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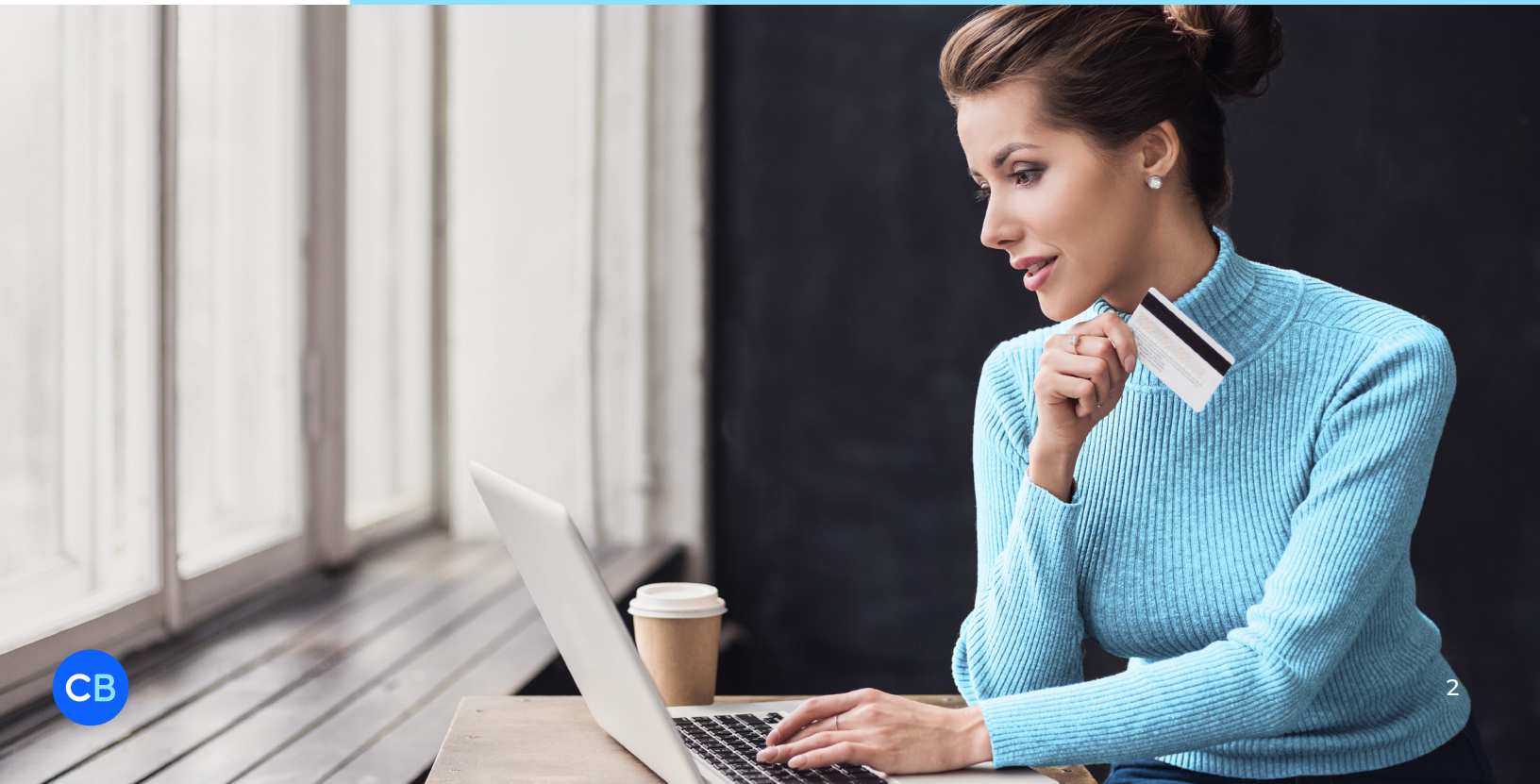
BUSINESS

Retail Technology

How Retailers Are Leveraging Technology to Blend Online and In-Store Customer Experiences

The way consumers order and procure goods and services has significantly changed. Consumers have become accustomed to the convenience of online shopping, and aren't expected to revert to previous shopping habits. According to Morgan Stanley, U.S. e-commerce is estimated to grow to 27% of retail sales by 2026.

