

Impact of Augmented and Virtual Reality on Retail and ECommerce Industry

Point of View
Samta Arora

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Introduction

The year 2020 might be remembered as the year of E-commerce. Walmart and Amazon both invested heavily in online shopping, resulting in a 42% increase in sales in 2020.

It's an indisputable fact that these days customers are feeling more comfortable with online shopping. The E-commerce market is anticipated to grow thanks to a rise in internet access and financial gains in rural areas.

- E-commerce sales in 2020 were estimated to have been \$4.06 trillion globally
- Retail E-commerce sales are expected to contribute 14.6% to total retail sales worldwide

However, one problem in E-commerce is conversions. According to Statista, an online statistics, market research and business intelligence portal, around 77.3% of shoppers abandon their carts before completing a purchase.

The conversion rate for typical retail purchases stands at par (20-40%), while online purchases are at only 2-4%.

This can be attributed to not being able to view and try out items physically. Companies have tried to woo customers in many different ways, e.g., offering free returns or size-finder features.

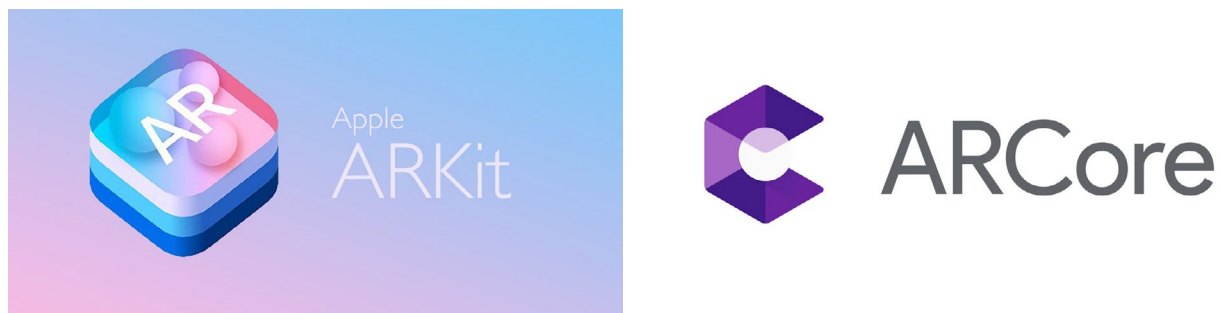
This is where augmented reality (AR) tools can benefit customers by giving them an idea of the look and feel of a product and mimicking the experience of physical stores.

AR E-commerce allows consumers to experience truly immersive shopping. The beauty of using AR as an E-commerce tool is that users will experience a product before buying it. Be it garments, cars, cosmetics or even an apartment, AR shopping enables an immersive view of the product and helps consumers make informed decisions.

Introduction to Augmented Reality

Augmented reality is the integration of digital information with the user's environment in real time. The user looks at the screen of a device, and AR uses the camera and sensors to form a digital representation of the surroundings and projects objects into it. AR offers a real-time direct or indirect view of a consumer's immediate surroundings, which are modified or improved by computer-generated data like video, sound, graphics or GPS data. With AR technology, customers can use real-life spaces and even their bodies and faces to visualize things such as clothing, furniture, etc. Thus, the main advantage of AR is that it merges two worlds, the digital and the real one.

Augmented reality isn't a new technology, but it was too costly and unreliable for widespread consumer adoption until recently.



Augmented Reality Framework by Apple and Google

Companies like Google and Apple have worked to enhance the state of technology in AR. Apple's introduction of ARKit and Google's ARCore Framework, along with improved sensors and cameras, will encourage many developers and businesses to create apps that leverage AR capabilities.

There's a high demand for AR everywhere within the tech world. Many industries are exploring different ways of applying AR to leverage their businesses. However, of all the sectors where augmented reality is being implemented, E-commerce is probably the one that will generate the most disruptive impact on society.

The augmented reality market is projected to grow from USD 15.3 billion in 2020 to USD 77.0 billion by 2025 at a CAGR of 38.1%. As a result, augmented reality is likely to disrupt the E-commerce industry with its ability to personalize and enhance the shopping experience for customers.

Approximately 40% of shoppers would be willing to pay more for a product if it offered an augmented reality experience. Retailers who provide augmented reality features online will have a competitive advantage that will likely increase sales, conversion rates and the variety of products sold through their online stores.

