Photo by Michael Zimmerman, Kearney, New York

Closing the digital gap: why connected stores are the future of retail

KEARNEY

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Introduction

"Combine our physical footprint from stores and our supply chain with new services and better technology, and you get the leading omnichannel retailer, globally."

Doug McMillon, President and CEO, Walmart (Walmart Investment Community Meeting, April 2023)

In the race to become the world's leading retailer, both the physical and digital realms matter—and the company that can close the digital gap in brick-and-mortar stores stands to win. Currently, Walmart leads the way. In 2023, the retail giant announced a $9 billion investment to remodel its existing stores into "stores of the future" and deploy electronic labels at thousands of locations.

But even if Walmart has an edge, the competition is heated. Other leading retailers have made technology investments that specifically focus on in-store operations. For example, in a recent study of retail executives, 99 percent of respondents predicted a surge of technology investments within a year, and 71 percent cited store operations as the priority for tech investments.[1] Some notable investments in technology for in-store operations include:

— **Sainsbury's** investment in high-returning technology within automation. In 2024, the retailer said that its "investments in machine learning and intelligent automation will bring greater speed and efficiency to decision-making in areas such as pricing, proposition, range, logistics, and sourcing."[2] Sainsbury's chief executive Simon Roberts highlighted automated checkouts and warehouse robots as well as AI forecasting tools to ensure they have the right stock in stores. The supermarket also announced in November 2023 its goal to increase in-store retail media touchpoints, doubling the number of in-store screens to provide the largest connected digital supermarket screen network.

— **Tesco** has more than quadrupled the size of its digital screen network over 2023 (1,800 screens at the end of 2023 across 420 Tesco stores, up from 400 at the beginning of 2023), as it pushes ahead on a major expansion of in-store media. Tesco chief commercial officer Ashwin Prasad said, "Using our unrivaled insight, we're able to give our customers advertising that is relevant to them, while at the same time giving our suppliers the opportunity to showcase their products in creative and innovative ways."[3]

— **Four grocery retailers**—Edeka (Germany), MC (Portugal), Shufersal (Israel), and Zabka (Poland)—forged an alliance called "The Disrupt Retail Initiative" in January 2024. This is a call for technology start-ups to establish partnerships and come up with cutting-edge solutions with a focus on three main areas: in-store operations, targeting in-store processes, elevating employee productivity, and enhancing overall shopper experiences; retail media as a new playground to communicate and engage with consumers within the store; and data and customer insights to convert data into actionable insights. Together, these retailers represent an ecosystem of around 22,000 stores, 500,000 associates, and €80 billion in revenue.[4]

These announcements highlight a sea change in how retailers view their brick-and-mortar (B&M) stores and trigger a few key questions from leaders curious about how they should proceed. In this whitepaper, we'll tackle the following important topics:

— Why retailers must invest in in-store digitization

— The use cases and supporting technologies behind the connected store

— The expected benefits related to these use cases

— How to start the journey, and the prerequisites for a connected store

[1] Survey conducted by SoftServe and Wakefield Research
[2] Sainsbury press release
[3] The Grocer
[4] Disrupt Retail

Mind the gap: digitizing the in-store experience

Looking at the current situation, a clear paradox quickly appears: while B&M stores are clearly one of the biggest assets of traditional retailers, most of the digital/IT capex investments over the past decade have been focused on other parts of the business, such as e-commerce delivery or online retail media. The physical store, except for checkout processes, appears as the forgotten component of digitization and ends up as an underutilized asset. You could argue it is not a surprise, as the goal of these investments has been to develop assets and capabilities that came on top of the traditional B&M stores. However, we now see a clear case of in-store digitization emerging, driven by key factors that include:

— **The rise of the omnichannel shopper.** From payments to delivery and returns, consumers expect to have the same fast and frictionless shopper experience in-store as they do online, especially when 80 percent of all shopping still happens in stores, according to the US National Retail Federation.

— **The new role of the store.** In an omnichannel environment, stores are not only places where clients come to buy, but they have become consumer interaction centers and logistic nodes.

— **A growing complexity and need for granularity.** Larger assortments, changing and fragmented consumer needs, and an imperative for more agile pricing in a context of inflation all tend to increase complexity in terms of in-store operations and category management decisions.