Many retailers continue to rapidly accelerate their shift to digital commerce to adjust to these evolving customer preferences. Digital commerce not only enables retailers to thrive, it creates efficiencies, improves customer experience, and meets the ever-changing demands on the supply chain. The ongoing growth of digital commerce requires retailers to be more digitally agile—transforming the customer experience by blending physical and online retail. To do this, retailers need to embrace technology that will offer their customers online/mobile ordering options, the ability to check inventory availability in real-time, apps for line busting, and contactless payment through digital wallets or QR codes.



An August 2022 IDC Retail Operating Models study found that most retailers still operate on more than two channels but with little interaction between channels; only 12% of retailers deliver fully integrated shopping experiences. It's clear that consumers have come to expect an omnichannel experience. According to the same IDC study:

55%

of consumers want the flexibility to return purchases made in-store or online to either channel

49%

want the option to reserve online and pickup in-store (ROPIS)

48%

look for online visibility of location, availability, and inventory before visiting the store

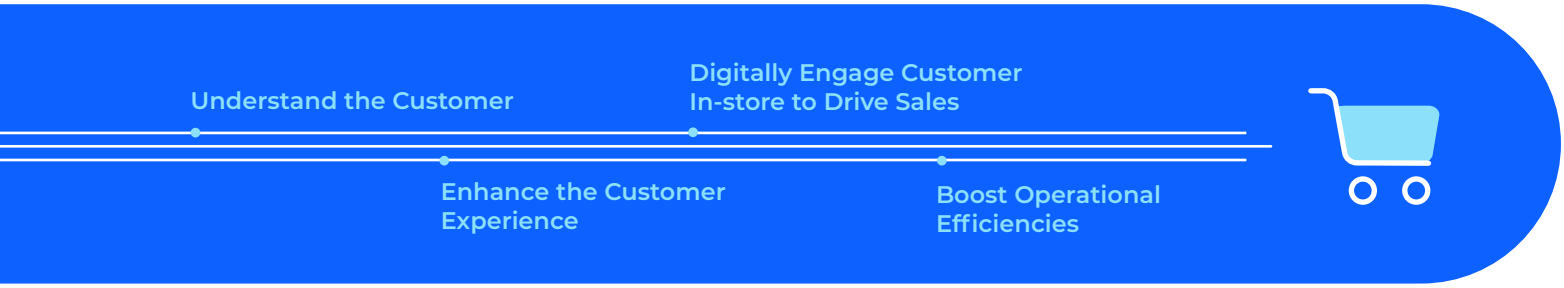
Digital adoption can help drive hybrid experiences, improve the in-store customer experience (CX), grow revenue, and cut costs. But the options and use cases are vast, leaving some retailers overwhelmed and uncertain where to invest their resources—from in-store retail analytics and the CX and marketing opportunities it can generate, to ecommerce platforms, payment technologies, merchandising, and supply chain and delivery solutions. Some possibilities seem almost futuristic, including augmented reality, "magic mirror" dressing rooms, or even robots. From IDC, Store operation (63%), marketing (51%), and customer experience (48%) are the top three areas in which retailers plan to focus their innovation efforts for the next two years.

As retailers adopt these transformative technologies, the critical role of data and analytics is evident—from digitizing all touchpoints to stitching together a 360-degree view of customers and their preferences and buying behaviors. And underlying all this is the need to enable in-store digital experiences and data capture and deploy an agile and reliable infrastructure to make it all possible. Specifically, retailers should take advantage of the value of robust in-store WiFi for shopper engagement and data analytics, as well as Software-Defined Wide Area Networks (SD-WAN) to enable the secure, effective, and efficient flow of data for real-time analysis and actions.

Key Strategic and Technology Priorities for Retailers

To effectively drive digital transformation initiatives forward, retailers should focus on a few core strategies:

- Blending the online and physical store experience
- Getting a better understanding of their customers and their preferences individually and in aggregate
- Enhancing the customer experience (CX) and enabling experiential commerce
- Creating more digital touchpoints to engage the customer in-store
- Boosting operational efficiencies



Understanding the customer and providing a better shopping experience can be achieved by capturing aggregate and anonymized digital information about the in-store and online shopping experience. The capability to digitally identify customers as well as collect, analyze, and leverage existing customer data has changed the game for traditional retail. To execute these capabilities, retailers need to have 1) effective technology solutions for capturing customer data both online and in-store and 2) a secure, robust network for getting the data to the cloud or their data centers for analysis and further actions. From a networking point of view, this means:

- Providing connectivity and taking advantage of in-store WiFi to gather data about customer behavior both individually and in aggregate, and;
- Using Software Defined Networking (SDN) and Software Defined Wide Area Networking (SD-WAN) to securely, effectively, and efficiently move data for real-time data and analysis.