Why AR and not VR in E-Commerce

Both AR and virtual reality (VR) are used to enhance a viewing experience, but there are significant differences. AR overlays 3D graphics directly on the user's real surroundings. All it needs is a smartphone camera and a display that showcases the settings. VR displays a virtual environment that cuts off the surrounding environment.

Tech giants like Apple are focusing more on AR because it can seamlessly integrate into a user's life.

	VR	AR
Hardware.	Big and clunky or ineffective	an Mobile device is all you need
Social	Closed off to the rest of the world	You can interact with people in the same room
Access and Affordability	Expensive and intimidating	Billions of users already have smart mobile devices

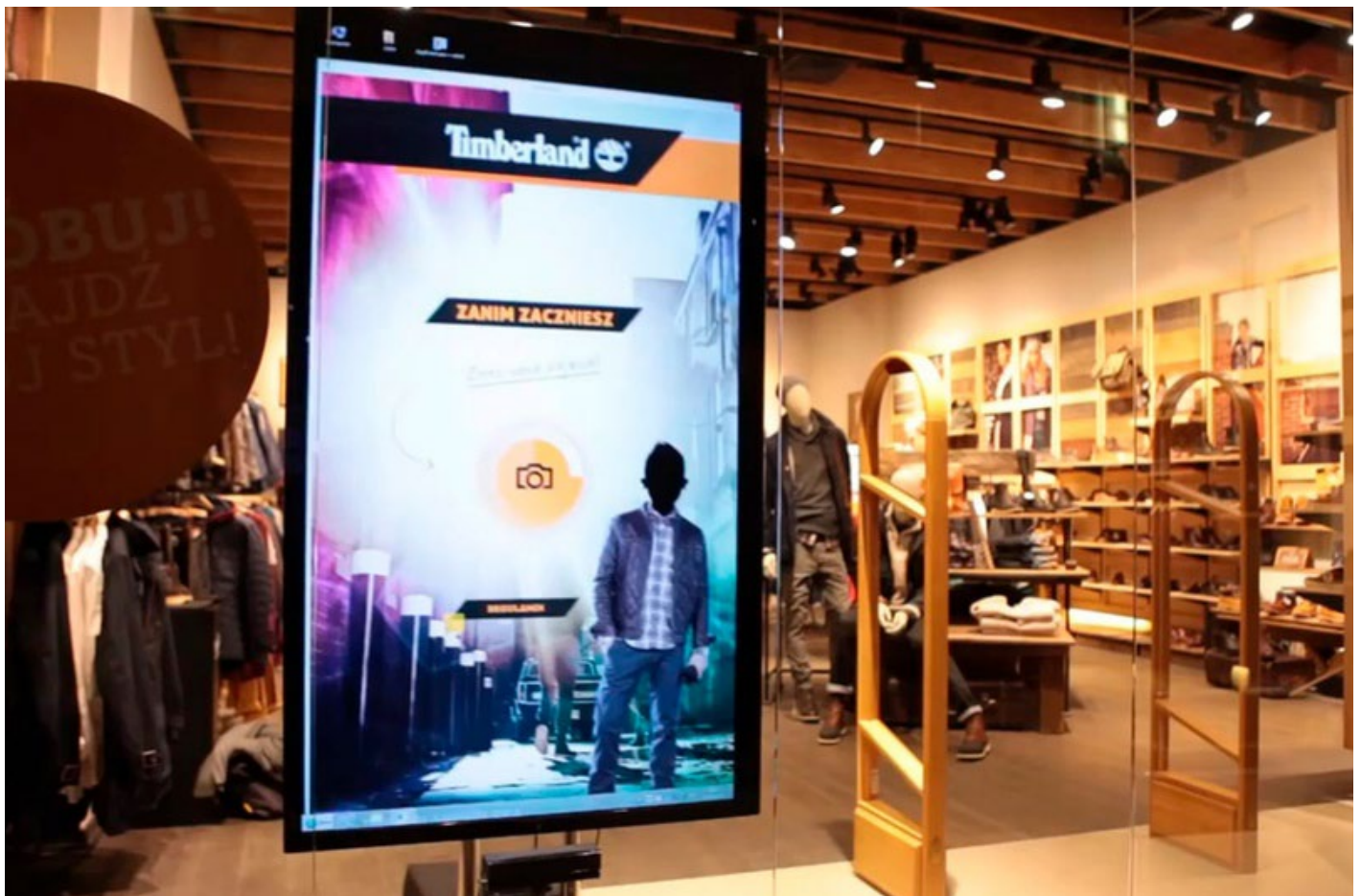
Table 1: Comparison of Virtual Reality and Augmented reality

Use Cases

To get an idea of what the future is for AR in E-commerce, let's look at what brands have already achieved with this comparatively new technology.