— **The retail labor shortage.** Increasing difficulty in recruiting and retaining talent, as well as rising labor costs, generate a growing need for partial or full automation. For example, 74 percent of retailers expect shortages in customer-facing positions in the coming year, even though they increased average hourly wages for retail front-line workers (+14 percent between 2019 and 2022). The National Retail Federation estimates that the US retail industry will face a shortage of 4.6 million workers by 2030, and all this happens at a moment when in-store employees need to perform even more tasks than before, such as picking products off the shelf to fulfill e-commerce orders, putting even more pressure on retailers' margins.

Photo by Rachael Rinchiuso
Kearney, Chicago

A new era of tech

The case for change is clear. Meanwhile, technology solutions are maturing, and related implementation costs are falling, allowing for improved ROI of in-store tech solutions. Digitizing a store involves deploying various capabilities and products to enhance operational efficiency and shopper experience. These key capabilities include:

— Computer vision using algorithms and machine learning to collect data and automate analysis and decision-making based on visual data, for instance allowing automated inventory changes and drastically improving inventory accuracy

— Artificial intelligence for personalized recommendations, demand forecasting, and optimizing inventory management

— Analytics for interpreting data collected from various sources within the store

— Cloud infrastructure to track, monitor, and manage retail IoT devices

— Centralized management systems that enable retailers to do media planning, data sharing, or remote control of pricing information within the store

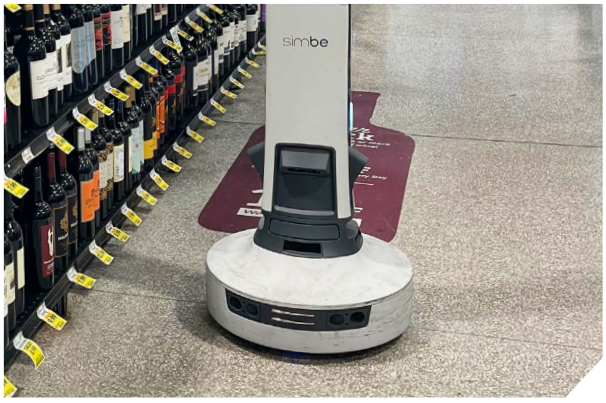
By leveraging these capabilities, retailers can create a digitally integrated store environment that improves efficiency, optimizes operations, and delivers a more personalized and convenient shopping experience. As an example, digital twin technology can create a virtual replica of a physical retail store through IoT sensors, enabling retailers to track and optimize real-time product movement.

The most prominent technologies/hardware that retailers are focusing on include:

— **Electronic shelf labels (ESLs):** digital displays attached to store shelves that can dynamically present pricing information, product details, or even additional information for the largest ones (for example, QR code directing to product ratings or shopper reviews, and advertisement campaigns) and that can light up when needed to help employees navigate the store or the storage areas

— **Micro-cameras:** wireless shelf-edge cameras designed to capture and analyze data related to shelves in real time, which can then be analyzed through CV/AI depending on signal taxonomy

— **Robots:** in-store robots equipped with cameras and sensors that autonomously scan and monitor shelves, providing real-time data, or robots programmed to assist shoppers



— **Radio-frequency identification (RFID):** technology that uses wireless communication to identify and track objects through small electronic tags, providing real-time data on item location, shipment status, and enabling inventory reconciliation with unparalleled accuracy when combined with machine learning

— **Sensors:** can encompass motion/infrared sensors that help retailers analyze shopper traffic patterns, temperature and humidity sensors to monitor specific conditions (for example, for perishable goods), or weight sensors on shelves that track inventory levels in real time

— **Dynamic displays:** provide information through digital/smart screens, enhancing shopper interaction

Digitized in-store operations allows stores to ensure compliance and increase teams' efficiency.

Introducing the store of tomorrow

Now let's step into the store of tomorrow, a highly automated and technology-driven retail space with a wide range of applications. Pricing is dynamically adjusted through automation. Advanced technologies such as RFID or IoT ensure no more out-of-stock situations and shelf tidiness. As employees navigate through the aisles, a pick location system guides them to the exact spots, enabling efficient order fulfillment and speeding up the process. Even better, customers can benefit from an enhanced shopper experience thanks to retail media, product QR codes, customization, and AI algorithms becoming their shopping companions (see figure 1 on page 5). These various use cases can be grouped into three main buckets:

