



DRIVING CUSTOMER EXPERIENCE USING AR/VR TECHNOLOGIES

Abstract

Customer experience is defined as interactions between a customer and an organization throughout their business relationship. Customer experience has become an integral part of Customer Relationship Management (CRM) as customers who have a positive experience with a product or service are likely to be more loyal customers. As the dynamics of customer change, following traditional marketing methods won't be effective and sufficient. Instead organizations need to be more flexible, efficient and agile to respond to changing needs.

Here, in this paper, we study two game changing technologies which are revolutionizing the customer experience of various industries - Augmented Reality (AR) and Virtual Reality (VR). AR and VR industry stood at 26.7 billion USD in 2018 and is forecasted to grow at 63 percent CAGR to reach approximately USD 814.7 billion by 2025 ^[1].

Expanding and sustaining the market share is the long term goal for any organization within the industry and across industries as well. For this, we will take a comprehensive look at what are the drivers or trends which are making the AR and VR technology quite relevant for various B2C industries, how these technologies are implemented to enrich customer experience and ultimately, how these are helping to add value to the organization.

Introduction

In today's hyper-connected world, customers have many more ways to learn about and purchase products and services than they have had in the past. This omnipresence of products and services through growth of mobile technologies and internet facilities, user experience has become one of the key areas of competitive advantages among brands. Coupled with customer decreasing loyalties and fast dissolving barriers to switching product and services, a superior

customer experience is being seen as a key business metric. In fact, delivering a great customer experience has now become top strategic priority for most businesses and ranks only third after price and quality. An industry study has found that 74 percent^[2] of senior executives believe that customer experience impacts the willingness of a customer to be loyal advocate of the brand. Companies are looking at out-of-box solutions to provide the best immersive experiences, and harnessing the power of

Augmented Reality and Virtual Reality is one of the ways. In such an environment, we take an extensive look at how various firms are looking to transform the customer experience through the use of AR/VR technologies, the growth prospects AR/VR promises in the next few years and various use cases for the same. In the same vein, we will have a glance at the unique capabilities which Infosys brings to the table through its AR solutions.

