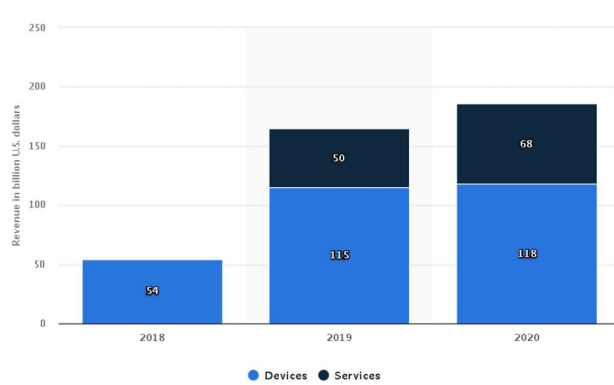


Figure 2. From 2018 to 2020, the global revenue for augmented reality (AR) devices and services. [3]

it will provide an entirely new approach to engage customers and increase their capabilities. Over the estimated period, the augmented reality industry is predicted to be propelled forward by large potential prospects in biotechnology and healthcare. [7].

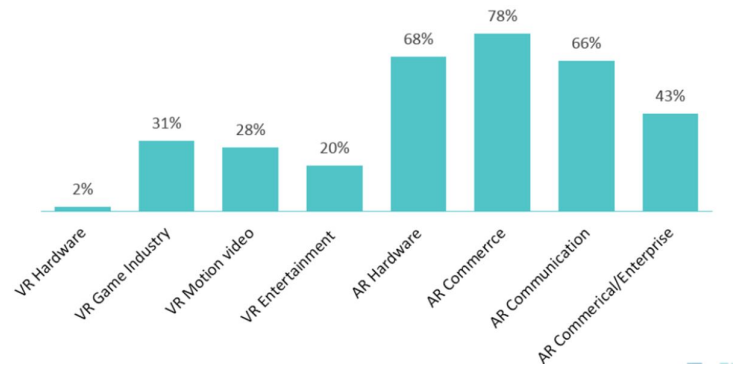


Figure 3. Growth of various AR/VR Applications 2020-2025 [7]

Many people see it as a way for their company to expand in that field. Chris Candy, president of Seven Media, remarked, " We believe that augmented reality has a promising future as a innovative technology, so therefore want to provide it to our clients. [8]". Moving on, when we consider the supplementary component of employing AR as a marketing tool, organisations will undoubtedly accomplish success in some form. AR not only provides excellent feedback but also generates income by attracting or persuading consumers who were not previously your customers in order to buy your product owing to the WOW factor [9]. It goes without saying that it is also environmentally friendly and user-friendly. by using too much AR. It manages to provide customers a secure sense as well as trust in the product, helping businesses to attract attention from a crowd that is uninformed of the product. AR is ideal for tiny "construction" businesses who want to get their name on the billboard quickly for a low advertising cost, which might be even higher than traditional advertising if it consumes more attention. It could potentially simply change the fundamentals of customer-brand engagement [10].

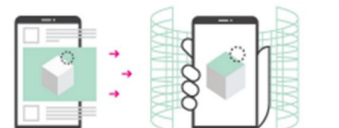
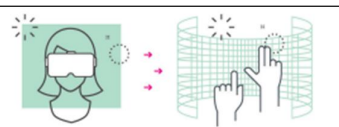
III. AR EXPERIENCE INITIALIZATION

In the recent years, technology companies have increased their investment in development platforms, making it easier to create AR experiences quickly. The growth of AR applications in games, industry, and commerce was paved by early pioneers.

IV. AUGMENTED REALITY MARKETING

Augmented Reality has been used in a variety of fields, including entertainment, engineering, robots, and the military. Because technology is driving the way in this era, AR has become a promotional tool for engaging with customers. As a result, Augmented Reality Marketing was proposed in the area of marketing tools. For most businesses, Augmented Reality Marketing (ARM) is extremely advantageous. It is suited for anyone, whether a

TABLE II. DIFFERENT AR EXPERIENCE INITIALIZATION [16]

Device	Steps	Result
Camera	1. Open the camera app on your phone. 2. Move the camera over an object or a QR code on a page. 3. The AR experience will be available through an AR-enabled app or through WebAR.	
AR-enabled App	1. Open the app that supports augmented reality. 2. Open the app, such as Instagram or Snapchat, and activate the AR experience. 3. Hover the camera over an image, a trigger, or an item to see if it can be recognised. 4. The AR experience will be available through an AR-enabled app or through WebAR.	
AR In-Feed	1. Click on an ad or an in-feed placement. 2. The augmented reality experience is launched in an AR-enabled app or through WebAR.	
Head-mounted Display	1. The user puts on a head-mounted display, such as glasses or a headset. 2. A manual trigger immerses the user in a mixed-reality environment.	

major firm or a small company on a tight budget, and would be strongly advised for a tiny company. This is because, ARM is useful in achieving customer satisfaction through the use of technology. It also gives the business a boost in terms of consumer satisfaction. Dohutia further asserted that the primary goal of ARM is to encourage repeat purchases and positive word-of-mouth, resulting in a larger market share. Furthermore, it serves as a tool for building a brand-customer relationship as well as a promotional tool. As a result, many businesses utilise it to market their new product as well as engage with their existing customers.

