Customer Experience and Store Operations

Two Sides of the Same Coin

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Understanding customer expectations

The expectations on retailers today are more complex and unpredictable than ever before. Consumers want a fully personalized experience that's consistent whether they're interacting with you in-store, online or through any other channel. And they expect their requirements to be met quickly and accurately. Consumer service organizations like retailers must meet, and ideally exceed, these expectations to remain competitive.

These shifts in expectations, and their corresponding changes in customer behavior, mean the way brick-and-mortar stores operate is evolving.

Traditionally, a customer goes into a store, picks up the item(s) they want, pays for them and leaves with their purchases. While this is still common, with 62% of store visits in the US making up this type of interaction[1], stores are increasingly having to take on elements of the distribution center or warehouse role to support a more diverse range of customer journeys. These include, for example:

Purchase online, and pick up in-store or curbside from your local store

Order an item that’s out of stock in store to be delivered to your home

Purchase an item online, and have it shipped to you directly from your local store

These hybrid channels create more opportunities to interact with and sell to customers. However, if the product they want isn't available through the channel(s) they prefer, these opportunities will be lost. This means that having effective store operations in place is more important than ever. In the US, product availability has been identified as the top pain point for consumers[2], so it's an issue that should be top of mind for inventory management and merchandizing teams.

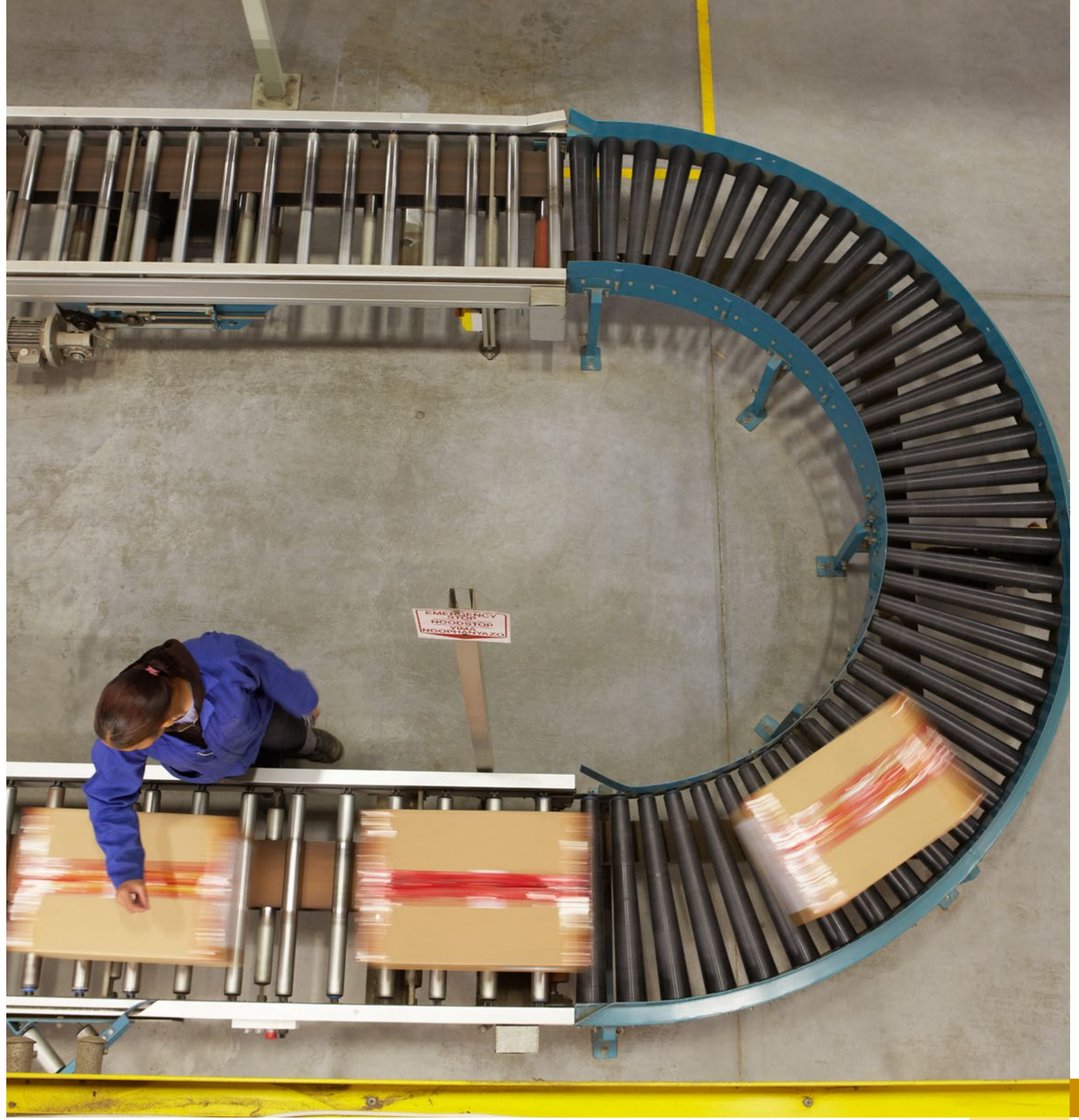
Ensuring consumers can reliably access the items they want, through whatever customer journey or channel they choose, must form part of retailers' broader digital transformation strategies. The solutions they put in place to help address these evolving customer expectations should also be helpful in optimizing a range of other processes and requirements:

