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 over the past year. Consumers have become accustomed to the convenience of online shopping and they aren't likely to fully revert to previous shopping habits. According to McKinsey & Company, the U.S. ecommerce penetration saw 10 years' worth of growth in the first 90 days of the pandemic alone. In fact, online retail has increased by 3.2X. To adjust to social distancing and public health requirements, many retailers have done a rapid shift to digital commerce. Digital commerce has not only enabled retailers to survive, it has already created efficiencies, improved customer experience, and met the ever-changing demands on the supply chain. This requires retailers to be more digitally agile than ever before -– transforming the customer experience by blending physical and online retail. Retailers need to embrace technology that will offer their customers options for online/mobile ordering, apps for line busting, and contactless payment through digital wallets or QR codes.

Retailers understand now more than ever that digital technology is the key to their future. A recent IDC consumer survey on the Future of Retail stated that more than 35% of retailers are investing in technology that closes the gaps in digital transformation. It can help 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 of the possibilities seem almost futuristic, including augmented reality, "magic mirror" dressing rooms, or even robots.

Research suggests most retail executives and technology decision-makers are responding by focusing on the foundational technologies that enable revenue growth with proven ROI. Inventory management, order management and order fulfillment round out the top three technology investment areas, according to a recent survey by TotalRetail.

Looking ahead, retail leaders are convinced that artificial intelligence (AI), while still in early stages of adoption, is the technology area that will have the greatest impact on their businesses, as stated by about a third of all respondents. What is common among those transformative technology categories is the critical role of data and analytics— 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 be aware of the value of robust in-store WiFi for shopper engagement and data capture, 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.

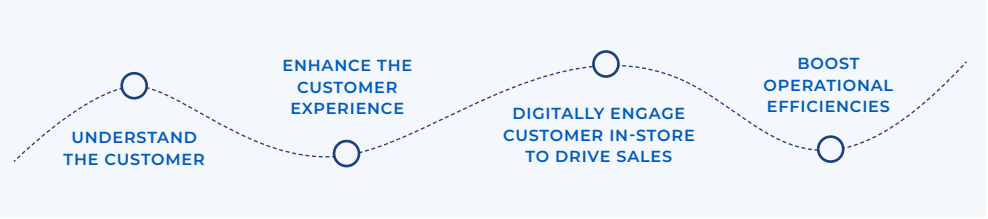
Key Strategic and Technology Priorities for Retailers

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

- Getting a better understanding of their customers and their preferences
- Enhancing the customer experience (CX) and enabling experiential commerce
- Engaging the customer in the in-store environment to increase sales
- Boosting operational efficiencies
- Blending the online and physical store experience

To execute on digitally identifying customers, retailers need to have:

1. effective technology solutions for capturing customer data in their stories; and,
2. a secure, robust network.



Understanding the customer and giving them a better shopping experience can only be achieved by capturing digital information about the in-store and online shopper. The capability to digitally identify in-store customers, as well as collect, analyze, and leverage existing customer data, has changed the game for traditional retail. To execute on 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 get visibility into customers (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 Orchestrating Multiple Data Flows with SD-WAN

Research shows that contactless in-store experiences make consumers feel safer. According to a recent IDC survey on the future of retail, 38% of respondents said that touch-free approaches such as contactless checkout or product delivery make them feel safer. Seventy percent of shoppers prefer contactless payments. To meet this need, retailers have had to drastically rethink the in-store experience. The traditional experience has been replaced with contactless payment options like online ordering, kiosks and self-checkout. And in order to support all of this added technology, in-store WiFi networks are more critical than ever. WiFi is also needed to support digitally enabled store associates, 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 the deployment of robust wireless local area networks (WLAN).

WiFi 6 provides a **huge jump in speed**, a **wider spectrum of channels**, **better connection strength**, and **simultaneous data streams**.

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 far greater capability of receiving and managing signals from shopper devices, digital displays and 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 the 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 much more agile in their deployment of new applications and network services. SD-WAN and direct-to-cloud connectivity also enable retailers to process the 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 of the technology solutions that capture, process or transmit payment or sensitive data is of paramount importance.

Using Technology to Understand Customers Individually and in Aggregate

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

The ability to digitally identify in-store customers and leverage existing customer data, is the first step on the digital transformation journey for traditional retailers. 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 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. Leading retailers are also leveraging the capability for dynamic pricing and advanced merchandising coupled with smart-shelf technologies, as detailed below.

FOOT-TRAFFIC ANALYTICS

While in-store foot-traffic will likely ebb and flow to accommodate social distance restrictions in the near-term, in-store WiFi or Bluetooth beacons are useful 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 of the shoppers are visiting 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 readjustment 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 social distance mandates

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. And we can only imagine where the technology can go with the advancements in facial recognition technologies.

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’ ecommerce and mobile sites, allowing retailers to personalize offers and recommendations based on previous purchase 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 hard to access within store environments and the overhyped 5G, if deployed despite the significant costs, would have an even harder time penetrating. Without WiFi, retailers cannot identify and engage shoppers until they’ve reached 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, as well as enhancing 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 log-ins for in-store WiFi or mobile websites/apps, which not only enables simplified log-ins but potentially the collection and analyses of additional channel data.