IV. COMPANIES THAT USE ARM

Many businesses, large and small, use augmented reality for a variety of goals, including engagement, connection, and amazement. These businesses have made the most of augmented reality to provide their customers a unique perspective. Google Maps showed off an augmented reality element of their walking directions function. Sony collaborated with 8th Wall, Trigger, and Amazon Sumerian to launch an augmented reality experience for their film “Spider-Man: Into the Spider-Verse” in order to generate hype and promote ticket sales. The Virtual AR tool from Lenskart may be used to test on both eyeglasses and sunglasses. Last June, Snapchat launched its first venture into shoppable AR when it teamed up with Gucci on a virtual try-on campaign. Customers simply had to put their phone camera at their feet and an AR filter with a pair of Gucci shoes would appear – Fig 3. Using AR capabilities, the Flipkart App will allow customers to check out major equipment or furniture in their selected part of the house. It would effectively allow consumers to examine a virtual, 3D-avatar of the item in their home and see how much space it would take up.

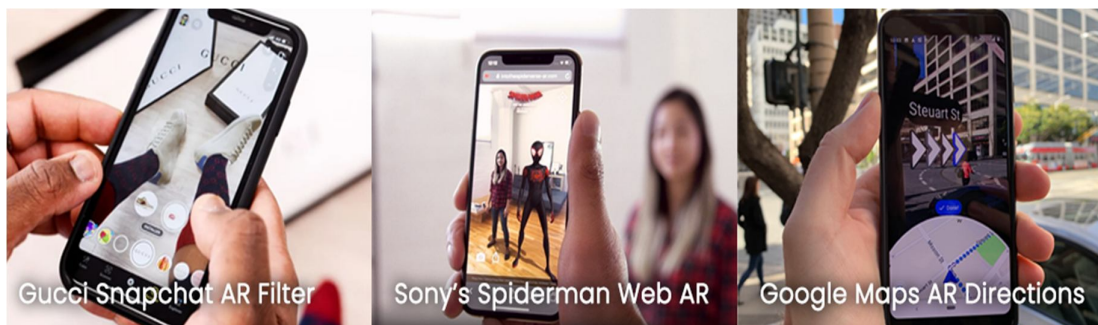


Figure. 4 Companies using AR

V. ADVANTAGES OF ARM

Virtual Reality Marketing may not be a good concept for some items, but it does provide businesses a marketing head start. The benefits are 1. Go Viral - One apparent example is the Snapchat, which managed to create a trend and go virally trending. These are certainly the outcomes that a company would prefer to achieve in order to imbue their brand with favourable word-of-mouth. Consumers can also share their material with other possible customers, leading it to become viral for a good purpose. 2. Unique/Different – When compared to traditional commercials, the major goal was to grab a certain demographic, but the way ARM advertised was a radical departure from the norm. fascinating, Fun, & Interactive elements are included not just to attract possible audiences, but also to attract individuals who have never used the product before. 3. Personalization – Allowing customers to contribute their own material to social media assists in the creation of content or customised media for the user. In comparison to a typical video or image, this could indicate that those customers are more engaged and feel more involved. 4. Accessible – It will be open to everybody, implying that anyone can utilise AR to create a sense of involvement in the film, which is what makes AR such a fascinating concept. 5. Immersive – As previously stated, firms who use AR primarily make it very immersive and, of course, incredibly involving and exciting as because the main goal is to surprise the consumer. When there is a sense of surprise, it encourages other people to participate. As a result, a viral loop is created.

VI. CONCLUSION

When this research paper is finished, a new era in advertising marketing has begun. Augmented Reality is currently viewed as a stepping stone for all businesses who choose to adopt this technology. Companies that adopted this technology saw a significant rise in brand awareness as a result of the crowd they generated. According to the literature research, many people are unfamiliar with the brand; it was AR that piqued their interest, which led to WOM. AR should also be considered a key procedure that many companies must adopt as a tool to strengthen their brand. Time will be the most important component in proving that AR is a worthwhile high-tech activity for consumers. The next thing you know, just by pointing your phone at a barcode, a corporate brochure will be sent to your front door. Augmented reality is a highly engaging media that can help to support and promote environmentally friendly activities. It can transform product packaging into networked packaging that can be refreshed without the need for reprinting or redesigning. It can inform consumers, increase brand transparency and loyalty, and disseminate key signals about a company's sustainable efforts. Some claim that Augmented Reality was designed in order to attract crowds and engage with customers in a unique way than individual sales, however as Edison said, " It doesn't mean anything is useless just because it doesn't do what you intended" This could be linked to the fact that virtual reality was first developed for entertainment and has now evolved into a modern marketing tool.