Timberland

Outdoor clothing, footwear, and accessories company TimberLand introduced virtual fitting rooms using Microsoft Kinect Technology. The software tracks a person's gait, facial features, and other physical attributes to project outfits (jackets, sweaters, trousers and shoes) onto the customer. The customer can go back to a previous outfit and make some changes anytime they want. At the end, their new look is saved and sent to them by e-mail and also put in a photo gallery on Timberland's fan page. The outfit can be shared on Facebook with a link from the e-mail.



IKEA Place

With the release of iOS 14 and Apple's ARKit, IKEA has released its AR app to help customers visualize what their furniture might look like in their own homes.

Everything in this AR app is 3D and true to scale, so when you demo the product around your house, you can be sure that it's the perfect size, design, and function.

IKEA Place started as an iOS app, but today customers can also download the android version from Google Play. With this AR initiative, the company hopes to change the way people shop for furniture.

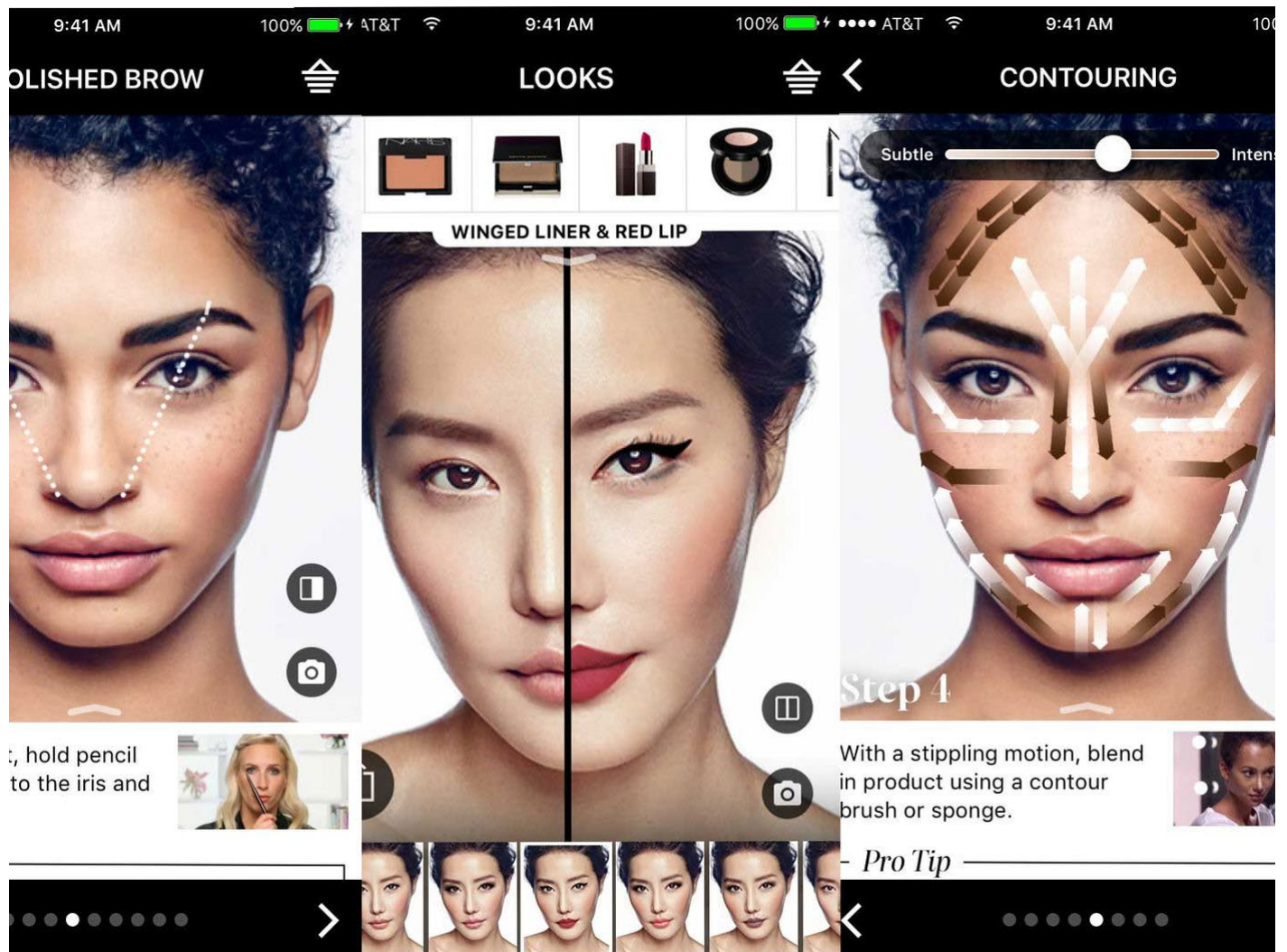


Ikea Place App

Sephora

French cosmetics brand Sephora has created an app that employs ModiFace technology. It allows a user to post her picture and try out different cosmetics. The app scans the face, determines where the lips and eyes are, and changes the customer's appearance.

Shiseido, Burberry Beauty Box, and Lakme are some of the other makeup brands that have implemented AR to assist their shoppers purchase cosmetics online. Referred to as the "magic mirror," this kind of retail AR allows shoppers to feel like they have tried the product sufficiently before deciding to buy it.

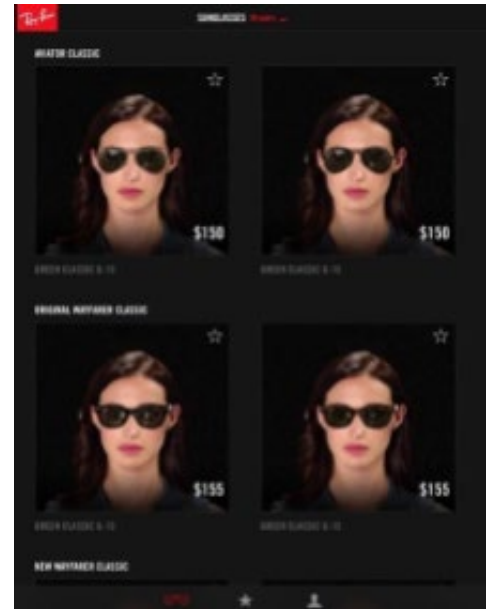


Sephora App

Ray-Ban

Ray-Ban's new app allows shoppers to try on all their various sunglasses.

