



Expert Insights

How Extended Reality will reshape commerce

Reinventing brand
and customer experience

IBM Institute for
Business Value



Experts on this topic



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Talking points

Extended Reality (XR) is now.

The rapid advancement of smartphones, AI, IoT, and 5G networks will bring Extended Reality to shoppers much sooner than expected—as early as the 2020 holiday shopping season.

Early users shape XR's future.

Augmented Reality (AR) adoption, in particular, will largely be driven by enhanced consumer interactions with products before, during, and after purchase. These AR retail experiences could shape expectations for other industries.

XR changes the customer experience.

Applying XR requires more than just enriching existing experiences. Companies will need to reimagine their customer experience strategies.

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Experience more, purchase more

By the 2020 holiday shopping season, Extended Reality (XR) will be shaping a world very different from today's current commerce experience. The primary reason is a device most of us carry in our pockets: our smartphones.

“Extended Reality” (XR) describes a full spectrum of enhanced digital and physical experiences: Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR). AR, in particular, is already here, from simple “snap a picture, get more information” apps, such as Wine Searcher, to digitally overlaid messages and markers during sportscasts (see Insight, page 2).¹

By 2020, 3.4 billion phones will have even more advanced AR capabilities, meaning billions of shoppers will be able to explore physical products with digitally integrated content and make better informed purchases.²

Already, nearly a third of consumers (32 percent) use AR apps, most frequently for gaming and social media.³ However, analysts such as IDC expect healthy growth in consumer AR/VR spending to deliver a five-year CAGR of just over 52 percent.⁴

For example, Houzz, a leading online platform for home remodeling and design, recently introduced an AR feature that enables shoppers to virtually cover their floors with tile, true to scale, and preview how it would look in their homes. According to Adi Tatarko, Houzz's CEO, customers spend more time in apps that offer AR— up to 2.7 times more. And importantly, customers using AR are 11 times more likely to make a purchase.⁵

Houzz is just one example of AR's promise. To ignore the implications of AR would be akin to ignoring the advent of online shopping and the disruptive transformation it caused. In fact, we believe AR could be as disruptive to retail as the web or mobile was.

The business and brand implications for AR and related XR technologies directly affect the very core of an organization's digital reinvention strategy. Succeeding with XR will rely on an organization's infrastructure, data, and cloud capabilities, as well as a clear vision for the design of improved customer and employee experiences.

Insight: Will the XR sports experience set the bar for retail?

If consumer expectations are driven by their last best experience, retailers may want to begin watching more sports events. Fans are becoming accustomed to seeing XR in action: replays from every conceivable angle, a steady stream of statistics with analysis, digitally overlaid trajectories, strike zones (baseball), line calls (tennis), and 3D-like rotation (basketball and football).

Soon AI will enable sports broadcasts that generate customized highlights for every athlete, team, and moment of action. In the new sports experience, no viewer request or question will go unanswered—and not just during the event. In a recent IBV study, 57 percent of respondents indicated they would like to regularly receive personalized highlights of their favorite teams and players.⁶

What consumers become accustomed to in their living rooms is what they will learn to expect in the showroom: immersive AI-enhanced XR experiences that enable them to explore, understand, and make better decisions—whether it's who to root for or which home to buy.

It's not just retailers who need to be aware of this shift. Applications of AR could affect how companies in any industry define and express their brands and engage with people who use their products and services. In fact, the strongest spending growth in AR/VR through 2023 is expected to come from financial services (133.9 percent CAGR).⁷ Retailers, however, are among the first wave of adopters, which means retail XR implementations will help establish consumers' expectations for their future experiences with other industries. Companies that choose to wait out this phase may find it difficult to catch up.

Shopping moves from 2-D to 3-D

Overall, our digital lives have been flat, our devices capable only of two-dimensional experiences. This 2-D limitation has reinforced a clear delineation between our digital and physical lives—a constant reminder of what was real and what was not. Several converging trends are changing all this.

As mobile usage proliferates, and embedded artificial intelligence (AI) and Internet of Things (IoT) applications become ubiquitous, data from these devices can deliver rich, immersive—3D-like—XR enhancements and visualizations. However, until recently, integrating IoT data seamlessly with mobile experiences has been limited by network bandwidth.

Now, the availability of 5G is giving a tremendous boost to the development and adoption of XR. As the use of these technologies becomes more sophisticated, digital experiences will increasingly be integrated with physical ones, so that the boundary between them will blur, with users enjoying much more rewarding interactions.