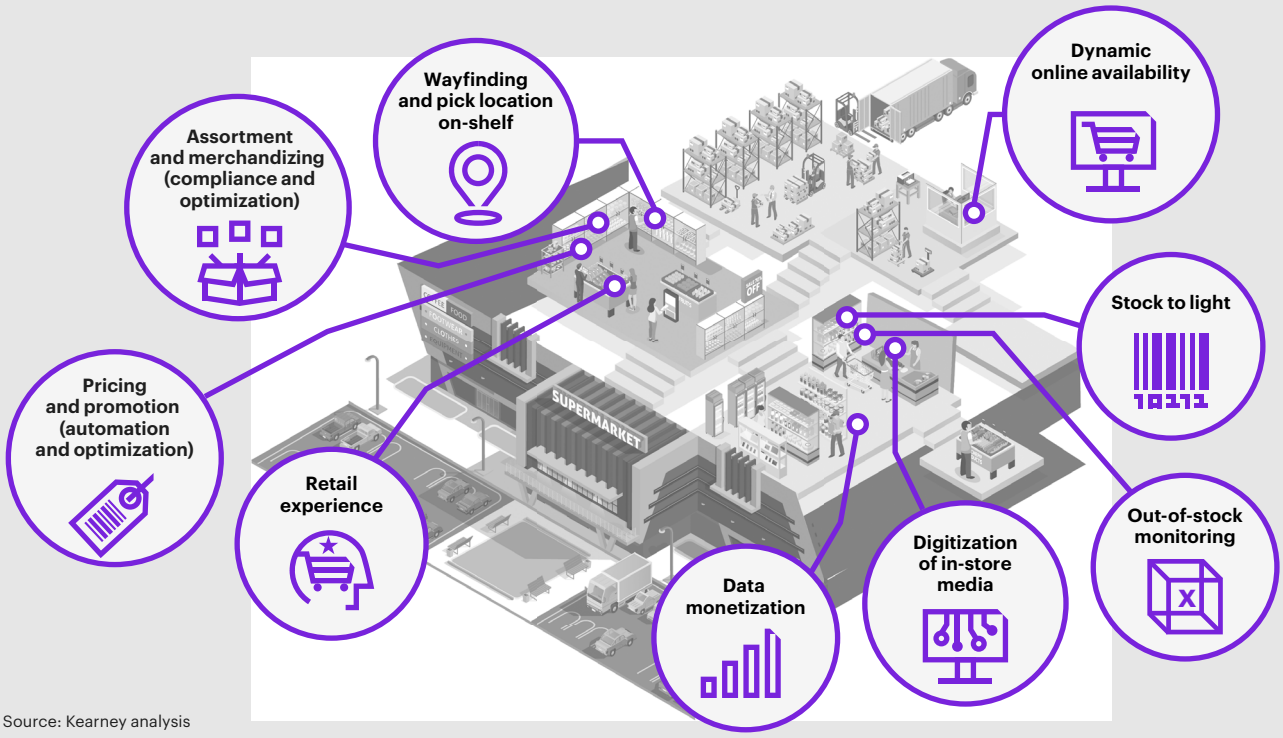
— **Digitized in-store operations** allowing stores to ensure compliance and increase teams' efficiency. Pricing, assortment, and planogram compliance are guaranteed with limited human errors and increased efficiency. Out-of-stock is carefully monitored thanks to electronic labels or RFID tags, tracking products in real time and enabling micro-location of products with an inventory accuracy rate greater than 99 percent.

— **Data-driven commerce** enabling fact-based decision-making, stronger agility in implementation, and precision commerce. Prices are adjusted in real time based on demand, supply, competition, and other market fluctuations. Retailers can track assortment performance with a better understanding of winning/failing SKUs, as well as merchandising, with shelf-edge micro-cameras capturing photos every 30 minutes to visualize in real time what shoppers see in store.

— **Connected retail** opening the way to true omnichannel data monetization, and CPG collaboration, as well as physical retail media. The store becomes fully connected with dynamic displays showing the latest marketing advertisements, with the ability to clearly monitor and monetize campaign results. Omnichannel strategy is facilitated with better online-to-offline synchronization and higher shopper NPS.

Figure 1

The store of tomorrow will be a highly automated and technology-driven retail space



Source: Kearney analysis

Digitized store operations

The most common use case for store digitization is in streamlining and optimizing store operations.

