

EBOOK

10 Tech Trends for Retail

Navigating 2021 and Beyond



While last year was a difficult one for the industry, retailers are leaning in to new technologies to boost their prospects for 2021 and beyond.

By investing in innovations to create unique (and safe) customer experiences and optimize overall operations, brands can improve bottom-line savings and set themselves up to not only survive, but thrive into the future.

Here are ten technology trends that will shape the retail landscape this year, and for many to come.

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TREND 1

Reimagined physical spaces

What is the future of a physical store in 2021 and beyond? Direct-to-consumer brands and innovative retailers are reevaluating the best use of their brick-and-mortar environment, while a new generation of shoppers are looking for exciting in-store experiences.

Ensuring safety

The need to reduce physical interactions has transformed the physical retail space. To ensure customer and employee safety in-store, retailers are installing cameras and sensors. These devices are being used to ensure social distancing, monitor capacity limits, and identify PPE (personal protective equipment) usage. By using smart, Wi-Fi-connected devices, retailers are able to monitor multiple stores from a centralized location to help keep staff safe.

Improving customer experience

On the experience side, stores are transforming their spaces to highlight curated collections of core goods. With the inclusion of AR and VR technology, customers will still be able to peruse the nearly infinite combinations of colors and styles by combining a physical experience with the options offered by online shopping.

A FOCUS ON SAFETY

According to Deloitte, 56% of consumers were anxious about shopping in stores prior to the 2020 holiday shopping season.¹ A similar survey by IPSOS put that figure at just over 60%.² This reflects the critical need for retailers to invest in health and safety measures in the upcoming year.

¹ Deloitte, "2021 retail industry outlook: The new rules of retail"

² CIO, "The future of retail isn't what it used to be"

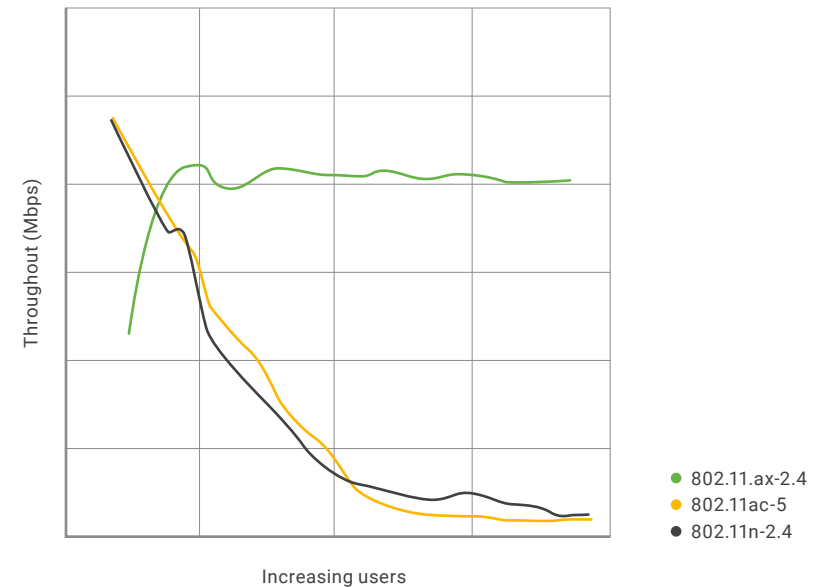
TREND 2

Wi-Fi 6

With the influx of new Wi-Fi 6 mobile devices, data traffic per smartphone is expected to increase by ten times from 2016 to 2022³. And with more than 90% of consumers using mobile devices while they shop, retailers have an opportunity to improve customer experience by investing in tools that leverage mobile technology, taking advantage of the boosted performance Wi-Fi 6 offers.

For instance, using geolocation, apps can highlight the shopper's location and pinpoint the exact shelf where they can find the product they are searching for. Scan-and-go⁴ is another great example to increase service, speed, efficiency, and convenience for shoppers.

More than 90% of consumers using mobile devices while they shop.