Minimizing shrinkage

Loss to shrinkage in US retail in 2020 was estimated at just under $50 billion[3], creating a significant issue for the bottom line. Shrinkage can come from both external (customer) and internal (employee) parties and is hard to track with traditional methods. With emerging technologies, retailers can enhance their ability to identify activity (intentional or inadvertent) that could lead to shrinkage and act upon it in time to prevent loss.

Navigating labor shortages

The retail sector in the US is facing significant skills shortages[4]. Being able to motivate and empower staff, or to use technology to help bridge staffing gaps where possible, is essential for today's store managers.



Surviving unpredictable supply chain

The pandemic, the US's shifting relationship with China, the war in Ukraine, increased transportation costs and interest rates are all driving governments and businesses alike to reassess where and how they source and hold inventory[5] so they can weather any unforeseen hurdles. This is where using tools like analytics and artificial intelligence (AI) to predict demand and forecast trends in buying patterns can really help.

Ensuring real-time visibility of inventory

Providing in-store customers with exactly what they want, when they want it means store managers must have precise details of what inventory is on the shelves at any time, right down to the SKU level. In the absence of spare associates to walk the aisles constantly, automated monitoring is the most viable option for achieving this visibility.

Managing pricing in line with inflation

As inflation continues to bite, US retailers must constantly review and update their pricing strategies. Rolling out pricing changes to products that are on the shelves can be a time-consuming headache when associates need to manually update labels. By digitizing price labels and making it possible to update them digitally, retailers can reduce pressure on busy associates while ensuring customers always have the latest pricing information at the point of sale.

Building a data bridge between CX and store ops

One of the challenges of on-site retail – whether it's traditional shopping environments, banking, entertainment or hospitality – compared to its digital counterpart is the relative lack of data. Online, every click is tracked, every customer interaction precisely curated and evaluated, every small variation in inventory or demand is followed and can be responded to in real time. Achieving this level of granular insight in a physical environment is challenging.

Let’s take a simple example: a customer looking to buy a new blue shirt from their favorite retailer. They find the shirt they want in store, but it’s only available in red in their size. It’s close enough, so they buy the shirt, but they really wanted the blue one, so they leave a little disappointed and a little less likely to come back in the future. An online retailer can see that they initially looked for the shirt in blue, implying that was their first choice, and that it should order more blue shirts. An in-store retailer would only see that a red shirt was purchased and would therefore order more red shirts. This illustrates how data enables the online retailer to form more accurate insights into the levels of demand for variations of its product, and so be more successful in forecasting and managing inventory in a way that delivers the best customer experience.

The vast majority of brick-and-mortar retailers need new digital tools to replicate all this in the physical space. The specific tools they use will vary depending on the environment, their offering and the customer experience they wish to create, but can include temperature, light and weight sensors, computer vision and AI (see below for more details on these).

For example, organizations handling fresh or perishable produce must meet strict regulations around storage and transport to ensure the produce stays at the correct temperature throughout its lifecycle, and isn't sold once past its expiry date, or thrown out and wasted. Tracking products using RFID sensors and computer vision can help keep tabs on these details and highlight any close-to-expiry products before they become a safety risk or need to be written off.

By using innovative technologies like this across the inventory lifecycle, retailers can capture the data they need to deliver a digital-style customer experience in-store. From tracking stock movements with computer vision and weight sensors to reduce shrinkage, to better understanding and forecasting exactly when, how and why a customer chooses to come into the store, data is the bridge that links customer experience and effective store operations.