FUTURE WORK

Every month in 2021, 85 million people are assumed to indulge in at least one VR or AR activity. While the Metaverse isn't precisely what science fiction imagined it to be, it offers endless potential as a new platform for computing. For one thing, top-tier media appears to be fully committed. Cathy Hackl, a well-known technology futurist and metaverse strategist, has even launched a column for Forbes. Additionally, the Metaverse Investment Fund Metaverse ATF is an existing fund [11]. All of this points to metaverses' increasing importance right now. Marketers are in an exciting period. While there are some guiding principles that can assist marketers in determining which approaches and methods to employ, the metaverse is still a young platform with lots of room for experimentation. Best practises are still being established, and paradigms are still being fully formed. This allows marketers to be more creative and adventurous with their techniques.

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REFERENCES

- [1] Scholz, J., & Smith, A. N. (2016). Augmented reality: Designing immersive experiences that maximize consumer engagement. *Business Horizons*, 59(2), 149-161.

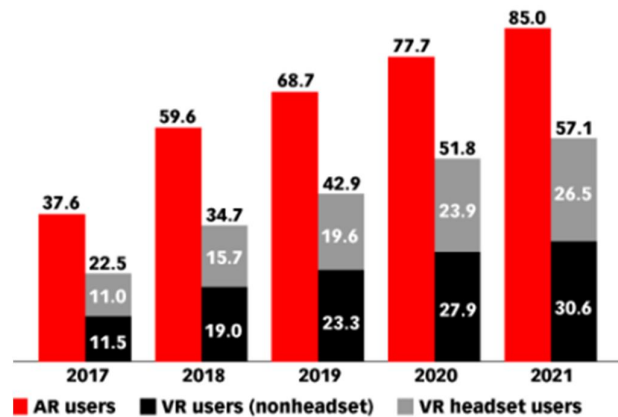


Figure .5 US AR/VR Users 2017-2021 in Millions [11]

- [2] Feng, C., & Kamat, V. R. (2012). Augmented reality markers as spatial indices for indoor mobile AECFM applications. Paper presented at the Proceedings of 12th international conference on construction applications of virtual reality (CONVR 2012).
- [3] Forecast of the augmented reality (AR) device and services revenue worldwide from 2018 to 2020. <https://www.statista.com/statistics/786821/ar-device-and-services-revenue-worldwide/>
- [4] Jorge D. Camba., & Manuel Contero. From Reality to Augmented Reality: Rapid Strategies for Developing Marker-Based AR Content Using Image Capturing and Authoring Tools. Proceedings of 2015 Frontiers in Education Conference (FIE 2015).
- [5] Michel Wedel. Enrique Bigné, Jie Zhang. "Virtual and augmented reality: Advancing research in consumer marketing". International Journal of Research in Marketing. Volume 37. Issue 3. Pages 443-465. (September 2020).
- [6] Philipp A.Rauschnabe, Barry J.Babin, M. Claudia tom Dieck, Nina Krey, Timothy Jung. (March 2022). "What is augmented reality marketing? Its definition, complexity, and future". Journal of Business Research. Volume 142. Pages 1140-1150.
- [7] Augmented Reality Market - Growth, Trends, Covid-19 Impact, And Forecasts (2022 - 2027). <https://www.mordorintelligence.com/industry-reports/augmented-reality-market>
- [8] Minsker, M. (2014). Augmented Reality Is A Marketing Tools. Retrieved from <http://www.destinationcrm.com/Articles/Columns-Departments/Insight/ Augmented-Reality-Is-a-Real-Marketing-Tool-94435.-.aspx>
- [9] Borison, R. (2013). Augmented reality moves beyond gimmick to drive brand utility. Retrieved from <http://www.mobilemarketer.com/cms/news/- software-technology/15879.html>
- [10] Horowitz, R. (2013). How augmented reality ads could change everything. Retrieved from <http://www.cnet.com/news/how-augmented-realityads-could-change-everything/>
- [11] A Deep Dive into Metaverse Marketing. <https://influencemarketinghub.com/metaverse-marketing/>
- [12] Jianghao Xiong, En-Lin Hsiang, Ziqian He, Tao Zhan & Shin-Tson Wu. (2021). "Augmented reality and virtual reality displays: emerging technologies and future perspectives". Light: Science & Applications Journal, Article number: 216.
- [13] Eunyoung (Christine) Sung. (January 2021). "The effects of augmented reality mobile app advertising: Viral marketing via shared social experience". Journal of Business Research. Volume 122, Pages 75-87.
- [14] Himanshu Matta & Ruchika Gupta. (2021). "Augmented Reality: An Upcoming Digital Marketing Tool in India". Advances in Interdisciplinary Research in Engineering and Business Management pp 31-38.
- [15] Michel Wedel. Enrique Bigné, Jie Zhang. (September 2020). "Virtual and augmented reality: Advancing research in consumer marketing". International Journal of Research in Marketing. Volume 37. Issue 3. Pages 443-465.
- [16] Augmented Reality for Marketing. <https://www.iab.com/wp-content/uploads/2019/10/IAB-AR-for-Marketing-Playbook-FINAL-June-2019.pdf>