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Extended Reality in Commerce - Reshaping the Future

Introduction

Two decades ago, a commercial Hollywood movie - The Matrix - set the gold standard for a futuristic dystopian future, abstracting the difference between the virtual and the real world. Cut to the present, and Matrix 4 is in production after 20 years, creating anticipation about what more on artificial intelligence, a dystopian future and virtual reality can be predicted and explored. While nobody wants the real world in a shambles, many organizations are getting creative with tools to recreate and mix the virtual with the real world. The tool? A set of immersrive technologies, encapsulated in the umbrella term of XR, or Extended Reality. The status quo keeps changing fast, and the future will have Extended Reality playing a key role in redefining it.

What is Extended Reality (XR)

Extended Reality (XR) is an umbrella term, enclosing Virtual Reality (VR), Augmented Reality (AR) and Mixed Reality (MR) within itself. The applications of XR in multiple industries are extensive - covering real estate, training, healthcare, BFSI (banking, financial services and insurance) and others. XR-enabled business is forecasted to grow at a CAGR of 65% during 2020-2025 according to Mordor Intelligence, with Goldman Sachs predicting AR and VR to be an $80 billion market in 2025. Versatile applicability across the entire business ecosystem, convergence of devices and a continuously increasing maturity of technology are often cited as the primary drivers behind this exponential growth.

Different Branches of XR

VR creates a simulated environment for the user.   The most recognizable component of VR is an HMD (Head Mounted Display) which immerses the user in a believable virtual world. Imagine wearing an HMD (such as Oculus) that takes you away from your real world and allows you to look around a hotel room before booking. Alternatively, imagine experiencing the great pyramids of Egypt from the comfort of your living room.

AR amplifies the reality by superimposing information – sounds, images and text – on the real world. AR adds a digital overlay to the physical/ real world, using devices such as your mobile phones or AR glasses. A ubiquitous example is Snapchat's funny selfies with add-ons such as dog's ears, cat whiskers, etc. Another example is Zara using a mobile application to let their users experience virtual models wearing their chosen dress and cat walking.


P.C. - *Forbes*

MR propels immersive reality up another notch, mixing the physical world with the real world, where physical and digital objects interact in real time, creating a hybrid – a phygital world. Simulation-based learning for driving learners is a good example - where digital obstacles are interwoven with the real world. Alternatively, think of virtual attendees remotely attending a conference with physically present participants. One of the more popular current devices, which creates MR, is Microsoft HoloLens 2.
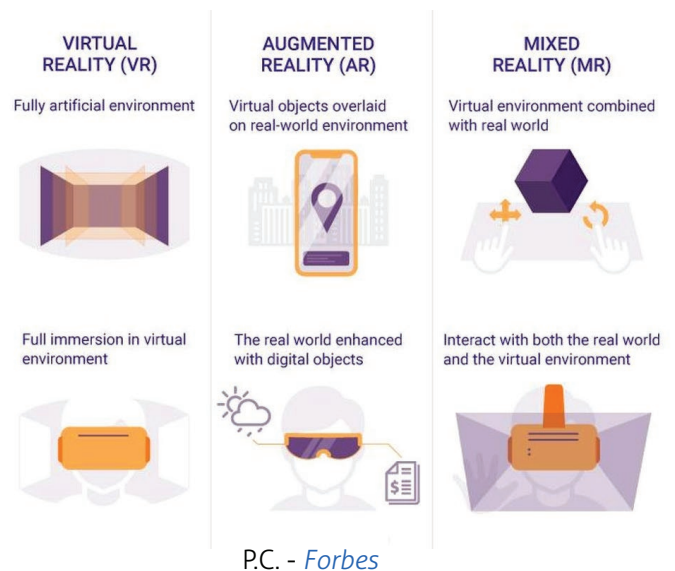
XR in Retail

One of the most exciting areas where XR is expected to make a splash is retail/eCommerce. From John Wanamaker using modern price tags way back in late 1800s (which made customers less reliant on sales representatives) to Apple mass retailing digital purchases with iTunes in 2002, the retail industry has always been an early adopter of disruptive innovations.