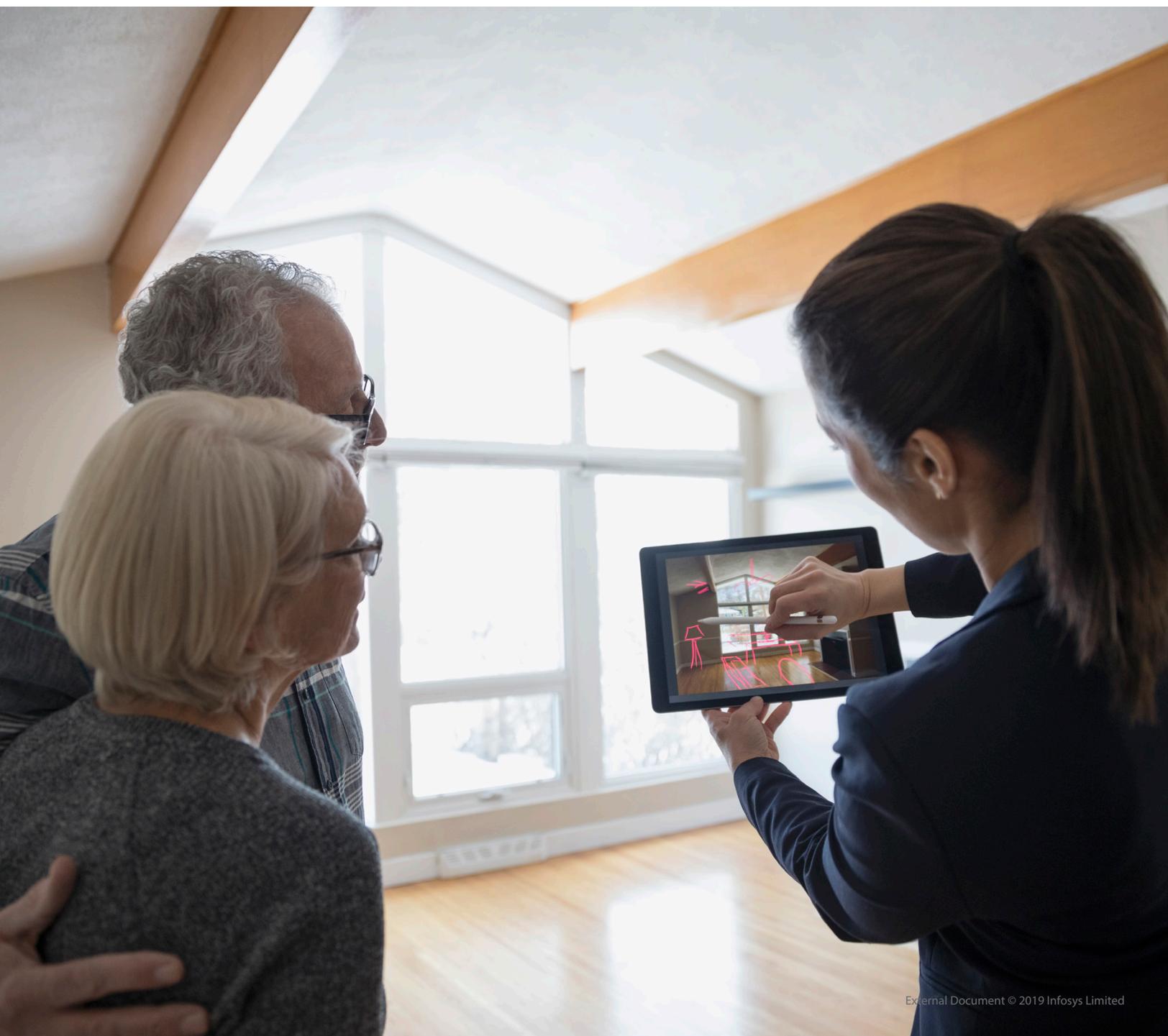


Growth of Augmented Reality and Virtual Reality

The world is on the verge of a major revolution, where the ubiquitous mobile may give way to various forms of immersive computing i.e. Augmented Reality and Virtual Reality. The examples of AR and VR technology today are prevalent in mostly gaming, marketing and movies but is expected to encompass many more experiences in our daily life in the coming days. Companies are focusing on those experiences which customers find most cumbersome and by providing AR/VR solutions, they are trying to positively

impact the NPS scores. For example, **Hyundai** has come up with an AR based user manual, a digital version of the bulky and cumbersome paper version. It uses a smartphone whereby the users can learn the functions of the different buttons just by aiming a smartphone at the car dashboard. The digital manual also helps users to maintain and fix their vehicles, including checking their oil levels, filling windscreen fluid etc. Similarly, **ISGM**, a reseller of Telstra, have introduced an AR app to help customers with setting up their

internet modem. The AR and VR market is presently estimated to be worth \$50 billion and is expected to become a whopping \$600 billion+ market by 2025^[3]. Globally, commercial AR/VR solutions are expected to generate revenues to the tune of \$48.3 billion by 2022, a CAGR of 87.1 percent for the period of 2015-2022. Over the same period, enterprise-specific AR solutions are forecasted to grow at an even faster rate - a CAGR of a whopping 96.3 percent^[4].



Why are companies adopting AR/VR technologies?

An interactive and rich user experience along with personalization is what is expected of any product or service by today's customers. This demand is fueling and accelerating the growth of use of AR/VR technologies. According to an industry survey, 60 percent of customers look for "tailored engagement based on past experience" while more than 70 percent expect vendors to personalize engagement to suit personal needs. On the other side, brands that are creating more personalized experiences are witnessing revenue increase by six to 10 percent, two to three times faster than those that don't employ personalization ^[5]. And plenty of companies are taking cognizance of this fact and responding to various facets of convenience. One such instance of personalization is IKEA's Place app allows its customers to see how a sofa or a chair will look in their homes.

Today's companies are seeing value in the potential of AR and VR technologies and not just as any other "cool" technological stuff. There are various areas which companies have been aware of that could be improved for a better customer

experience, but had been handicapped by technology. Some of the prime reasons why companies are utilizing AR/VR to enhance customer experience are enumerated below:

- **Product visualization** - Visualizing objects through augmented reality can help businesses interact with customers in a whole new way. AR/VR creates unparalleled experiences that expand capabilities of the products, provides more information to the consumers and increases customer loyalty. In this context, **H&M** is working on creating high-definition human holograms in AR which will be accessible through a smartphone or tablets. In these holograms, images of selected **Monki** outfits will be enhanced with digital effects. This will allow the viewer to see the garments in great details and experience the holograms as being present in the room.
- **Customized products building brand loyalty** - The ownership of a customized product has always gone a long way in breeding customer loyalty. Creating a

customized item was often painstaking as well as time consuming and had to rely on the customer's imagination. This made cost of customizing regular products quite expensive. However, AR and VR in retail help in overcoming these hurdles. **Nike's Makers' Experience** is giving exactly this experience by combining AR, object tracking and projection technology as well as digital signage to enable a customized design to appear on sneakers.