In-store compliance guaranteed

As Peter Drucker said, "You can't improve what you don't measure." Yet the reality for many retailers is that the store remains an opaque world, subject to few precise measurements, and therefore harboring untapped potential for optimization. You know what goes in, you know what comes out, but you don't know exactly what's going on.

The various technologies that are now mature, affordable, and deployable at scale (electronic price tags, computer vision, robots, RFID, AI-based analytics) can generate a broad range of data, providing real-time or near-real-time information on what life is really like in a store. The first benefit of knowing what's happening in-store is compliance with prices, assortments, planograms, and promotions.

Let's start with price compliance. Against a backdrop of increasing volatility, securing price integrity is more important than ever. The switch from paper to electronic price labels results in the percentage of mispriced products falling from 7 to 8 percent to less than 1 percent once the risks of human error or implementation delays have been eliminated. Going beyond and getting close to 100 percent compliance on pricing requires having the right price in front of the right product and avoiding shelf placement errors that don't position the product above the right label. To achieve this, computer vision and artificial intelligence, using micro-cameras to recognize products and labels, can detect any mismatch between price labels (paper or electronic) and products. All in all, this addresses one of shoppers' most basic expectations and one of their most common irritants, simply and completely.

Schnucks: From planogram to real-o-gram

To ensure greater in-store compliance and efficiency, US grocery retailer Schnucks now relies on robots from Simbe—advanced autonomous computer-vision robots navigating store aisles, scanning shelves, and collecting inventory data. Equipped with sensors and cameras, these robots can identify misplaced items, detect out-of-stock (OOS) products, and monitor shelf conditions. "The store is the last area of retail that is not digitized today. However, this is where buying decisions are taking place. The objective is to turn shelves into data, giving retailers full visibility of what is happening in their stores," explains Benjamin Bond, VP of strategy and business development at Simbe.

Schnucks has deployed this solution in its stores since 2017. "With precise positioning, Simbe robots are able to build a real-o-gram of the store, so we do not have to rely solely on planogram data to know where items are in the store, and for that matter, what items are in the store. This information can also be displayed in our shopper app, Schnucks Rewards, so customers are able to quickly locate an item. When this is integrated into the ESLs, not only can the customer quickly get to the aisle/side/segment where the item is located, they can flash a light on the tag if they need help finding the item," explains Dave Steck, vice president of IT – store and emerging technologies at Schnucks. Overall, stock condition improved by 30 percent after the implementation, with Tally robot finding up to 10 times more OOS items than manual audits. Schnucks gets a positive annual ROI from on-shelf availability improvements alone, though price, promotion, planogram compliance, and item location are also value-added use cases.

The second topic is assortment compliance. Of course, even before digitizing their stores, retailers can use a broad data set to assess actual product holdings and compare them with the range designed by category managers. This is becoming increasingly effective as algorithms analyzing sales and stock data become more and more powerful. But it's not enough, as inventory data is often false and sales data is less relevant for most slow-runner products, for which sales remain an "accident." Therefore, it's quite possible to waste precious time in failing to detect an assortment gap. Fresher, more reliable information is available via the IoT in-store. The presence of an electronic price tag for a product is the first reliable indicator of whether the product is actually held in-store, and product recognition via computer vision means that the store's actual assortment can be counted several times a day.

Another major issue is planogram compliance. A planogram is the final translation of the merchant strategy, resulting from numerous shopper studies, data analyses, and rounds of negotiations with suppliers. Ensuring a planogram is perfectly executed on a module, without any degradation, is a holy grail for retailers. And yet, due to out-of-stocks, mistakes in implementation, and lack of control over time, there's a world of difference between what's designed at the headquarters level and what happens in real life. Computer vision and geolocation of electronic labels, made possible by the recent introduction of Bluetooth as a communication protocol, facilitate both a priori compliance and a posteriori controls (see sidebar: Schnucks: From planogram to real-o-gram).

Last but not least, the execution of promotions. Think of the time spent on promotions by many players at the retailer and its suppliers. For many purchasing and category management teams, this could represent up to 50 percent of their time. And yet flawless execution rarely happens for a variety of reasons: failure to receive the right quantities of promotional products, specific physical constraints of a store, staff shortages, a store manager's desire to prioritize margin over sales, and human error. Computer vision may not solve all of these issues, but it does reveal what has been implemented, where, with what level of staging, what signage, and so on. This information is, of course, of enormous value to headquarters teams, as well as suppliers (we'll come back to the latter).