While retail customers have always been some of the most demanding, the eCommerce juggernaut has moved them towards a more exciting outcome - experience. Personified by Amazon, this has made customer experience (CX) the next battlefield for retailers. As HBR states, "From now on, leading-edge companies-whether they sell to consumers or businesses-will find that the next competitive battleground lies in staging experiences."

The Progression of Economic Value
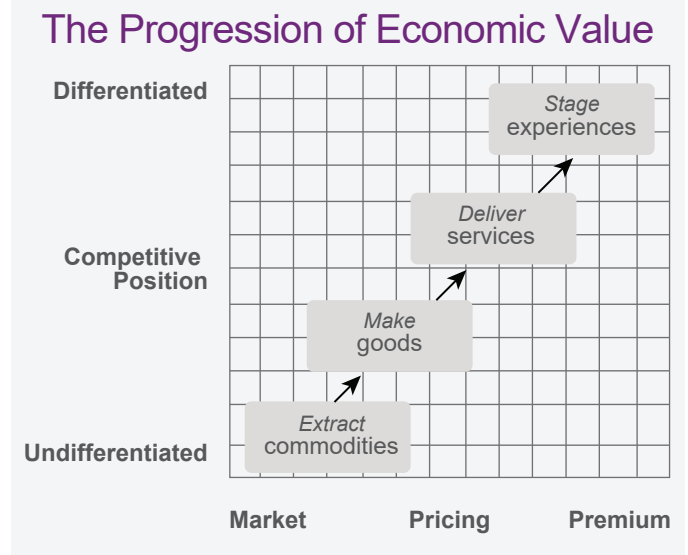
Progression of Economic Value

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XR in Retail – Groundbreaking Use-cases in CX

While the opportunities to offer XR experiences are numerous, below are some groundbreaking XR innovations across the retail value chain, which take staging experiences to the next level:

1. **Gamification** – Retailers have been offering games for years to spark customers' competitive streak. The pleasure points activated after a win is a potential dealmaker for consumer loyalty, a rarity in competitive retail landscape. Getting points, rewards and badges have been proven tools to drive up customer loyalty. XR takes gamification a notch higher, making the consumer feel they are within a game; and not only playing one. One of the trendsetters in this has been Tilly's with its in-store scavenger hunt for customers. Discounts increase to be at par with the number of tasks completed by the shopper during the scavenger hunt.

2. **Virtual product experience** – To fire active collaboration and solicit instant customer feedback, IKEA piloted a feature to enable users to explore virtual IKEA kitchens. Users can change the look and feel using a variety of tools and then view it as an adult or as a child. This improves customer engagement by letting them manipulate catalog items at scale from their homes.

3. **Virtual showrooms** - Using AR and VR for virtual showroom walkthrough improves customer experience, while also resulting in less inventory on display. Volvo teamed up with Microsoft to offer a virtual showroom – a showroom without any physical cars! Prospective buyers wear Microsoft HoloLens to see virtual versions of cars as well as physically invisible safety systems for making an informed buying decision. This improves customer experience by removing the obstacle to travel to a physical showroom. It also helps in boosting the reputation of Volvo as a highly respectable carmaker, which puts safety first.

4. **Virtual try-ons** – Extended reality enables consumers to make the right choices at the right place by addressing micro moments – thereby increasing customer experience and shopping conversions. Neiman Marcus installed interactive magic mirrors in their showrooms for consumers to experience a dress before buying it, drastically reducing time spent in wearing each dress to check the fitting. Similarly, Lenskart's '3D Try On' feature enables a customer to try a frame virtually on her face before taking a buying decision.

5. **In store navigation** – Going a notch above of competitors in improving experience, Lowe's launched 'The Lowe's Vision: In-Store Navigation app' to help their customers navigate their big stores. The app speeds up what physical exploration lacks, helping customers to virtually add products to the basket; and then navigating them to the product location. The app also provides access to product metadata and customer reviews, updating them in real time.

6. **Virtual layout planning** - Finding the right cooler fit for its B2B customers was a major problem for Coca Cola. Among the variety of options, checking the store dimensions and layout and finding the ideal cooler seemed a complex task and an obstacle in selling its beverage coolers. Until Coca Cola created an application to access the full catalogue of coolers, which its sales representatives could use to simulate product placement and reach an informed decision with the client on product placement.