Consistent data throughput

Data throughput with increasing users for Wi-Fi 6 compared to Wi-Fi 4 and Wi-Fi 5, based on Cisco-sponsored research⁵.

³ Cisco Meraki, "Where Will Wi-Fi Take us Next?"

⁴ Forbes, "There's A Technology Retailers Have Been Scared To Try, But Could Make Shopping Safer Immediately"

⁵ Cisco Meraki, "Wi-Fi 6: The Next Generation of Wireless"

TREND 3

Customer service & employee connectivity



Shoppers value friendly and welcoming service in-store, and are more likely to become repeat buyers if their experience is positive.

Retailers that provide their employees with a fast network, secure mobile PoS system, and a single view of customer data are at an advantage. Within a few digitally enabled seconds, employees can know what a customer has previously purchased and can quickly guide them toward what they need. In addition, employees can use scheduling solutions, task management tools, and rich multimedia training so the store staff gets the support they need to stay motivated.

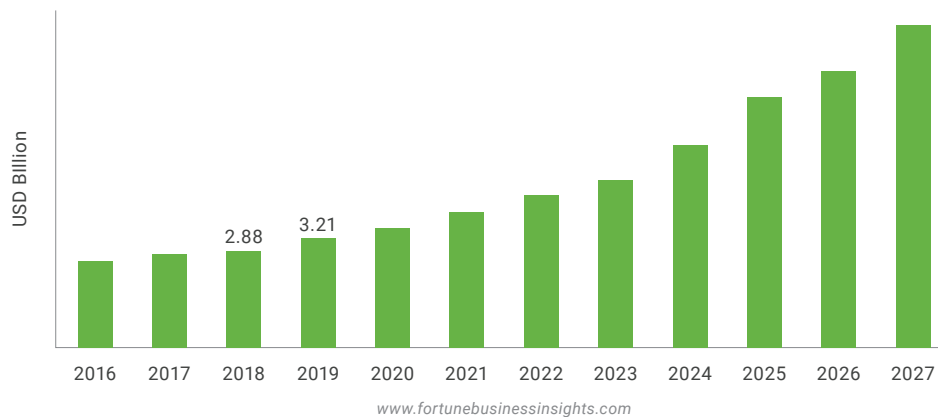
Customers are increasingly turning to sales and service teams for clarity on issues ranging from safety protocols to return policies⁶.

⁶ Harvard Business Review, "Staying Connected with Customers in the Contactless Economy"

TREND 4

Location analytics

With a wireless and smart camera network that constantly receives, analyzes, and programs sensor data—and learns from it—retailers can make real-time staff adjustments. In addition, retailers can maximize their store layout for higher conversion rates by putting everything in the most effective place. Is the checkout line getting long? Are certain aisles being overlooked? Analytics helps retailers make informed decisions based on location data.



North American location analytics market size, 2016–2027

The location analytics market has seen steady growth since 2016, and is on track to double before the end of the decade⁷.

⁷ Fortune Business Insights, “Location Analytics Market Size, Share & COVID-19 Impact Analysis”



TREND 5

Internet of Things



IoT devices have not only entered our homes, they have also become staples in retail environments. In the next decade, this trend will continue and automated smart shelves, digital signage, and virtual mirrors will become familiar sights in stores.

Wi-Fi 6 will play a crucial role in ensuring connectivity with IoT devices, representing more than half of all global connected devices and connections by 2022. In addition, 80% of new IoT projects will be wireless⁸.

⁸ Cisco Meraki, "Wi-Fi 6: The Next Generation of Wireless"

TREND 6

Augmented and virtual reality

AR and VR are increasingly becoming part of the omnichannel shopping experience. Global furniture retailer IKEA is leading the way with their AR app, IKEA Place, which offers a catalog of over 2,000 products⁹. Users can hold up their smartphone and use the camera to place the digital furniture anywhere in a room to test out color, size, and fit to help with making a buying decision.