Monoprix: Solving stockouts

In certain stores, the French grocery retailer Monoprix sometimes experienced 1,000 to 1,500 stockouts—close to 10 percent of assortment. In 2021, the retailer launched the "eye of the shopper" project to solve this issue. Today, about 1,000,000 ESL and roughly 1,200 cameras are deployed in 97 stores (on average, one store is equipped with 10,000 ESL and 120 cameras). How does it work? When a camera detects a gap on shelves, employees receive real-time out-of-stock alerts on their smartphones. They then can filter through the store's 500 best sellers or on products on promotion to immediately refill these products in priority.

The retailer has gained 2 to 3 points in average product availability in the 97 shops equipped, corresponding to +1.2 points in turnover per shop.[6] "We think we can find another 1 point of availability if we focus on afternoon restocking by reallocating our morning resources to the afternoon. Some stores even increased their on-shelf-availability (OSA) by 6 points," claims Antoine Ancian, director of operations.

The technologies also make it possible to compare stores. "We noticed that one store had 300 stockouts while another one 10 minutes away had 1,500 stockouts. This allowed us to direct our efforts better." Ancian also mentions an "emulation effect" among employees who challenge each other to reach OSA record levels.

Higher productivity enabled the retailer to save 1.5 hours per employee per day thanks to the automation of manual scanning of gaps in shelves by employees, which represents 39,000 hours gained per year in total. The customer NPS has risen "by 7 points in some stores."

[5] Simbe
[6] LSA

Efficiency is the name of the game

Beyond compliance, another major benefit of technology for in-store operations is, of course, efficiency. Below, we illustrate three different topics (out-of-stock, waste, and e-commerce order picking), but the list is already growing and will be much longer in the future.

Retailers have been promising to tackle the problem of out-of-stock products for decades. In food retail, it is generally accepted that the actual rate of out-of-stock is around 7 percent and that around a third of these out-of-stocks are lost sales. We're talking about billions lost every year. We're also talking about customer dissatisfaction: out-of-stocks are often the first reason mentioned in the verbatims associated with negative NPS.

All the players in the value chain are involved, but in most cases, around 50 percent of stockouts have their root cause in the store. The use of computer vision to address this problem is particularly relevant. Based on the pictures generated several times a day, all that's left to do is to integrate the actual out-of-stock data into a suitable process: prioritize tasks according to predefined alert thresholds, integrate the sales impact for each SKU, and routinize the required re-stocking tasks. At several retailers surveyed, implementing such solutions and processes has reduced the average out-of-stock rate by 3 points while increasing productivity. Several computer vision solutions are available to retailers, from mobile solutions to micro-cameras and robots. The size of your store, its customer flows, its stockout challenges, product turns, and various physical constraints should guide you in choosing the right option.

Out-of-stocks can be monitored thanks to robots (for example, Simbe Technologies) or shelf-edge micro-cameras (for instance, Captana from Vusion). Both capture photos every 30 minutes to visualize in real time what shoppers see in the store (see sidebar: Monoprix: Solving stockouts).

And this doesn't compromise the shopper experience. On the contrary, the majority of shoppers (about 77 percent) favor stores with robots, and only 4 percent report negative attitudes to the presence of the technology.[5]

Freshflow: Reducing food waste

"The fresh food shelf is like a visiting card and can be a retailer's key differentiator. However, it is usually super under-invested in and unattractive in stores," explains Avik Mukhija, CEO and co-founder of Freshflow. Traditional forecasting systems have already been used by retailers for decades, but they generally don't cover fresh produce, which is still ordered based on intuition and feel, due to the unique challenges fresh produce poses. The Berlin-based start-up Freshflow has decided to tackle this issue, acting as an AI-powered ordering tool for fresh produce departments. "What we observe is that retailers are able to reduce waste by 20 percent on average and boost their revenue by 2 percent," Mukhija added. Moreover, this AI-powered platform can be seen as an alternative to fight against the skilled labor shortage in retail and the challenges of hiring and retaining managers.