The software creates a virtual model of the customer using advanced face-mapping technology and shows them in any pair of sunglasses from multiple angles. The app is available both for desktop and mobile devices.



Ray-Ban App

Converse

Converse uses AR to show how shoes will look when they are tried on. Using their AR app, the customer can choose any shoe from the Converse catalog and point a phone towards their foot to visualize how the shoe will look. Purchases can also be made through the same app.



Converse App

Impact of AR in E-commerce (Benefits)

There are a few main categories where we can implement AR immediately for quick results and evaluate the ROI. Also, these categories contribute 50–60% of total sales.

- Apparel & footwear
- Accessories & cosmetics
- Furniture
- Home kitchen Appliances
- Electronics

At its heart, AR allows consumers to use real-life spaces and even their own faces/bodies to try out products like furniture and clothing virtually. Shoppers can put clothes on their screen images and position furniture in their houses to ensure they buy the right color and size, thus minimizing product returns and providing a completely immersive online shopping experience.

AR-based online shopping helps customers in the following ways:

Visualize Your Purchases

Let's use an example of purchasing a table for your living room. You can use augmented reality to help you visualize the furniture placement. You can see which table would fit into the space without being too cramped. You can play around with the layout a few times until you are happy with the results.

AR high-techs help customers to visualize an item they want to buy by converting their imaginations into reality. Furthermore, according to a recent [study by Interactions](#), 61% of the consumers would rather buy things at e-shops that offer augmented reality than at ones that don't.