While the technology is relatively nascent, the benefits are clear. Shopping experiences that leveraged AR had a 94% higher conversion rate than those that didn't¹⁰. It's no surprise, then, that retailers were set to spend upwards of \$1.5 billion on AR/VR development in 2020.

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⁹ Wired, "Ikea's New App Flaunts What You'll Love Most About AR"

¹⁰ Harvard Business Review, "How AR Is Redefining Retail in the Pandemic"

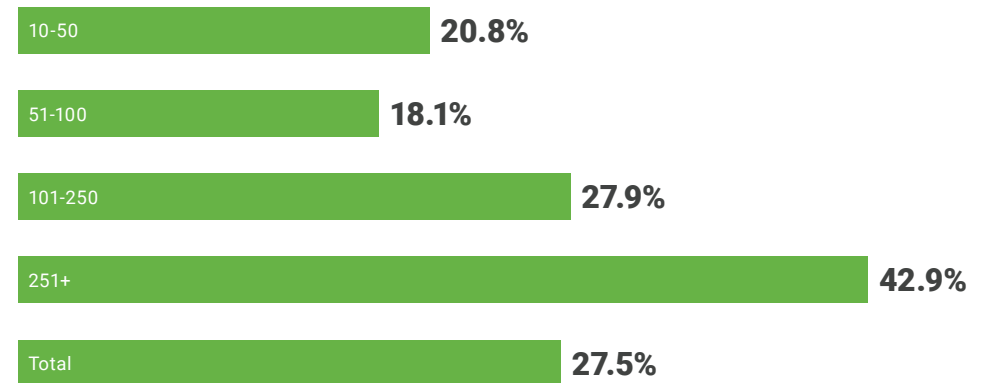
TREND 7

Curbside & in-store pickup of online orders

With both convenience and safety top-of-mind for consumers these days, curbside and in-store pick up will be more prevalent along “the last three feet” of the shopper’s experience. For example, buy-online-pickup-in-store services (BOPIS)¹¹ will continue to be popular, not only for hygiene reasons, but also to boost revenues. Shoppers who pick up their online orders at a physical store are more likely to purchase additional items while there.

Convenience goes digital

One company embracing this model is Dollar General through the DG Pickup service on their app¹². “Our digital efforts are focused on making things easier for our customers by providing an even more convenient, frictionless, and personalized shopping experience,” said CEO Todd Vasos. “Importantly, these efforts will continue to be tailored specifically to the Dollar General customer and remain an important component of our long-term growth strategy.”



BOPIS adoption by retailer store count

While large retailers are driving adoption of BOPIS technology, smaller retailers still make up a significant share, signaling a broader trend¹³.

¹¹ Yahoo Finance, “BOPIS, fueled by the 2020 pandemic, has permanently changed retail”

¹² Retail Info Systems, “10 Retailers Riding the BOPIS Wave”

¹³ Tecsys, “The Real State of BOPIS in the US Retail Market”

TREND 8

Data and security

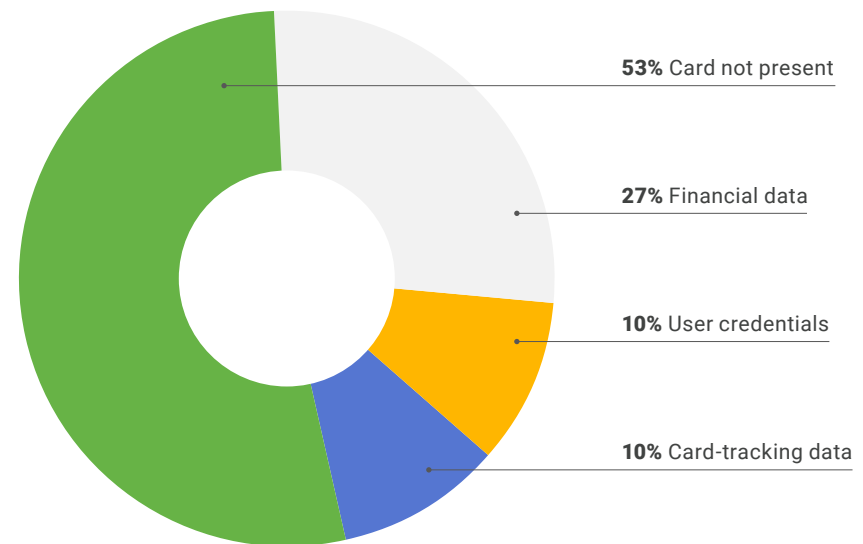
Customer data, store data, employee data—it all needs to be protected. Customer data, especially, is a valuable asset for retailers. Brands will focus on gathering as much data as possible from customers, and that starts in the physical store. For example, Wi-Fi login splash pages are an early opportunity to engage with customers upon their arrival.