- **Better customer service** - AR/VR technologies are bringing in better customer support processes. AR/VR promises to transform the way support services are offered where the customer will be able to see the support agent and vice versa making the interaction much more human like. Today, many companies are exploiting AR/VR capabilities through smart phones in self-servicing areas. Like in the case of **Nespresso**, who have applied AR to one of the very basic functions of their product: the descaling process for their coffee machines. By scanning their packaging, Nespresso provide step-by-step descaling instructions, via AR. By thinking at the very basic level as to where a customer may find the least seamless experience, they have transformed the user experience.
- **Relationship building** - AR has a widespread impact on how companies compete. Thus, it is becoming an integral tool of every firm's strategy of customer relationship. AR allows businesses with the opportunity to develop their own products, improve user engagement and build a long lasting relationship with their customers. Digital content like 3D animations, video, images, audios etc. can be superimposed on devices. Based on some specific set of parameters like time, location, person and judicial, a cloud based infrastructure can be created. Augmented reality tourism apps can generate relevant content to handheld devices.



How AR/VR Technology is transforming the User Experiences across industries?

Increasingly the power of AR/VR is being harnessed by various companies spanning sectors to transform the experience of its customers. Below we take a glance at a few instances in which AR/VR are being used by various industries:

• Retail

This technology is being used by retail for product visualization, showroom enhancement, in-house navigation and shopping assistance AR/VR can both be useful in helping consumers to avoid the poorly lit fitting rooms /trial rooms giving a far better and holistic apparel trial experience. One of the prime examples of extensive use of AR/VR in retails is by Gap, the apparel brand. Gap has created an app called the DressingRoom that allows users to try out attires in a virtual mirror, then reducing the time and effort of going into a fitting room while enhancing the user experience at the same time. Converse Sampler App from 'Converse' lets users get a real-time experience of the products.

• E-commerce

According to industry estimates, about 77.3^[6] percent of the shoppers abandon their carts before completing a purchase and the primary reason for this is doubt. Introduction of AR/VR will improve customer experience and confidence in a product by providing life-like shopping experiences with augmented inventory visuals. EBay and Myer store launched their first ever VR department store. They used a cardboard VR called shoptical to treat customers with a personalized in store feeling no matter where they are. It gives an opportunity to experience the products better than any regular online shopping would, to move, rotate and zoom in on them.

• Marketing

It enables marketers to include animations, videos, target based additional information into AR based store fronts, brochures, posters or flyers. For example, firms are exploring ways to offer immersive user

experience in branded entertainment and add excitement at pop-up events for social media sharing. Lacoste is a proof that a retail business can benefit from AR ads, where users can use their mobile device to scan Lacoste Icon and get an AR product viewing experience, to make better choices.

• Logistics

AR has come up with smart glasses. These glasses have sensors which enable the driver to keep the track of route he/she takes without looking around. Ford Motors use virtual reality in its immersion lab to help get a sense of how customer experience their cars. BMW's current ConnectedDrive HUD is augmented by virtual markings that are superimposed on real objects in the external environment. This allows navigation information or information from driver assistance systems to be displayed in exactly the right position on the driver's view of the road scene. It is helpful in last mile logistics where computer generated overlays display details on time sensitive information, real time delivery updates and special delivery instructions which makes it easy for the staff to coordinate deliveries and exceed customer experience. According to a DHL

Trend Research report^[7], it's estimated that drivers spend 40 to 60 percent of their time locating the correct boxes within their truck for the next delivery. For many, this process relies on their memory of how the truck was loaded. An AR app could be used to streamline the time it takes to identify packages upon delivery and reduce the time it takes now to figure out what package goes where.

• Other Sectors

Other sectors where AR/VR is seeing increased usage is in tourism and education sectors. For instance, Marriot hotels has created "teleporter" which lets user step into a booth wear Oculus Rift headset and visit downtown London or a beach in Hawaii. It caters to other sensors where user can feel wind, sun on their face. In case of education, it is helping this industry in two ways – one is by engaging the users and the other by making the concepts clearer. One such example is Virtual field trip where many schools have begun using Google Expeditions to transport students to faraway and even inaccessible part of the planet thereby giving them an unprecedented and engrossing educational experience.





