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Applications of AR and VR Technologies in Healthcare Marketing

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Abstract

The healthcare industry faces a variety of unique challenges when it comes to marketing and communications. The whole industry has grappled with these distinct and specific communications and marketing strategies on several occasions. As a result, new technologies like virtual reality and augmented reality have emerged as problem solvers, dramatically altering the game and the future of healthcare and pharmaceutical communications. This article focuses on the usage of virtual reality (VR) and augmented reality (AR) in healthcare and pharmaceutical marketing and sales. After in-depth qualitative research on primary and secondary sources, this article describes multiple VR and AR technologies applications in healthcare and pharmaceutical marketing and sales. It helps in experiential marketing that allows customers to easily evaluate products and service innovations they are about to buy just as if they had their physical version by themselves. Further, attracting, converting, and retaining customers and educating digitally engaged customers on several aspects of the technology. This study suggests that with the inclusion of VR and AR technology, we can create genuine, authentic, and engaging experiences for marketing and sales in the healthcare and biotech industry in the future.

Key Words: Augmented Reality (AR), Virtual Reality (VR), Marketing, Pharma, Biotech Communications, Healthcare.

Introduction

At the beginning of the 21st century, the world experienced many innovations in various fields: medicine, business marketing, education, law, government, entertainment, and so much more. For Instance, in today's world, individuals can quickly connect with one another regardless of their location, information can be readily saved for future reference, retrieval is also simple, and many other advantages occur simply as a result of ongoing technological advancements. The use of technology in the marketing sector is now commonplace. Virtual reality (VR) and augmented reality (AR) are two examples of marketing technology that many firms have employed. The usage of virtual reality and augmented reality in marketing is rapidly expanding. This paper will analyze how healthcare organizations are embracing virtual and augmented reality as a powerful tool for marketing medical/surgical devices and products.

According to Baratali (2016), Virtual reality and augmented reality (VR/AR) are fascinating computer-based technologies that use vision to enhance music, graphics, video, and a variety of other senses based on real-world and visual items that use cameras (Baratali, 2016). This technology is a "combination of virtual objects and real-world, and the users are given a chance to interact with these objects in real-time" (Baratali, 2016). These excellent features of the AR/VRmake it an excellent tool that the healthcare marketing industry has embraced to promote their products.

Marketing firms frequently utilize various techniques to assess a product's worth and successfully convey that information to consumers to increase sales. According to Alcaniz (2019), a marketer should constantly identify what they are supposed to provide their consumers and their target audience or customers when they first start out. This will assist them in determining the optimal mode to utilize while meeting their customers' demands and fostering long-term loyalty (Alcañiz, 2019). All these needs necessitate any marketer to incorporate VR and AR technology. As Boyd (2019) states, VR and AR are "marketing digital superimposed or added to another environment, be as a print, television, or real-world" (Boyd, 2019).

The advertising business is currently in a state of upheaval. This is due to the unanticipated and gradual changes and difficulties, which substantially impact the advertising industry's business model, techniques, and structures. (Flavián, 2019).

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To solve this issue, many analysts anticipate that VR and AR will "become a significantly disruptive technology and media type for marketers, evolving to mainstream commercialization within five years and earning billions of dollars in profits" (Hyejune, 2020). As a result, several biotech & healthcare companies have already started adopting VR/AR technology to sell their healthcare products, such as medical/surgical devices & products (Roxo, 2018).

Scope of the Study

This study features extensive research on the existing market structure and potential prospects connected with the use of virtual reality and augmented reality in healthcare, pharma, and biotech marketing. The primary goal of this study is to identify the fundamental growth drivers and forecast the future impact of virtual reality and augmented reality on these industries. The study is based on the extent to which AR and VR technologies have been adopted and the projected growth rate of their use.

Data collection

Since the research is solely based on qualitative research methods, such as the extent of adoption of AR and VR technologies and the expected growth rate of their use, this paper uses both primary and secondary sources. Primary data resources were in the form of user experience and feedback from different health professionals and pharma/biotech marketers on various online platforms shared based on their experience and situations. These primary sources provide insights into what people have to say regarding the application of AR and VR technology in pharmaceutical and healthcare marketing. On the other hand, the secondary sources used in this research, such as marketing journals, books, interactive advertising, newspapers, and magazines, focus on the effects of new technologies like VR and AR.