RFID provides another example. Thanks to RFID tags, each item can be tracked from manufacture to sale in real time at the unit level. The retailer will thus have, for each unit item at each of its movements, its new location and its availability for sale status with a reliability of more than 99.8 percent. "When in-store product references have limited stock depth, we need to track the precise location of the item and availability to promise. Is it in the back stock? In the fitting room? In the employee's hand? Then we update the status of availability for sale in real time," Yves Curtat, CEO of Retail Reload, explained. "This reduces the two main shopper pain points: long customer waiting time and stock unavailability," he added. At Lacoste, it is a key asset when more than 50 percent of SKUs have 1 or 2 stock depth in store. Not only for in-store sales but also for omnichannel purposes, it allows the cutting of security stock buffers at the OMS level.

The fight against food waste provides another use case. This is not only a major economic issue but also a major ESG one since it accounts for 8 to 10 percent of man-made greenhouse gas emissions globally.[7] Several proven software platforms are on the market today for better management of packaged products with short shelf life. They automate and routinize key steps, from detecting short-dated products on the shelf to making the right decisions based on the relevant indicators and algorithms and planning and automating actions (price relabeling, donation). These platforms can be linked to electronic labels or computer vision to make locating the references to be managed easier.

When it comes to fresh items, particularly fruit and vegetables, the issue of waste is crucial. Unfortunately, this sector has historically too often benefitted from almost no tech investment. In addition to the greater difficulty of forecasting sales (today solvable via the right algorithms), the central problem is the low quality of stock data. New AI-based solutions, known as "perfect order," enable retailers to better approximate actual inventories and automate orders as close as possible to requirements. Companies such as Smartway, IDA, and Freshflow have already successfully implemented these solutions in thousands of stores. Couple these solutions with computer vision to capture the reality of the fulfillment of fresh shelves (and even the freshness of certain fruits and vegetables), and it's possible to reduce waste and drastically increase the quality of fresh produce (see sidebar: Freshflow: Reducing food waste).

[7] Intergovernmental Panel on Climate Change

Our last illustration highlights the in-store preparation of e-commerce orders. The volume of orders to be prepared in-store is growing fast and is not about to stop. This is primarily because e-commerce will continue to record double-digit growth (and account for most of retailers' growth). But it's also because automated central warehouses have shown their limits (high capex, heavy carbon impact, economic relevance essentially for densely populated areas).

The future of e-commerce preparation will largely be played out in-store, especially for smaller retailers that do not have the scale to make standalone fulfillment centers work. This will be achieved through automated micro-fulfillment centers (MFCs) focused on fast-moving items, as well as digitalized preparation processes. In-store IoT can make this much more productive and efficient. The target scheme can be summed up as follows: the employee is guided through the store, detects the product to be picked by the flashing of an electronic tag (it's even possible for the tag's Bluetooth to detect the employee's PDA and flash as soon as they approach the shelf), and then loads the product into a tote dedicated to an order. The tote is equipped with an IoT, ensuring that the product is placed in the right one. These totes remain geolocated throughout the process, and their staging in the back room can be matched to the customer's delivery or collection schedule. The impact of digitizing and automating in-store e-commerce preparation is major: productivity gains of 15 to 30 percent and a significant increase in order compliance.

We don't aim to create an exhaustive list of all the technology use cases for store operations, but there are multiple. For example, we could also detail how technology can make shelf-filling activities more productive (stock-to-light), optimize production planning in fresh workshops (by integrating data from computer vision), and improve customer service in non-food retailing (inventory accuracy and product location via RFID).

Data-driven commerce

The benefits of in-store technology extend beyond in-store operations. Transparency and agility can revolutionize commerce. **Starting with merchandise, it's staggering to think that most commercial decisions today are based on false historical data.**

Transparency on real data

As previously mentioned, there are major discrepancies between what is designed at the headquarters and reality, given difficulty to maintain planograms over time. Also, even on the first day of a new store opening, a store rarely complies 100 percent with the merchandising plan. This may be because the supplier's sales force is more focused on what works instead of perfection or because of physical peculiarities (aisle size slightly different, presence of a pole, and so on). Knowing the actual horizontal and vertical position of each reference and its number of facings every day gives you the necessary data to judge the real commercial performance of merchandising as it is carried out.

Merchandising can also be optimized thanks to new insights into customer flows and in-store behavior with new technologies proposed by Amoobi, for example. 3D cameras make it possible to precisely track shoppers' routes, their proximity to each module, their path, and time spent in each aisle. This technology comes at a cost and is not intended to be deployed across an entire network, but it does enable merchandising managers, based on a sample of stores, to gain a better understanding of customer behavior, their keys to entry into the category, and to reorganize merchandising to better capture opportunities.