Protect customer data

However, privacy law changes make it critical for retailers to protect first-party data. Integrated, end-to-end network security battens down the digital hatches, while IP cameras can help combat physical theft and reduce shrink.

Guard physical assets

According to a 2018 report, hackers account for more than 90% of log-in attempts on e-commerce sites¹⁴. But security is not just a priority for online channels. Retailers with physical locations are proactively implementing cameras and location-based tracking to protect shoppers and associates, as well as successfully reducing shrink and tracking inventory.



Types of retail data targeted by hackers

Card-not-present data was sought more by hackers in 2020 than other types of consumer and financial data held by retailers, due in part to the rise of online shopping and the coinciding drop in the use of POS systems by retailers¹⁵.

¹⁴ Nextgov, "Hackers Account for 90% of Login Attempts at Online Retailers"

¹⁵ Total Retail, "Cybercriminals Have Retail Directly in Their Crosshairs"

TREND 9

Inventory management

When stores don't have a customer's size or product, the right integrated inventory management solution enables associates to quickly see internal inventory levels in one single view across store and distribution locations (see chapter 1). Technology such as RFID tags and video analytics¹⁶ help improve the accuracy and efficiency of inventory-tracking processes. This allows managers and buyers to quickly make more informed decisions throughout the year and automate inventory orders. Robots¹⁷ can also be used to roam the aisles of stores to automatically scan shelves for inventory checks, giving more time to employees to provide personal service. Better inventory management has a bottom-line impact and is a top priority for today's retailer.

Out-of-stocks have a huge price tag—a whopping \$1 trillion worldwide¹⁸

¹⁶ Cisco Meraki, "Cloud Managed Smart Cameras"

¹⁷ Harvard Business Review, "What Robots Can Do for Retail"

¹⁸ Retail Dive, "Out-of-stocks could be costing retailers \$1T"



TREND 10

Robotics

[VIEW CASE STUDY](#)

Distribution and fulfillment centers have been struggling to meet the demands of the direct-to-consumer model. The surge in demand for online shopping grew exponentially in 2020, adding another challenge for retailers. Between the uptick in packages needing to be shipped and difficulty in onboarding employees, the predicted tech of the future has safely landed in the present.

The robotics advantage of boosting productivity in the warehouse is here to stay. The always on, always connected “worker” enables retailers to not only catch up with demand, but get back to customer shipment expectations. These robots are best connected to a secure and stable network to be monitored in real time from a central location. For an increased boost, adding IoT sensors and analytics enables retail fulfillment to become a competitive advantage.

CUSTOMER SPOTLIGHT

Bossa Nova Robotics

Founded in 2005 as a spin-off from Carnegie Mellon University’s Robotics Institute, Bossa Nova develops advanced robotics technology that helps some of the world’s largest retailers predict with confidence what’s on their shelves. The company’s newest robot, the Bossa Nova 2020, features an industry-leading AI stack and a smart 2D camera system that enables retailers to collect and process real-time intelligence about their inventory. The robots autonomously roam store aisles multiple times per day to confirm that each product is on the right shelf and has the right price. They also identify products that are out of stock.



By staying on top of the latest technology trends in retail, your brand will be well positioned to thrive in 2021 and into the future.

To learn more, check out our [solution guide for retail](#).

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