Significance of Augmented Reality (AR) and Virtual Reality (VR)

According to Munoz-Saavedra (2020), science and innovation appear to have a brighter future in the coming decade. This is because, in today's world, countless technical innovations are happening on a daily basis, and the majority of them have direct implications for human life (Muñoz-Saavedra, 2020). The rapid advancement in technology is alarming, making long-term ownership of any technology almost impossible. Virtual reality and augmented reality are great examples of these technological advancements Virtual reality and augmented reality have been shown to be useful in medical applications. Gaming and viewing movies, among other things, have significantly benefited from these technologies. There appears to be a bright future for healthcare/pharma to use them.

The healthcare industry is one significant area where VR and AR technology have been applied (O'Connor, 2019). There has been a rising VR and AR technology trend across a wide range of medical applications for quite some time now(Hyejune, 2020). These technologies have proven to have a substantial impact on patient outcomes. According to (Bottani, 2019), VR and AR technology has proved useful in four key areas in healthcare centers: medical training, diagnostic and planning, rehabilitation, and treatment(Bottani, 2019). Apart from medical and academic institutions, there is an ever-increasing trend of employing VR and AR in promoting healthcare and pharmaceutical products and services. According to Wedel (2020), "Pharma, biotech, and medical device manufacturers need to communicate with doctors and consumers in different ways" (Wedel, 2020). Since these manufacturers interact with their customers frequently, they are required to differentiate their message from that of their existing competitors as they use publicly accessible health data. Now, marketers can connect with their customers in a more innovative and engaging way with the help of VR and AR (Loureiro, 2020).

According to Kuehn (2018), VR and AR have become ubiquitous and powerful tools in the healthcare industry. Many businesses have begun to notice the potential benefits of adopting virtual reality and augmented reality as their major marketing communication platforms due to technological innovations on a regular basis (Kuehn, 2018). Aside from the marketing communication platform, marketers are embracing VR and AR technologies for marketing as it's a mix of technological advancements, benefits realization, and technological fascination. According to Wedel (2020), the healthcare industry is embracing these technologies because they have the power to stimulate surgery, enhance diagnostic imaging and enable medical device training, and have numerous proven advantages in marketing and sales of pharma/biotech products and services (Wedel, 2020).

According to Kuehn (2018), the pharmaceutical business has several unique and specific concerns related to marketing and communications, which have proven to be complicated. Nonetheless, emerging technologies such as virtual reality and augmented reality are altering the game, and the future of healthcare marketing and communications is looking better and brighter (Kuehn, 2018).

Wedel (2020) states, "Even before the world understood what Coronavirus was, a rising number of healthcare and pharma/biotech companies were familiarizing themselves with emerging virtual technologies that promised to reduce their production costs and significantly enhance their workforce efficiency" (Wedel, 2020).

According to other researchers, augmented reality (AR) and virtual reality (VR) are emerging technologies that can change how the healthcare industry operates and the experiences that the company and its customers have with its products and services. Although this technology promises a brighter future for the healthcare industry, Raska (2017) claims that many individuals still question these technologies' viability (Raska, 2017). However, few healthcare business executives take a different stand on this. For example, According to a report,"56% of healthcare/biotech company leaders questioned indicated they had integrated some type of AR/VR technology into their organization in the past 12 months, and another 35% said they are exploring it. In the same study, more than a quarter of respondents (27 %) said they have fully deployed an AR/VR solution and are looking to scale further in the future" (Hyejune, 2020).

AR and VR technologies have shown that they have the ability to revolutionize how information is managed, collected, and conveyed to third parties, both inside the healthcare industry and among its prospects and customers (Tang, 2020). Healthcare/biotech companies may substantially modify or enhance how they perform collaborative engineering design reviews, field services, manufacturing, sales, marketing, and skills transfer training using VR and AR technology(Joda, 2019). "According to a standard projection done by Boyd (2019), the AR/VR industry is predicted to be valued at $61 billion by 2023, and it will be controlled by major tech firms like Google, Samsung, HTC, and Microsoft" (Boyd, 2019).