7. **Finding the right fit** – Buying shoes online is a difficult decision to make as customers often end up with a wrong fit. To address this problem, Nike launched an app, which provides accurate sizing recommendations by scanning the feet using a smartphone camera. The tool uses augmented reality to map each foot using a 13-point measuring system and makes use of artificial intelligence – meaning the more people use it, the more accurate it becomes. The benefits were improved consumer satisfaction and reduced customer returns.

Key Challenges

While there is little doubt that XR will drive a paradigm shift in the retail landscape, the journey has just started. While AR is much more prevalent than VR and MR, Gartner predicts another five to ten years for the technology to mature. Below are some of the key challenges for a retail organization to succeed in an XR world:

1. **Hardware** – AR, VR, and MR headsets are currently expensive and beyond the purchase power of the masses. One of the prime enablers will be technologically sophisticated hardware at affordable prices. In comparison, mobile AR does not need costly hardware, and hence has relatively more penetration as can be seen by the popularity of Google AR animals. The available current mobile hardware sensors such as accelerometers can be easily disturbed by electric interference, while mobile cameras are incapable of properly rendering 3D images. This calls for an upgrade, which can make XR hardware sophisticated as well as ready for mass adoption.

2. **User experience** – 3D human interface design is still nascent for VR and MR devices. Wearing HMDs (Head Mounted Devices) handicaps users from going about their day-to-day activities and retailers from addressing micro-moments. For mass adoption of XR, the design has to substantially improve human interaction and mitigate eyestrain & disorientation.

3. **Creating content appropriate for a phygital world** – XR thrives in a phygital world. Relevant and consistent content across all channels will remove user friction and allow seamless experience across the phygital world. This would require upskilling content creators who can synergize the exploration benefits of a brick-and-mortar store with the ease of eCommerce by providing effective content.

4. **Safety issues** – XR can be distracting, and with a lack of physical safety regulations, may cause physical injuries. Case in point is Pokemon Go, which led to traffic issues after becoming a global phenomenon. Potentially risky environments such as construction sites, healthcare and busy roads are particularly vulnerable, and safety regulations have to be in place before XR can be introduced.

Data - Crucial for XR

Data will be a major lever in jumpstarting XR in retail. As customers keep embracing new technological innovations such as VR devices, smart speakers and chat-bots, large amount of data is being continuously generated. Combined with machine learning and advanced analytics, XR has the capability to infuse real time data induced experiences. The outcome will be personalized and contextual digital engagements. Driven by data, XR has the capability to drive "wow "customer experiences to the next level.

In fact, whenever useful data can be collected from the environment, a slice of computer vision can be overlaid – driven by machine learning. For example, you can visually search for an item you want by uploading the image, and then try it virtually. Think about searching and virtually trying out an apparel or accessory from your house! A good use-case is Lego using machine learning to visually detect a Lego kit, and then rendering a 3D world on top of it.

Conclusion

In an increasingly saturated market place, XR can help retailers deliver sticky experience for a new generation of customers. There are numerous ways in which retailers are leveraging XR to create a business differentiator. To succeed, it is best to start small and execute with a fail-fast approach. Identifying the best use-case is critical. Testing its feasibility with a POC is necessary. Implementing with extensive experimentation to weed out assumptions will be the key to success for a business.

At Mindtree, we are helping organizations in the retail space unlock possibilities that XR presents. Know more about our XR offerings here.

About the author

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About Mindtree

Mindtree [NSE: MINDTREE] is a global technology consulting and services company, helping enterprises marry scale with agility to achieve competitive advantage. "Born digital," in 1999 and now a Larsen & Toubro Group Company, Mindtree applies its deep domain knowledge to 300+ enterprise client engagements to break down silos, make sense of digital complexity and bring new initiatives to market faster. We enable IT to move at the speed of business, leveraging emerging technologies and the efficiencies of Continuous Delivery to spur business innovation. Operating in 18 countries and over 40 offices across the world, we're consistently regarded as one of the best places to work, embodied every day by our winning culture made up of over 21,000 entrepreneurial, collaborative and dedicated "Mindtree Minds."