



INSIGHTS FROM THE BDO RETAIL & CONSUMER PRODUCTS PRACTICE

SMART RETAIL: HOW TECHNOLOGY ENABLERS ARE POWERING RETAIL 2.0

The rise of intelligent technologies including artificial intelligence (AI), machine learning (ML) and computer vision (CV) is changing the landscape of retailing—enabling immersive experiences, personalized information, frictionless convenience and rapid access to consumer preferences. No longer is retail success driven by a matter of well-merchandise brick-and-mortar stores; it now calls for the integration of physical locations with digital experiences delivered over mobile devices known as omnichannel or Retail 2.0.

In the United States today, the average person spends 3.6 hours a day on mobile devices, which constitutes more than 50% of daily digital media use, according to a recent insight from [BDO Israel](#).

While the full potential of technology in retail is yet to be realized, brands are beginning to produce interesting and useful features for consumers. For example, retailers are increasingly prioritizing their e-commerce and mobile platforms across channels. Reflecting the prevalence of shopping via social platforms like Instagram and Facebook, retailers are investing in their physical stores and social commerce platforms at the same levels. According to BDO's [2020 Retail Rationalized Survey](#), 45% of retailers have made significant investments in e-commerce and 36% have done the same in the mobile commerce.

More than half (53%) of consumers would rather use a mobile device to find deals and offers than discuss promotions with an in-store associate, according to a survey by [RetailMeNot](#). The prevalent use of mobile to access digital recommendations, peer-driven opinions and personalized information contextualizes how these critical technologies provide the means for new success with fast-moving consumer behaviors.

Texas A&M University's Center for Retailing Studies' recent annual summit focused on embracing disruption with a fixated lens on why augmented reality (AR), AI and ML are critical to the retail and consumer packaged goods industries. The top-line takeaway: data-driven content and experiences need to be the foundation of all business operations and consumer engagement. According to BDO's [2019 Middle Market Digital Transformation Survey](#), 39% of companies are currently deploying AI in their retail operations, while another 45% are considering following suit. It's predicted that AI and similar software systems will rapidly become critical success catalysts for organizations, and retailers aren't exempt.

Quantified insights are critical for comparing not only year-over-year, but moment-by-moment consumer behaviors online and in-store as well as defining the path toward a buyer's niche. Simply stated, consumers want VIP treatment and data-driven retail strategies help to deliver on those needs, which is key to obtaining and retaining customer loyalty.

Definitions



Artificial Intelligence (AI)

AI has become a key element in the digitalization of in-store retail by utilizing intelligent software designed to personalize the customer experience and create a more engaged business-to-consumer interaction by bridging the gap between virtual and physical sales channels.



Machine Learning (ML)

Machine learning helps retailers optimize prices, collect customer data and make logistics processes more efficient. Machine learning's ability to streamline the retail industry reduces costs and builds stronger relationships with customers.



Computer Vision (CV)

Computer vision allows retailers to speed up several business operations such as shelf management, payments, data collection and compliance, using cameras to monitor retail stores, spot suspicious behavior, and deter theft. Mobile versions enabled product location, product explanation and comparison on consumers' mobile devices.



Natural Language Processing

Natural Language Processing (also known as Conversational AI) is advanced technology that understands and responds to customers effortlessly using a microphone and speaker. Interactive Virtual Assistants embedded into mobile apps can guide customers, answer questions and complete transactions while walking down aisles, instead of seeking a store associate.

Source: Google Dictionary

THE DIGITAL CUSTOMER EXPERIENCE

Smart Retail Technologies offer vast opportunity to push the bounds of operational excellence in retail, but the onus is on company leaders to implement the proper strategy and coach their employees through the changes. Smart Retail Technologies are improving efficiency and helping retailers gain a competitive edge, resulting in lower prices and streamlined, targeted shopping experiences for consumers.

Retailers cannot implement effective intelligent technologies and the required software and services without benchmarking key behavioral analysis and feedback from the business and their customers. Fortunately, today's customer journey offers ample touchpoints to analyze behavior that can be used to inform future business decisions. For instance, according to [ThinkGoogle](#), nearly half of all shoppers say they confirm inventory before going into the store. Meanwhile, it's common for customers to price compare and read product reviews while in-store, influencing their purchase decision. Retailers must learn to capitalize on the new reality that online not only replaces foot traffic, but also serves as an

always-on tool that's used in conjunction with physical shopping experiences.

Before going full-bore on large-scale intelligent tech initiatives, retailers should consider a pilot project, and be ready to measure both positive and negative outcomes, thus lowering the risks of an unsuccessful first major run. A valuable first step on the path to comprehensive implementation must be to evaluate current IT infrastructures and update accordingly or move to a new cloud computing service, which would assist with managing large quantities of data, while adding transparency to decision-making. A scalable, agile-based initiative, proper guidance, KPI measurement and ROI determination are all crucial for successful business outcomes in any implementation.