To feel confident during e-shopping, a customer needs to observe an item and be aware of its functions. That is why many e-stores provide their customers with demo videos. Even though such instructional videos are useful, augmented reality improves on this by supplying their clients with impressive 3D holograms.

Enhance Customer Shopping Experience

This entire virtual shopping experience will be a treat for customers. They will appreciate the convenience of sitting at home and enjoy using cutting-edge technology.

Say you want to buy a watch. You can simply put your hand in front of a mobile camera and select the watch you want to buy. You may choose the styles/colors that go well with your skin tone and wrist size, all within the app. Overall, this experience will be faster than visiting a store, and customers can choose from more options. This also decreases the percentage of returns in the segment.

Personalize online shopping

AR technology provides buyers with an opportunity to express their preferences when shopping online. As indicated by recent research by Interactions, 77% of consumers would like to use augmented reality to see any available product color or style options.

You can use AR to take your measurements and suggest the clothing size that would fit you the best. This technology gives a much better idea of clothing fit compared to a static picture of a model. This will result in increased customer satisfaction and fewer returns.

Reduce Returns

Most clothing returns are due to purchasing the wrong size, color or shape. AR can certainly address these mistakes. Customers can try out several items and choose the one that fits best. The probability of product returns decreases significantly, and customers are more likely to be social advocates for the product or service.

Customer Loyalty

AR will strengthen brand awareness, enhance visibility, and personalize the shopping experience, which will keep customers loyal. The customer's shopping experience is very important for customer loyalty. Once a customer enjoys shopping with AR and is happy with a product, they will return to the same portal for the next purchase.

Impact of COVID-19: Socially Distant, Virtually Close

Post-lockdown, behavioral changes due to COVID-19 restrictions may persist. People may still adhere to social distancing norms, but technologies such as extended augmented reality will bring people close virtually, allowing businesses to grow and innovate their offerings.

- Virtual events, conferences, product launches, and online showcases are likely to increase.
- Alleviating students' concerns, schools and colleges are likely to adopt tools that make it possible for students to learn through simulated experiences. Among these tools, platforms like virtual reality are likely to be most widely used.
- Shopping is likely to continue evolving virtually. Offerings like digital catalogues will enable customers to shop without leaving the comfort of their homes.