How In-store WiFi Can Power Better CX and Insights with SD-WAN

Research shows that contactless, in-store experiences make consumers feel safer and deliver convenience. Seventy percent of shoppers prefer contactless payments, according to IDC. Retailers have had to drastically rethink the in-store experience to meet this need. The traditional experience has been supplemented with contactless payment options like online ordering, kiosks, and self-checkout. And to support all of this added technology, in-store WiFi networks are more critical than ever.

Further, WiFi is needed to support digitally enabled store associates and insights. To allow better store operations, retailers also need “inventory” tracking and other valuable data generated by IoT sensors and devices and operations management, such as lighting, refrigeration, and security controls. All of these activities require retail IT departments to prioritize deploying robust wireless local area networks (WLAN).

With the advent of WiFi 6 and Hotspot 2.0, the capabilities of in-store WiFi systems also significantly increase. WiFi 6 provides huge jumps in speed, a wider spectrum of channels, better connection strength, and simultaneous data streams. That means a WiFi router will have a greater capacity to receive and manage signals from shopper devices, digital displays, smart shelves, and IoT sensors.

Orchestrating Multiple Data Flows with SD-WAN

Agile network management solutions such as software-defined networking (SDN) and SD-WAN technologies can simplify and operationalize the management of data streams from connected customers and technologies. SD-WAN solutions enable unified network management of both wired and wireless networks and the "single pane of glass." IT teams get better visibility into connected devices, traffic, resource usage, and application performance. SD-WAN technologies allow administrators to program control functions, making them more agile in deploying new applications and network services. SD-WAN and direct-to-cloud connectivity also enable retailers to process large volumes of new data in real-time and generate the next best action or recommendation.

Data security and PCI compliance naturally rank high on retailers' minds, and working with PCI-compliant vendors for any technology solutions that capture, process, or transmit payment or sensitive data is of paramount importance.

Using Technology to Understand Customers Individually and in Aggregate

Customer data and insights that were once the purview of online retailers exclusively are now being tapped into by brick-and-mortar retailers. Such capabilities now enable personalized digital offers as well as tailored service by store associates. Customers get a better shopping experience, while retailers see increased purchases per store visit. Retailers can now provide upsell and purchase recommendations based on previous purchases and buying behavior. As detailed below, leading retailers are also leveraging the capability for dynamic pricing and advanced merchandising coupled with smart-shelf technologies.

Foot Traffic Analytics

While in-store foot traffic will likely ebb and flow, in-store WiFi or Bluetooth beacons are valuable technologies for tracking shoppers around a store, determining if they are repeat visitors, and noting which departments they visit. A passive WiFi network would register a shopper's device in the store and track its movements. This is a more commonly available form of data because most shoppers are anonymous when they visit a store. Using aggregated, anonymized analytics, retailers can determine how often the average customer visits a store, how many customers made a purchase and how many did not, and whether any shoppers visit more than one store location. Leading retailers track which aisles are most visited and can correlate the effects of time spent in certain areas of the store with purchase behavior. Such data analytics enable adjustment of store layouts, digital wayfinding, better merchandising and customized coupons and offers, and taking action to reduce average wait time at the cash register – all of which provide added value for customers.

Another set of technologies with similar use cases and applications is the use of the existing in-store security cameras to capture foot traffic with anonymized shopper tracking through the store and all the way to the cash register. One leading retailer has recently used such technologies to implement a comprehensive store layout redesign.

Leading retailers are leveraging two types of in-store retail analytics:

1. Anonymized foot traffic analytics based on device aggregate data
2. Personalized analytics, achieved by authentication methods such as WiFi, mobile websites, apps, and loyalty programs

Personalized Analytics

In-store connectivity is critical to engaging shoppers digitally and providing incentives to authenticate themselves. Shoppers can “check in” or automatically sign on to retailers’ e-commerce and mobile sites, allowing retailers to personalize offers and recommendations based on previous purchases and browsing history. Loyalty programs have also streamlined curbside pickup options - allowing customers to place their order, schedule a pickup time and send a notification when they arrive. This resulting personalization can come in the form of digital offers or tailored service by a store associate based on the shopper’s information, including post-purchase communications.