Assortment decisions are no exception to this revolution either. Assessing the performance of a SKU without knowing its presence, positioning, and facings is a perilous exercise. How many product innovations have seen their destiny thwarted by a biased analysis, concluding that their sales potential was too low, while in reality, their distribution ramp-up went too slow or their visibility was too poor? How many direct store delivery (DSD) local or niche products have been delisted for the same reasons, simply because the ordering process got bogged down due to false stock information? How many retailers put themselves in the hands of suppliers, who perform rack-jobbing, and are incapable of knowing the reality of their assortment? Knowing at any given moment the reality of the product presence and its shelf positioning means being able to assess the assortment performance and make the right decisions.

Equally, the performance of a promotion can rarely be dissociated from its execution. Knowing the reality of a promotion means being able to benchmark the performance of promotions between stores depending on the quality of execution. This enables you to identify, by point of sales, the real full potential of each promotion and how to adapt the order quantities for future campaigns. Think of all the time and intelligence spent on promotional planning in every link of the chain. And consider that this whole process is carried out today without any real insight into how past promotions were executed. We believe integrating computer vision data into the promotional process could improve the quality of forecasts and orders by more than 5 points, and promotional sales by more than 2 points.

Access to actual data can also drive better supply chain decisions. Such data can be used to identify, at any given moment, the products and product categories presenting a supply problem and to better and more rapidly pinpoint the real root causes. We can immediately think of identifying service-level issues. But the day-to-day reality is also very often made of anomalies and desynchronizations in IT flows, items that can't be ordered for no good reason, exceptional sales detected too slowly, sales potential and linear capacity incorrectly set for new products with no history. For all these causes, having the freshest, most reliable information at your disposal and knowing how to combine it with sales and customer data is absolutely crucial to making the right diagnosis. It is then possible for the supply chain to trigger the relevant actions, which can take many forms: penalizing deficient suppliers, listing new suppliers, modifying the frequency of deliveries, increasing order coefficients on substitute references, corrective action plans with IT, and so on. This means you can better optimize your supply costs and, even more importantly, maximize sales. Ultimately, an integrated supply chain should not operate with an opaque link between store deliveries and checkouts. It must be able to understand the reality of the entity it serves to be able to optimize its operations.

Technology enables agility

Investing in store technology also means creating the opportunity to react more quickly to the constant changes impacting retail. This is particularly relevant to price and promotion management. For most retail verticals, every penny counts. And the current context only reinforces this point: inflation and concerns about purchasing power, combined with consumers' access to real price transparency and comparability between competing banners, put very strong pressure on the quality of price decisions. It's not unusual for consumers to combine digital and physical channels while shopping. Shoppers can research product content online before going to brick-and-mortar stores or do the opposite. Indeed, 72 percent of adults in North America use their smartphones to research price comparisons while shopping in-store.[8]

A store with electronic price tags can change and optimize its prices anytime. The benefits are manifold: the ability to react immediately to a competitor's price attack, quickly pass through COGS inflation and avoid a margin squeeze, A/B test different pricing scenarios, or even carry out yield management pricing and adjust prices according to the day or time in the day. Some grocery retailers use Blue Yonder solution for better fresh food management with fruits and vegetables intra-day pricing based on external signals such as meteorological conditions, thus improving margin and sell-through. As all pricing professionals can attest, automating price management can generate several basis points of additional margin (+0.3–0.5 points on average).

The same agility will increasingly benefit promotions. The end of paper leaflets as a traditional communication medium is looming and gathering pace around the world, which means there is new room to maneuver. Once you are no longer tied to a physical object that requires anticipation and remains in your customer's hands, it becomes possible to differentiate promotional prices between stores, evolve them according to performance, and extend them in the event of poor stock clearance.