XR avatars and voice assistants powered by AI can make recommendations that could replace today's often frustrating online browser searches for products and services. Branded AI avatars could even take on a personality or embodiment that is uniquely tailored to each individual shopper, dramatically altering the way we shop online.

How will this affect consumers' shopping preferences and behaviors, whether online or in-person? And what implications does this have for how companies interact with their customers, including how they define and express their brands?

Retail XR will help establish consumers' expectations for future experiences with other industries.

Four major changes to expect

Pre-experiencing a product

Today, when shopping online, consumers can browse photos of a product, text descriptions, and, sometimes, a video. AR more closely replicates the experience of physically exploring a product before buying it, with the added benefit of access to detailed information, as if a knowledgeable sales associate were there to help. AR tools that allow a user to configure, personalize, try on, or in other ways test drive products are expected to quickly become standard.

Current in-market examples include Sherwin Williams' ColorSnap Visualizer that enables shoppers to see what a particular paint color will look like on their walls; Nike Fit, which shoppers can use to measure their feet for a "best-fit-for-you" recommendation; and Sally Beauty's ColorView, which lets shoppers try on hair color and makeup right from their mobile device.⁸

The bar for such XR experiences will quickly and repeatedly be raised. As consumers, our expectations are driven by our last best experience. If we have an excellent car buying experience with AR, we will come to expect the same quality elsewhere, be it buying an appliance, a new pair of sunglasses—even a new home.

Extending the relationship beyond the purchase

With AR, companies can continue to interact with a customer after a purchase in new, meaningful ways. Ongoing product support after the sale can be far more helpful with AR user manuals, instructions, and feature guidance. But that's just scratching the surface of AR's potential.

AR on a smart phone or tablet can easily replace the sometimes cumbersome or limited digital screens included in many current products, such as smart refrigerators or ovens. In fact, when customers can engage with a product via an app on their own digital devices, manufacturers can avoid the effort and expense of embedding a customer interface directly into their physical products. We see evidence of this today: smart thermostats and smart speakers that use mobile apps as the consumer interface through which manufacturers can continuously push new features.

AR will enable organizations to capture invaluable data about customer use, which will help with ongoing improvements. And, AR could also introduce new revenue streams from ancillary services and products.

Enhancing the in-store experience

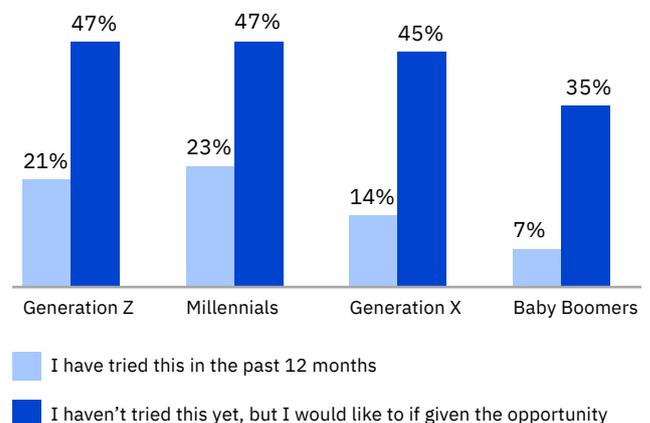
Mobile devices have made comparison shopping so simple that many consumers are showrooming: visiting a physical store to see a product, then purchasing it online—sometimes from the same retailer, but often from another source with a more competitive offer. Nielsen.com reports nearly three of four grocery shoppers have used a physical store to showroom before purchasing online.⁹

The combination of AR, data and AI working in tandem to enrich the in-store experience could help keep shoppers in the store. AI-powered AR can assist sales associates to help, or even become a consumer's personal shopping assistant, offering information such as features, ratings or ingredients, and special incentives to help close the sale.

Recent research conducted by the IBM Institute for Business Value (IBV) tested consumers' appetite for AR-assisted shopping experiences. Good news for retailers—of the nearly 19,000 consumers surveyed worldwide, almost half of Generation Z, Millennials, and Generation X say although they haven't yet used AR to shop, they would like the chance to try it. (see Figure 1).¹⁰

Figure 1

Great potential for AR in retail¹¹



Early movers who master XR could upend existing channels, just as the digital age shattered music distribution.