Conclusion

The fourth industrial revolution known as industry 4.0 is based on automation and data exchange. Augmented reality is a key part of this revolution. It has been observed that brands have recognized the game changing abilities of introducing AR into their pre-sales, point of sales and post-sale support operations. AR enhances practical elements of personalized marketing, sales and technical support, by extending content and interaction abilities, and providing great value that goes way beyond simple novelty. We believe AR/VR is providing the capability to blend the real world with computer graphics creating a paradigm shift in the experience of users in various aspects like never before. Technology leaders like Facebook and Google are investing heavily in AR, which is a sure sign that it is soon to become a mainstay of user experiences. AR/VR is as versatile as technology gets and the possibilities to radically change the way businesses offer user experiences in various facets are endless.

How can we help?

Our experience in the domain of AR and VR allows us to help our clients deliver a compelling reality experience using these technologies.

In healthcare industries, a lot of emphasis is being placed on visual stimulation to ensure the safety of the patients. Our augmented reality solution is helping in bridging the education gap that cause

potential safety issues. The AR app educates diabetic patients on the use of an injector – pen that helps lower blood sugar and A1C numbers. The app recognizes the injector pin or its image and shows various parts of it using augmented reality. The app plays a video on clicking “how to use” and it plays a video on YouTube on clicking “connect to physician”.

We offer augmented and virtual reality solutions tailored to the organization’s needs and industry. Our rich experiences enable us to deliver quality graphics and content there by empowering clients to offer new and unique ways of experiences to their customers, deliver more values and create more impactful interactions.



To know more about this paper, please reach out to digital@infosys.com

References:

1. <https://www.globenewswire.com/news-release/2019/02/21/1739121/0/en/Global-Augmented-and-Virtual-Reality-Market-Will-Reach-USD-814-7-Billion-By-2025-Zion-Market-Research.html>
2. <http://www.oracle.com/us/global-cx-study-2240276.pdf>
3. <https://www.credit-suisse.com/ch/en/articles/private-banking/virtual-und-augmented-reality-201706.html>
4. <https://www.bcg.com/publications/2018/rolling-out-augmented-reality-field.aspx>
5. <https://hackernoon.com/augmented-reality-market-potential-and-practical-applications-71f0d8faef56>
6. <https://blog.salecycle.com/stats/infographic-remarketing-report-q4-2017/>
7. <https://www.cxnetwork.com/cx-experience/articles/virtual-reality-in-customer-experience>
8. <https://www.bcg.com/publications/2018/future-marketing-here-do-not-blink.aspx>
9. <https://insights.samsung.com/2018/07/31/vr-in-retail-the-future-of-shopping-is-virtual-and-augmented/>
10. http://www.supplychain247.com/paper/augmented_reality_in_logistics/swisslog
11. <https://customerexperiences.co.nz/customer-experience-top-strategic-objective-bloomberg-survey/>
12. <https://www.goldmansachs.com/insights/pages/virtual-and-augmented-reality-report.html>

About the Authors



Rohan has over 18 years of program management and consulting experience across Financial Services, Manufacturing, Insurance and retail industries and specializes in digital customer experience and digital marketing space. He has led multiple large digital transformation programs and focusses on helping customers achieve success through better and innovative customer experiences via digital channels.



Deepanshi Mahajan is part of Domain and Functional Consulting with Digital Experience practice of Infosys. She specializes in marketing and finance domain. Her area of interest lies in market research, emerging technologies and design thinking.



Sounak is part of Domain and Functional Consulting with Digital Experience practice of Infosys, with over four years of experience. Prior to joining Infosys, he has worked with Wipro Limited and Swiggy for solutions delivery, IT service management, client engagement and business process re-engineering. His areas of interest include financial services, operations management and emerging technologies.

For more information, contact askus@infosys.com



© 2019 Infosys Limited, Bengaluru, India. All Rights Reserved. Infosys believes the information in this document is accurate as of its publication date; such information is subject to change without notice. Infosys acknowledges the proprietary rights of other companies to the trademarks, product names and such other intellectual property rights mentioned in this document. Except as expressly permitted, neither this documentation nor any part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, printing, photocopying, recording or otherwise, without the prior permission of Infosys Limited and/ or any named intellectual property rights holders under this document.