AI and ML are currently helping retailers determine if they are selling the right products based on a customer's demands and expectations, and assessing whether a product is at right price, in the right assortment, in the right stores and in the right geographical location.

Smart Retail Technology Use Cases

The following use cases illustrate Smart Retail Technologies in action in the retail industry:

Personalized customer experiences: Amazon deploys AI to power its recommendation engine by evaluating consumers based on purchase history, shopping path analysis, product dwell time and prior social media engagement. According to [Harvard Business Review](#), consumers are 40% more likely to view items that are recommended based on information they've shared with the brand.

Retail mobile apps: Apps increase customer retention and loyalty by helping to provide sales support through the ability to virtually demonstrate products and services, fostering a stronger connection between clients and offerings. According to a study by [Synchrony](#), 67% have downloaded a mobile app from a retailer on their smartphone—60% percent of consumers use the apps for browsing products, 50% for accessing discount coupons and 49% for making purchases. In a strong commendation, 83% are happy with the customer experience provided by retail mobile apps, according to the same study. Enabling mobile applications for both customers and store associates with new selling and service tools is a key solution to promote enhanced store experiences and drive greater customer satisfaction.

Customer segmentation to predict future behavior: Automated segmentation through AI allows for a higher quantity of specifically parsed groups within a retailers' target audience, and the ability to highlight patterns in data that may otherwise be overlooked. For example, in addition to age and location demographics, AI and ML can segment shoppers by preferred channel, whether online, mobile or in-store. These technologies help retailers remain at least one step ahead of their consumers as they aim to convert a sale into a repeat buyer. AI becomes more effective over time as more data is added to the software, so being strategic about its inputs based on overall business objectives will lead to greater ROI.

Demand forecasting: Savvy retailers are using AI and ML to inform their demand forecasting based on customer behaviors. When used correctly, the tools can enable real-time analysis and predict supply chain needs and trends based on store-specific data, saving companies both time and money.

Smart mobile wallets: AI-based mobile payments will replace traditional forms of transactions eventually, with 60% of U.S. consumers carrying a phone but no physical wallet by 2025, says Synchrony. The integration of digital wallets into retailer apps is anticipated to spur increased transactions due to frictionless purchase capabilities. Retailers also reduce their liabilities with digital wallets, as the banks or processors do not pass payment details to the merchants for purchases made online or via mobile. According to [BDO's 2019 Consumer Beat Survey](#), 44% of consumers have or would use mobile payment options, and that number increases when examining millennial behaviors.

Data-driven product placement and inventory management: The clothing store H&M relies on trend-watching to be successful. According to [Forbes](#), the store uses AI to analyze store receipts and returns to evaluate purchases at each location. The algorithm helps determine which items to promote and stock up on based on local insights. The data could find, for instance, that floral skirts sell particularly well at urban stores compared to rural stores, driving them to adjust the inventory accordingly.

Enhanced customer service through chatbots: AI and ML are behind real-time chat bots that can help answer customer questions, while extracting more information about their personal preferences. This allows for more employees to spend time on the floor, interacting directly with customers to help build relationships. For example, Lowe's autonomous customer service robot, [LoweBot](#), helps in-store shoppers find items and provides product information. Customers can ask for the products they need to locate through speech or via touch panels, and the robot can respond in multiple pre-programmed languages. LoweBot is also capable of performing real-time inventory tracking.

Combating cyber theft and fraud: AI-enabled cyber solutions, such as data deception technology, can help retailers defend themselves by automating breach detection and response, and even proactively tricking attackers. AI enhances the cybersecurity technologies that companies use to combat cybercriminals and help keep company and customer data safe. However, retailers must be cautious as Smart Retail Technologies can also aid bad actors by providing automated hacks that develop rich insights into their target's vulnerabilities over time.

EMBRACING DISRUPTION

Retailers must ultimately determine for themselves what long-term success looks like, and then resolve how Smart Retail Technologies can be a part of that strategy. According to [Global Market Insights](#), investments in AI across retail segments will exceed \$8 billion by 2024. With this trajectory, it shouldn't be business as usual while companies figure out how to best cater to the consumer preferences of both traditional and experiential shoppers. Yet, AI can't operate as a standalone; it's one of many

technologies—both emerging and maturing—driving significant improvements in performance and giving rise to new business models.

Retail is moving too fast to wait. Figure out the most strategic uses of Smart Retail Technologies for your business and take your employees and customers on the journey.

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BDO has been a valued business advisor to retail and consumer products companies for more than 100 years. The firm works with a wide variety of clients across the traditional retail, consumer product and e-commerce sectors, ranging from multinational Fortune 500 corporations to emerging businesses, on myriad accounting, tax and advisory issues.

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