The deployment of high-bandwidth, reliable in-store WiFi networks is table stakes. Cellular signals are already complicated to access within store environments, and 5G, if deployed despite the significant costs, would have an even harder time penetrating store walls. Without WiFi, retailers cannot identify and engage shoppers until they reach the store’s checkout. Consequently, a store misses out on significant opportunities to influence transactions with personalized offers and relevant product suggestions based on previous purchases and enhance loyalty through offers and personalized service.

With social media becoming the fastest-growing shopping channel, it’s no wonder that leading retailers are leveraging social profile logins for in-store WiFi or mobile websites/apps, enabling simplified logins and potentially the collection and analyses of additional channel data.

To digitally identify customers, retailers need to have the following:

- Data governance policies and processes that meet customer privacy and consent requirements
- Effective technology solutions for capturing customer data in their stores
- A secure, robust network

Digital Transformation in Action: Real-World Examples

It's widely understood that shoppers research items online before or during a store visit. This habit allows retailers to learn of shoppers' interests or the preferences they've shown and respond in real-time when they're in the store. They might show that items the shopper is interested in are on sale, a new model has arrived, or complementary products are also in stock. Alternatively, the retailer might guide the buyer to the location with the items they're seeking in stock rather than allowing them to drive to a location lacking the item and forcing them to head elsewhere. The following are a few examples of how retailers are implementing useful digital technology tools.

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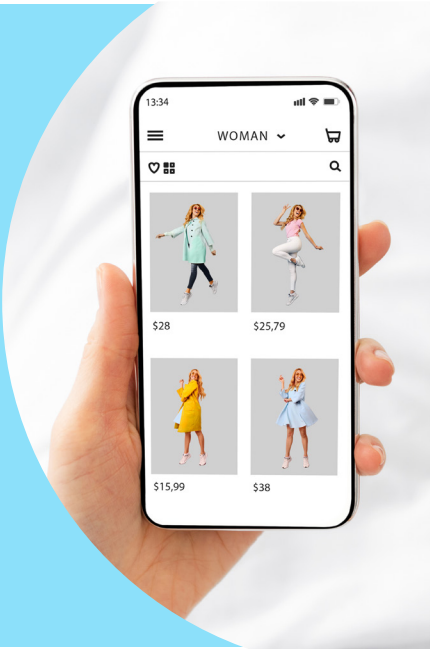
Tech-Driven Inventory Optimization

In the fickle fashion world, merchants need to assess how likely a garment is to sell to ensure they have the right stock level at each outlet. One London-based merchant implemented an AI system that collected data related to marketing, products, stores, historical sales, and even the weather and holidays to assist with inventory forecasting and management. The analytics had an immediate impact: sales jumped by 27%, markdowns were reduced by 71%, and their gross margin increased by 6%. Going forward, retailers will also need omnichannel strategies that use data for real-time inventory optimization. Across channels and locations, this visibility will help account for volatile demand, ongoing supply chain issues, and inflationary pressures.



USE CASE

From Loyalty Programs To Predictive Models

A fan of an outdoor products retail chain has downloaded a loyalty app on which they earn points toward a one-time discount. All the shopper's purchases— online and at the stores—earn points. For the merchant, the shopper has provided vital information that can be used to personalize the shopper's in-store experience. In the bigger scheme, the shopper is one of the thousands of the chain's customers, and collectively they generate stacks of valuable data to understand customers' preferences better and buying patterns and influence behavior through recommendation and predictive models, along with new delivery, fulfillment, and merchandising models.

USE CASE

Contactless Payment Options Preferred

When shopping in-store, customers may be more comfortable with contactless payment options. According to the IDC Retail Consumer Insights Survey, most prefer to pay with credit cards only. Contactless mobile phone payments, enabled through Near Field Communication, ranks a close second. Beyond safety, one of the prime benefits of contactless payment is that users can promptly complete transactions with the tap of a card or phone.