Key technologies underpinning store ops/ CX integration

The potential benefits of adding a data layer to the in-store customer experience and the operations supporting it are huge. Every organization is different, however, and store management, customer experience and merchandizing teams should work together with executive leadership and IT support to identify how and where it makes sense to begin adding this layer. Identify a contained use case with a clear return on investment in order to demonstrate value. Then scale and expand as needed. Whichever use cases you choose, they're likely to involve one or more of the following key technologies:

Computer vision

Computer vision combines cameras, edge- or cloud-based computing, software, and AI to enable systems to "see" and identify objects. It uses deep learning to form neural networks that guide systems in their image processing and analysis. Once fully trained, computer vision models can perform object recognition, detect and recognize people, and even track movement. It's an essential tool for use cases such as quality control and defect identification[6]. It's also important for monitoring inventory on shelves and tracking availability to identify when a product needs to be replenished; and for monitoring smart checkout systems to ensure products are accurately processed and charged for.

Automation and robotics

The combination of robotics and AI is a powerful tool in helping automate logistics and delivery processes to support new in-store use cases, which existing staff do not have time for[7]. Robotics can also be used to autonomously monitor inventory levels and then re-stock shelves when inventory is running low, without the need to pull staff away from customer-facing activities. This has been shown to result in a 20% drop in out-of-stock items[8].

Sensor technology

Sensors can be added to existing equipment, or built in to new, and are used to track a wide range of variables, including location, weight, temperature and humidity. This data can provide real-time insight into the movement, use and condition of goods, and the behavior of customers interacting with them. It can be used to keep track of stock levels on the shop floor to enable more accurate forecasting and ordering; or to ensure appropriate conditions are maintained for perishable items.

Edge AI and Analytics

The data collected by in-store sensors is not enough on its own to provide the insights needed to optimize inventory and customer experience. The data must be understood, and insights gained from it. This is why analytics and AI at the edge are so important. It's possible to run AI in real-time at the point of data capture in use cases where you need immediate action (such as monitoring for suspicious behavior to prevent shrinkage), or to centralize data for broader trend analysis (like store-level demand forecasting or analyzing sustainability in existing processes) in the data center or the cloud[9].

Local grocer shows innovation possible at any size

Atlanta-based grocery retailer Nourish + Bloom is the first Black-owned, autonomous grocery store in the world[10]. Its flagship store uses a range of technologies to track, manage and deliver inventory, while also providing a great customer experience. Contactless checkout is powered by computer vision. Sensors and analytics help management understand when and how customers are interacting with the products on their shelves. And robots set out to fulfil delivery requests, enabling human staff to focus on customers in-store.

Having proven the model works, the Nourish + Bloom team is now planning to scale up to as many as 500 stores across the country[11].

Grocery chain revamps in-store experience to boost sales

Town Talk is a Texas-based grocer that specializes in collecting and selling on groceries and restaurant supplies that would otherwise no longer be saleable[12]. It realized that sales in one of its locations were flat, with marginal profitability, and knew that it needed insight into in-store visitor patterns to attract more customers.

It used an AI-based video analytics solution based on Intel® technology to monitor high-traffic areas of the store. Inferencing capabilities built into the cameras help identify shelf outages, while an on-premise server runs AI that analyzes customer movement and behavior patterns.

With these insights, the company has been able to better understand shopper demographics and traffic so it can more effectively engage with its customers, understand how they interact with products, and forecast busy periods. As a result, it was even able to hit its 2021 sales targets two months early.

Take the next step

Begin your own journey to an operations-empowered customer experience by identifying current crunch points in your own environment. These may include lack of product availability, inconsistency across channels, shrinkage, or labor shortages. If you're not sure where to start, this recent Intel-sponsored report breaks down the top challenges for US-based retailers in more detail.

With your first use case identified, work with your support functions and executive leadership to define where and how operational optimizations can make a positive impact for your customers, and your bottom line.

Further reading:

- IHL Report: The New Normal Consumer
- Transparent Path Solution Brief
- Nourish & Bloom Use Case
- Town Talk Case Study
- Webinar: The Power of Omnichannel Experiences
- Article: The Future of Retail? Supply Chain Visibility
- Article: AI Robots Transform E-Commerce Fulfilment

Find the solution that is right for your organization. Contact your Intel representative or visit here.

1. https://www.intel.com/content/www/us/en/retail/resources/ihl-new-normal-consumer-report.html
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