XR can also enable a more social, shared shopping experience that transcends location. Whether in a store or online, shoppers will be able to shop “together,” inviting others to help them with significant purchases such as cars, homes, or vacations.

Expressing the brand as XR avatar

XR will change how companies define and express their brands. AR is already putting new pressure on brands to create tools that help customers feel confident they’re making informed purchasing decisions. Those companies that do this with a consistently delightful, branded experience will position themselves to win.

For many, an XR avatar will become the incarnation of the brand. The challenge for brand and marketing professionals will be two-fold. First, they will need to develop and execute an experience strategy that enables AI-driven personalization via an XR experience. Second, they will need to consider the extent to which customers should be allowed to customize the experience.

For example, being able to change the gender or accent of a virtual voice assistant is a common type of customization. According to Business Insider, shoppers are eager for even more sophisticated XR assistance. Sixty-four percent of consumers want a virtual shopping assistant that combines AR and AI, and one in five consumers already expect retailers to have AR tools.¹² But how much control does an organization relinquish to customer-driven personalization before it compromises the opportunity to brand the avatar experience?

Preparing for an XR world

Early movers who master XR could upend existing channels, just as the digital age shattered music distribution. For example, how easily might shopping habits change when consumers interact regularly with their stove through an XR app, and, with a few clicks, can purchase anything associated with cooking—ingredients, cookware, even cooking lessons? The design of

compelling XR experiences that offer superior utility has the potential to revolutionize a company’s customer experience strategy, reframe customer relationships, and fend off competitive disruption.

An organization, therefore, needs to consider its XR customer interaction approach. How does it currently conduct ongoing customer relationships before, during, and after a purchase, and how might this change for future customers? If conducted through AI-driven branded avatars, how will customer relationships be facilitated seamlessly across physical and digital interactions? What would be the best digital embodiment of a company’s brand for each individual customer? How does the brand remain consistent if it can be expressed in a multitude of personalized variations?

Marketers, developers, and experience designers need to quickly become fluent in the expanding uses for XR, and especially AR. But the need for XR fluency extends further. Associates in product design, customer service, warranty, repair, sales, logistics, supply chain, field service, and operations should start learning how XR can be applied in their areas.

Unlike other technologies that can be integrated into a company’s workflow with relative ease, XR will require technical expertise in new coding languages specific to 3-D and XR experiences, such as iOS ARKit, Unity and SceneKit. For VR and MR, teams will need detailed knowledge of the experiences that can be had using physical devices such as Oculus Quest, Magic Leap One, or Microsoft HoloLens.

Developers will need to be adept at using tools such as Unity, Unreal Engine, Apple AR Kit, and Android AR Core. And multidisciplinary creative teams with 3-D modeling skills will be needed to imagine and design XR experiences that are intuitive, useful, and differentiating.

Above all, XR is not a future state. It is happening now. And now is the time to put it to work.

Action guide

How Extended Reality will reshape commerce

1. Explore XR possibilities from your customers' perspective

Whether you use a design thinking method, or some other structured, explorative approach, your first step: determine what aspects of your customer experience strategy needs improvement.¹³ What are your customers' pain points? What interactions fall short of their expectations? Your XR experience should provide a real improvement. Otherwise, if customers perceive it to be too cumbersome, inconvenient, or irrelevant, they simply won't use it.

2. Experiment to learn quickly, then scale

Learning through iterative in-market experiments will help determine the best use cases for continued investment and scaling. Rapid iterations strengthen or disprove hypotheses, and surprises inform the next release. Take into account the current status of your product and customer data, your infrastructure, your cloud capabilities, and mobile strategies to decide which experiments are most feasible, and from which you'll learn what you need for the next round of iterations.

3. Use internal pilots to accelerate learning

Consider also launching internal XR training pilots and mobile apps. This way, while providing employees with a robust training experience, the XR team can also quickly build XR expertise. Consider, too, how your internal projects can model the customer-facing XR applications you want to create. Your XR team can then apply these lessons when they roll out XR pilots for customers.

Are you ready to put XR to work?

- What lessons can you learn from missteps others have made in the move to the web and mobile experiences, so your organization can make the most of adopting XR now?
- With the use of XR, which attributes of your products or services could be brought to life in a much more meaningful way for customers?
- How can your organization use XR today to leap ahead of your competition in a focused manner and prepare you for broader implementation in the near future?

About Expert Insights

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