USE CASE

Retail Stores Transforming Into Fulfillment Centers

Retailers increasingly realize that their brick-and-mortar stores can double as mini-fulfillment centers, a cost-effective way to expand the distribution network using existing facilities already close to where customers live. Customer demand has spurred greater integration of in-store and online shopping. This omnichannel approach has become most apparent with retailers using their own physical store locations to fulfill online orders. According to the National Retail Federation Omnichannel Retail Index, 84% of retailers enable customers to buy items online and pick them up in the store. In comparison, 96% allow in-store returns of online merchandise.

To streamline and make the shopping experience more convenient for shoppers, Amazon created its “Amazon Go” store—devoid of human cashiers and the self-help checkout systems that have become commonplace. Shoppers activate their Amazon accounts on their phones, pick up what they want to buy, various sensors scan the merchandise as they exit, and the charge is applied. It’s the physical equivalent of online shopping in terms of data collection.

Merchants stand to gain more than lost sales with improved POS systems. Mobile checkout systems, such as the iPads that Apple store associates employ, allow associates to capture more information about the customer, confirm that items are ready for pickup when the customer walks in, and reinforce the positives of the omnichannel experience.

Leading Retailers Are Adopting Emerging Technologies

Digital transformation happens at different paces for different industries and retailers. Some are implementing new technologies that others won't adopt anytime soon, but it's worth glancing at them to see what's possible. As noted before, WiFi or connected in-store cameras can gather aggregate insights on foot traffic and enable targeted offers. Digital displays and kiosks can then provide updated information and help customers locate items. In several verticals—Quick Service Restaurants (QSRs) being the most prominent— prices can be adjusted on digital displays in response to demand. Gartner has predicted that by 2025, the top 10 global retailers will leverage contextualized real-time pricing through mobile applications to manage and adjust in-store prices for customers, an area only within reach of online retailers until recently.

With connected digital displays, bots and chatbots can provide information and sales recommendations when employees aren't available. And for a select number of merchants, such as high-end apparel retailers, smart dressing rooms are incorporating augmented reality and virtual reality to help shoppers get a 360-degree view of how they look in a garment—even share it socially with their friends to see if they approve.

Many retailers are also building omnichannel strategies powered by technology. According to McKinsey, technology supports the seamless integration of online and offline channels with smart digital services that facilitate end-to-end customer decision journeys. Further, retailers can digitally deliver personalized offers optimized through advanced analytics, updated in near real-time, and supported by engaging complementary in-store digital content. Behind the scenes, technology solutions, including advanced, real-time, cross-channel inventory management and automated logistics, can modernize the supply chain. McKinsey predicts that the right investments in these technologies can optimize run costs to save up to 20%, which retailers can reinvest in digital-innovation projects.

All of these new digital touchpoints and technologies would continue to increase the demands for high bandwidth, reliable in-store connectivity, and real-time information processing for an enhanced customer experience and increased revenues. And data insights and processing would become even more critical to enable the new frontier of AI and machine learning.

The Role of Digital Infrastructure and Connectivity in Capturing and Transporting the Data

With all this new digital information moving throughout their networks, retailers need their infrastructure to be:

Reliable
If networks or systems go down without backup, hundreds, if not thousands, of interactions or transactions can be lost. Furthermore, critical IoT data applications can be impacted.

Manageable
With so much data, devices, touchpoints, applications, and communication protocols, those overseeing it need application-aware networking capabilities and a comprehensive yet straightforward control system.

Secure
With more and more data touchpoints, the network perimeter is increasing, and the potential access points to critical PCI or personal data are growing. Thus the infrastructure has to ensure data access is restricted to those who need it, and cybercriminals are locked out.

Conclusion

While online shopping has dealt a blow to physical retailers in recent years, traditional brick-and-mortar retailers are finding new paths forward to compete in an online arena, blending traditional retail with enhanced virtual experiences. The digital options available to brick-and-mortar merchants are powerful and ever-expanding. Traditional retailers are quickly catching up on the digital capabilities previously only available to their online competitors—so much so that those in charge of arming their chains may feel paralyzed by the breadth of options. That doesn't mean retailers should throw caution to the wind. Instead, they should start with the proven building blocks that allow them to connect with customers in-store digitally, leverage their omnichannel information, and personalize the customer experience for increased sales and loyalty. To manage and orchestrate all those connectivity points and network needs, retailers should consider agile network architectures and SD-WAN solutions.

Retailers of all sizes can enable data and analytics transformations and new applications with reliable and secure networking and communications technology, including WiFi solutions and SD-WAN.

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