Discussion

As mentioned above, virtual reality and augmented reality (VR/AR) are hot and growing subjects with a lot of potential for the healthcare sector. According to several sources, virtual reality and augmented reality are giving new ways to communicate concepts in a way that was never possible before (Pottle, 2019). For Instance, as Viglialoro (2021) indicates, "Using a VR headset, sales reps can showcase the mechanism of a CT imaging machine to a doctor or build an experience that enables patients to look into their own body to learn more about their disease and its pathophysiology" (Viglialoro, 2021).

In the healthcare industry, VR and AR technologies can prove beneficial when it comes to developing, researching, and evaluating product and service innovations. Instead of witnessing their consumers' reactions, healthcare executives may now employ VR and AR technologies to gain a deeper understanding of their reactions(Kim, 2017). According to Parekh (2020), the new technologies can assist healthcare leaders in studying their customers' behaviors in an in-depth manner, unlike before. These technologies can also provide these business leaders with more insight into every reaction of their customers, unlike other businesses that use outdated and traditional techniques(Adapa, 2020).

While marketing surgical biologics products, most healthcare organizations should use AR and VR technologies to allow their customers to test the products or devices they are selling(Hsieh, 2018). As Pillai (2019) mentions, one of the biggest benefits of using VR and AR in marketing and sales is experiential marketing(Pillai, 2019). For Instance, according to Jung (2018), when MedTech companies utilize VR and AR technologies to promote their products, they can get quick feedback on their products and determine what customers love and dislike about the medical equipment(Jung, 2018).

Utilizing the AR and VR technologies, customers such as healthcare professionals can now easily see and handle the device they are about to purchase just as if they had its physical version by themselves (Zweifach, 2019). As Pillai (2019) states, "Most healthcare/biotech companies can simulate scenarios and offer experiences that engage customers and create an emotional attachment to their products or services" (Pillai, 2019).In addition, just like Khor (2016) states, "respondents can then evaluate the various design aspects and provide a thorough evaluation" (Khor, 2016).

VR/AR also aids with client acquisition, conversion, and retention. Using virtual and augmented reality to sell healthcare and pharmaceutical products and services adds significant value to the entire process (Kulkov, 2021). According to Parekh (2020), customers such as doctors who want to purchase a surgical biologic product will be able to visualize how it works, and patients can determine precisely how drugs will function in their body and also, healthcare staff can comprehend how a drug dispensing machine operates (Parekh, 2020).

Healthcare executives may also use VR/AR technology to educate their digitally engaged consumers. According to Ventola (2019), the most successful element of AR/VR technology is the use of images to transmit detailed information to another person. (Ventola, 2019).

For example, suppose a patient gets a headache and goes to the pharmacy to get pain relievers. In that case, they will be overwhelmed by the variety of pain relievers available and unsure which one to choose. If VR or AR technology were available in this circumstance, the patient would observe how the medication works and any potential adverse effects.

Virtual reality and augmented reality (VR/AR) can influence digital interactions in healthcare and pharmaceutical product and service marketing(Puel, 2021). According to Yeung (2021), VR and AR technologies are critical tools for bridging the gap between print and digital marketing (Yeung, 2021). Healthcare companies marketers can easily enhance their real-world communications with digital interactions using VR and AR technology. According to Carroll and Javaid (2020), this will strengthen engagement time and message resonance. "Marketers can leverage real-time data based on user preferences to dynamically modify messaging, colors, timing, and placement of content by successfully connecting the digital and physical worlds" (Carroll, 2021) (Javaid, 2020). As a result, VR and AR technologies enable a seamless human experience and invite higher engagement of users.

Limitation of the Study

Although this new technology offers a brighter future for the marketing industry, particularly in the healthcare sector, only a few studies have been done to explore its viability, resulting in fewer academic sources.

Conclusion

To summarize, VR and AR technologies are expected to deliver honest, realistic, and engaging experiences for marketing and sales in the healthcare industry, with an estimated economic effect of more than $50 billion by 2022. Audiences will be enthralled by VR and AR experiences, and they will be valuable marketing tools for any company. Unlike previous models, which required marketers to transmit product characteristics to buyers through a PowerPoint presentation, social media postings, advertisements, or digital hoarding, VR and AR allow customers to participate in the experience and connect with the brand in whole new ways.

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