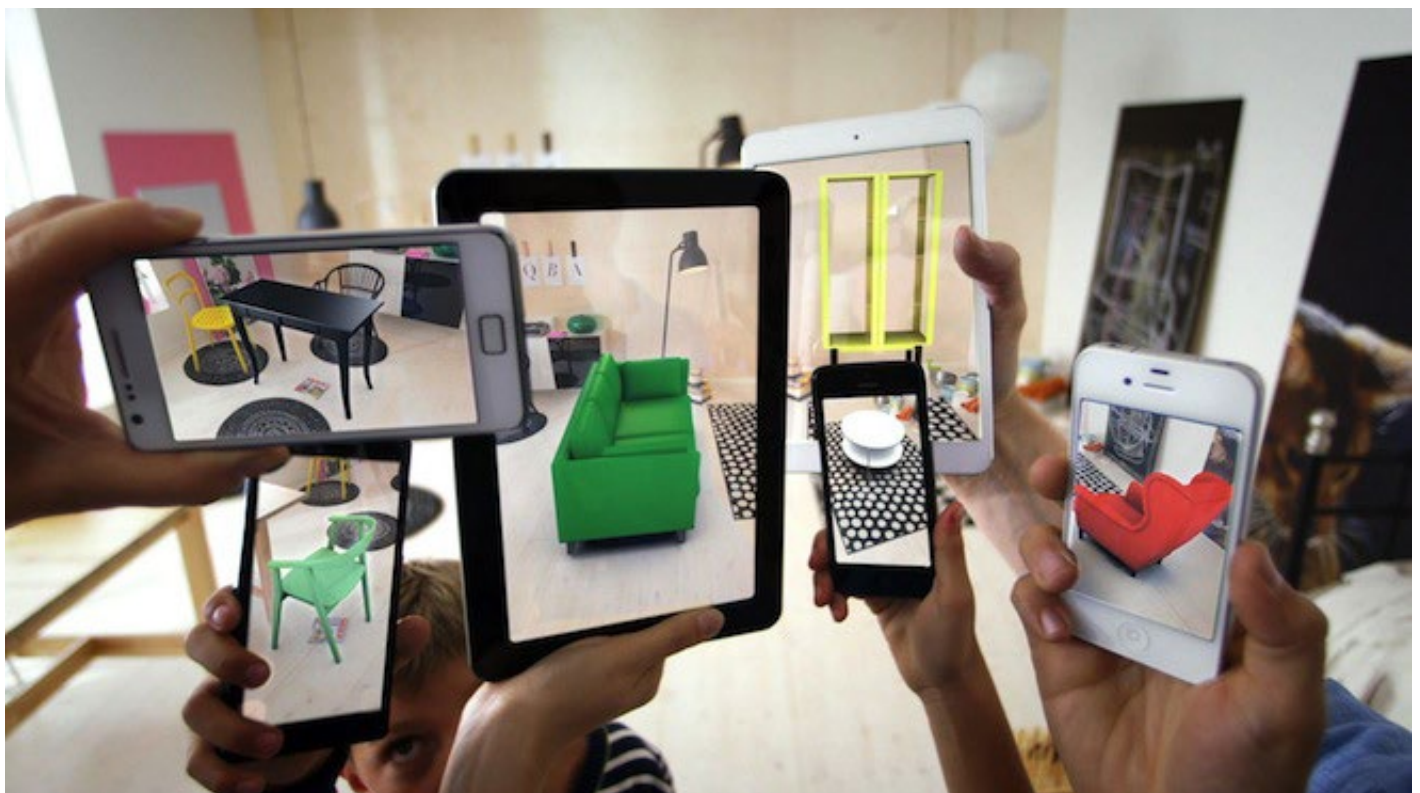
Conclusion

Twenty years ago, Walmart didn't acknowledge the potential of the internet. As a result, Amazon claimed a significant portion of Walmart's online customer base. The AR boom may not be quite as transformational as the dawn of E-commerce, but retailers can't afford to ignore this potential shift in technology and shopper demand.

AR commerce is a very promising idea for the world of retail, and many companies are already pioneering the technology. Given the many advantages of AR, online retailers should understand its significance and start investing in it. They are guaranteed to get good returns in the long run by bringing in more customers.

There is a huge opportunity for top Indian online shopping applications like Flipkart, Snapdeal, Jabong, Myntra, etc., to boost their connections with shoppers through augmented reality. Online fashion distributor Myntra is currently working on adding an AR feature. Once operational, it will enable a customer to use the camera on their phone to make fashion choices.

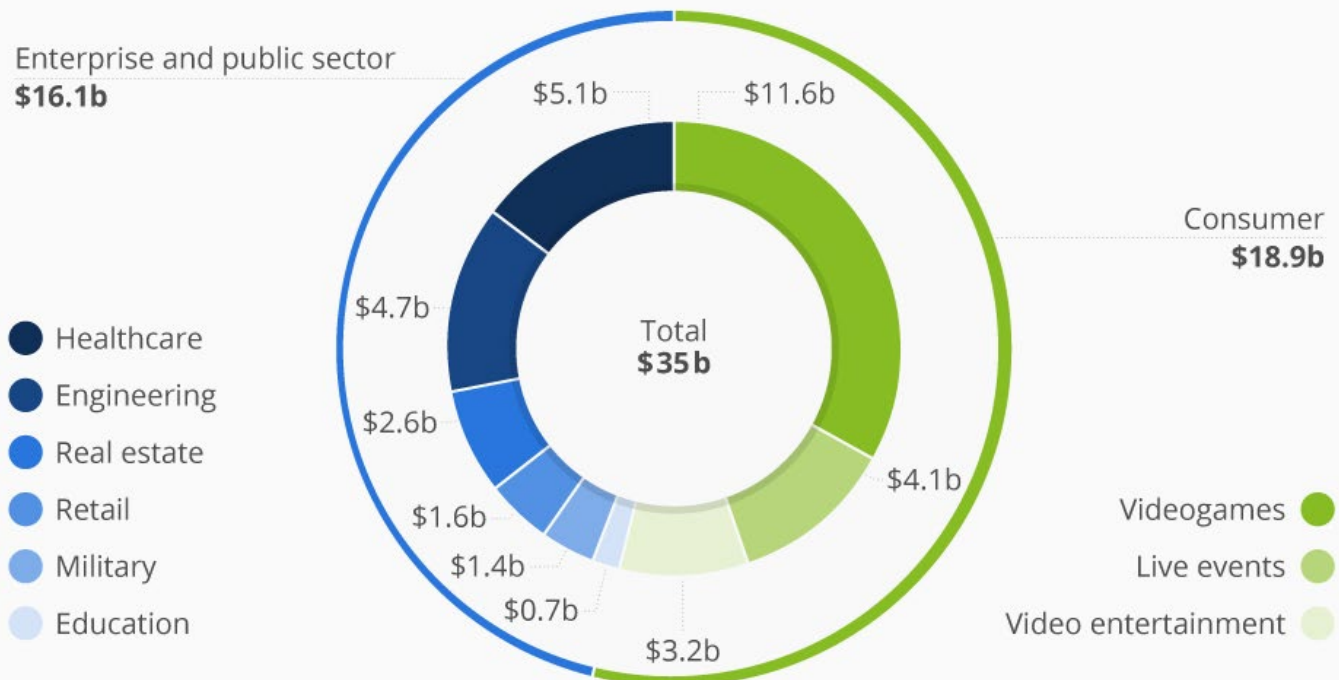
With the domestic E-commerce market in India set to grow at a fast pace, the adoption of an AR-enabled feature to serve customers better can be a game-changing and differentiating factor. 2019 was the start of AR in retail. In the coming years, we can expect to see a great deal more enterprise activity take advantage of this technology.



