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The study of how XR technologies impact the retail industry, now and in the future.

Abstract: Extended reality (XR) is currently one of the most discussed technologies in the retail sector. While XR applications are presently utilized by a range of retail companies, recent technological developments and societal transformations indicate that the implementation of these technologies will become a mainstream necessity for success. This paper investigates how XR technologies impact the retail sector, now and in the future. In order to collect substantiated and timely data, this study engages in a multi faceted, qualitative data collection approach including a literature review, attendance at retail conferences and events, and semi-structured interviews with industry experts.

Results reveal the implementation of three types of XR technologies are significant contributors to company success: virtual reality (VR), augmented reality (AR), and mixed/merged reality (MR). They are currently utilized to enhance the customer experience, improve training, conduct consumer behavioral analyses, and develop prototyping for increased efficiency and productivity in product merchandising, packaging and branding. However, implementation of these technologies does not guarantee success. This study indicates success of these applications requires an understanding of each technology's specific affordances in order to effectively integrate them within particular areas of the retail supply chain. Augmented reality is often best suited for consumer applications, while necessary proprietary equipment makes virtual and mixed reality more effective for industrial and enterprise applications. If utilized effectively, these technologies can help increase sales, make the manufacturing workflow more cost effective and efficient, and create a retail landscape that allows for the synchronous success of both brick and mortar stores and ecommerce.

Future XR technologies will look to standardize and simplify, and eventually, there will be a collection of uniform XR experiences that will become conventional, easily integrated, and user friendly. If retailers want to be competitive, both in online and offline shopping, this study emphasizes the need to invest in XR technologies and build flexible tech management teams that prioritize XR as a technological resource, and restructure businesses to easily adapt to the rapidly changing tech landscape.