Digital Transformation in Action: Real-World Examples

A few examples of how retailers are implementing digital technology illustrate how useful these tools can be.

It's widely understood that shoppers research items online before or during a store visit. This provides retailers a chance 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 that has 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.

USE CASE • AI-DRIVEN INVENTORY OPTIMIZATION

High-end clothing merchants have to assess how likely a garment is to sell to ensure they have the right level of stock at each outlet. With the fickle nature of fashion, it's tough to know what will be hot and what will end up on the remainders rack. 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 gross margin increased by 6%.

USE CASE • FROM LOYALTY PROGRAMS TO PREDICTIVE MODELS

A fan of an outdoors-oriented 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 key information that can be used to personalize the shopper's in store experience. In the bigger scheme, the shopper is one of thousands of the chain's customers and collectively they generate stacks of valuable data to better understand customers' preferences and buying patterns and influence behavior through recommendation and predictive models, as well as new delivery, fulfillment and merchandising models.

USE CASE • CONTACTLESS PAYMENT OPTIONS PREFERRED

When shopping in-store, customers are 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 are increasingly realizing that their brick-and-mortar stores can double as mini-fulfillment centers, a cost-effective way to expand the distribution network using existing facilities that are 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 that are using their own physical store locations to fulfill online orders. According to the National Retail Federation Omnichannel Retail Index, 32% of retailers enable customers to buy items online and pick them up in the store, while 75% enable in-store returns of online merchandise.

For those shoppers who are happy to exchange convenience for data, 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 phone, pick up what they want to buy, the merchandise is scanned by various sensors 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, allows 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 taking a glance at them to see what's possible.

As noted before, WiFi or connected in-store cameras can identify individuals and personalize information. Digital displays and kiosks can then be used to 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 the reach of online retailers until recently.

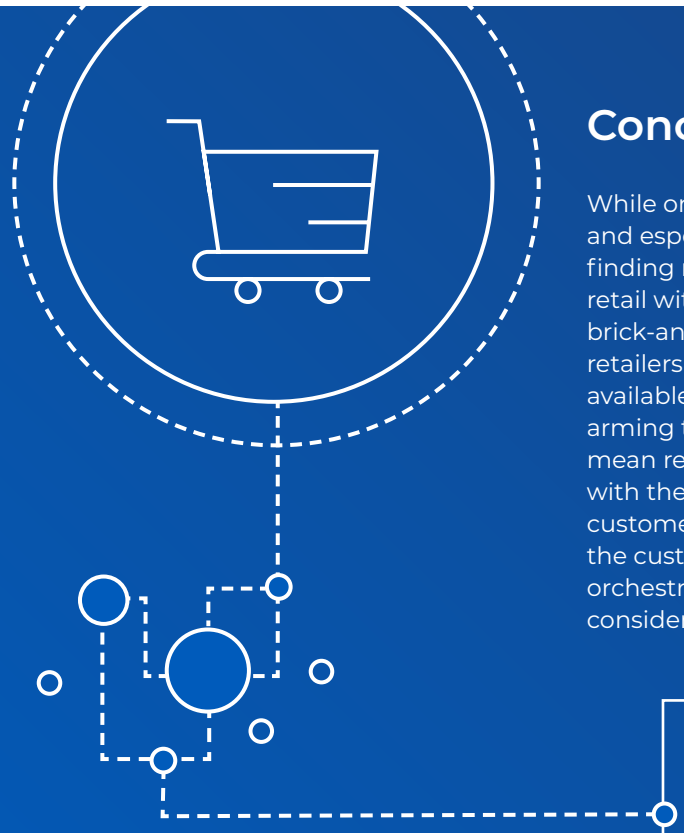
With connected digital displays, bots and chatbots can provide information and sales recommendations when employees aren't available. And for a select number of merchants, such as high-end apparel retailers, smart dressing rooms are incorporating augmented reality and virtual reality to help shoppers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

All of these new digital touchpoints 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. Data collection and processing would become even more critical to enable the new frontier of AI and machine learning. According to Total Retail, retailers have adopted, or are planning to adopt, artificial intelligence (AI) at a much higher rate than other emerging technologies. When asked to choose the emerging technologies that they're not currently investing in but plan to do so within the next 12 months, 18 percent of respondents selected AI, the highest of any technology listed. Furthermore, nearly one-third of respondents (32%) identified AI as the emerging technology that they believe will have the biggest impact on the retail industry within the next 12 months.

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

Comcast Business Market Report 9 With all this new digital information moving throughout their networks retailers need their infrastructure to be:

- **Reliable:** If networks or systems go down without back-up hundreds if not thousands of interactions or transactions can be lost. Furthermore, with the small packet size of IoT data applications critical data can be impacted.
- **Manageable:** With so much data, devices, touchpoints, applications and communication protocols, those in charge of 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, and especially amid the pandemic, traditionally 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 and 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 digitally connect with customers in-store, leverage their omni-channel 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. Schedule a consultation at (855) 249-9475 or visit business.comcast.com.