Converse App

The Diverse Potential of VR & AR Applications

Predicted market size of VR/AR software for different use cases in 2025*



* Base case scenario

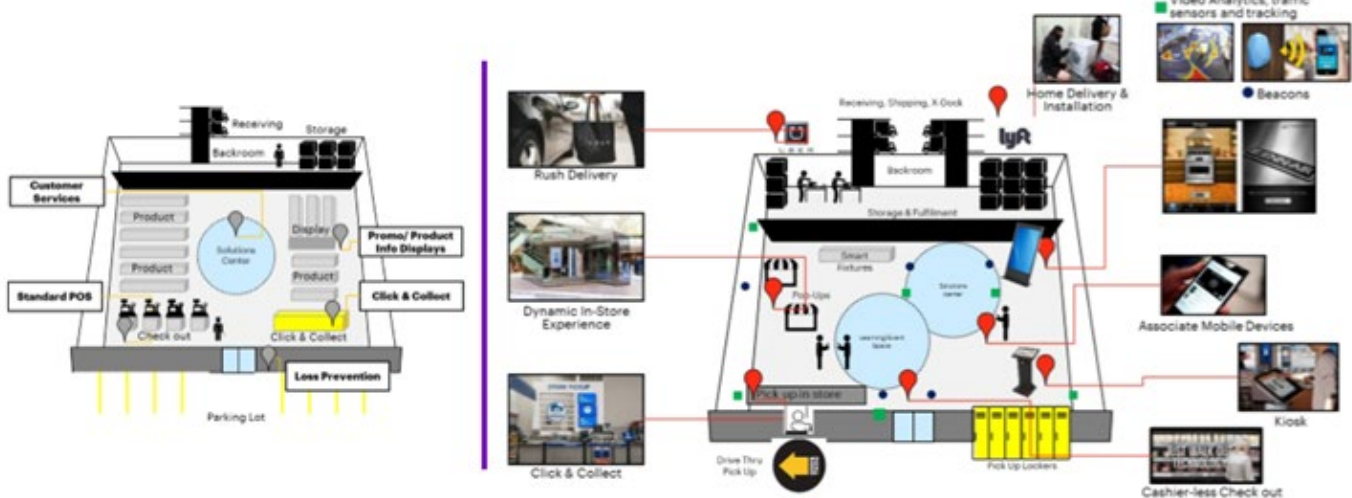
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Source: Goldman Sachs Global Investment Research

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Today's Transactions

Tomorrow's Experience



PoV Summary

- AR commerce is a very promising idea for the world of retail, and many companies are already pioneering AR technology
- AR offers users an in-store shopping experience, regardless of their location
- Retailers cannot afford to ignore this potential shift in technology and shopper demand
- Given the many advantages of AR, online retailers should understand its significance and start investing in it
- There is a huge opportunity for top Indian online E-commerce companies to boost their connection with shoppers through augmented reality

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