[8] 1 WorldSync data

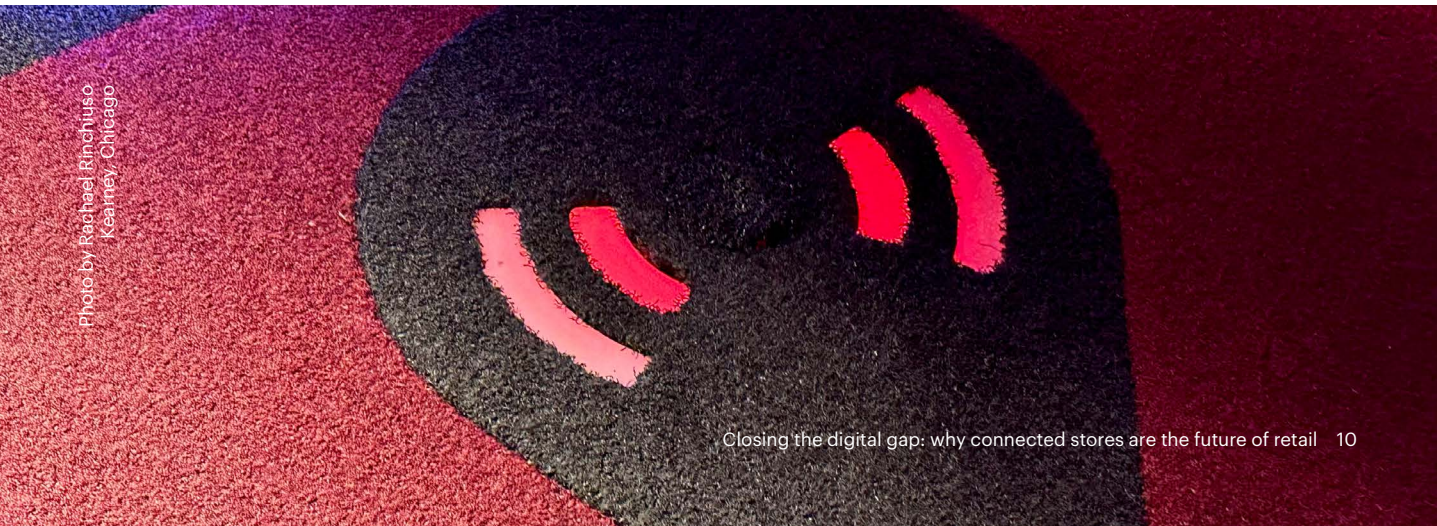


Photo by Rachael Rinchuso
Kearney, Chicago

In fresh, offers and merchandising vary much more frequently than in grocery. Computer vision enables you to adapt at any moment. Imagine the start of cherry season. It lasts six weeks. If you constantly know which store displayed cherries correctly from day 1 of the season, you won't miss a single day of sales. Now, imagine that the thermometer goes crazy. Watermelons will then potentially account for half of your fruit sales. Knowing how each store has promoted its melon enables you to set up the right alert systems and correct poor executions. One last example: today, your customers are flocking to ice cream and abandoning pastries. If you monitor the filling of your bakery shelf fulfillment, you'll be able to adjust your pastry production plan and limit markdowns.

The most untapped source of value: precision commerce

Digitizing stores also enables them to make more granular decisions, customized by store, and win the battle of precision commerce. Sales are a daily challenge in mature, low-growth, highly competitive economies. The ability to adapt offers, merchandising, prices, and promotions to the exact needs of local customers is a major competitive advantage. In-store technology enables us not only to assess the local potential (based on execution reality) but also to materialize it by designing and implementing 100 percent store-specific plans. This is as true for the assortment as for the merchandising plan and promotions. The essence of digitization is to digest a complexity that conventional human processes cannot apprehend. We estimate a potential of 0.5 to 1 pt of additional growth associated with this precision commerce.

Take space allocation, for example. Few retailers today can boast a reliable process for knowing the reality of each store's space allocation, both at the macro level (layout and category distribution) and micro level (by merchandising module). This is possible, however, either by capitalizing on the geolocation of electronic price tags that operate with a Bluetooth protocol or with the help of computer vision (micro-cameras or robots). Knowing the reality is not enough. What remains is to combine this data with the sales and customer data for each store and use powerful algorithms to analyze which aisles or modules have already saturated their potential, which ones can be rationalized, and which have growth potential. This makes it possible to optimize space reallocation for each store while, of course, respecting the basics of the retailer's concept. It's a simple lever in that it needs to be done thoroughly once and only requires marginal updates once a year. This lever often has a greater impact than the allocation of facings to each SKU.

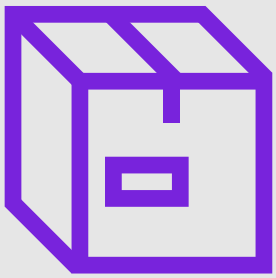
Another application for precision commerce is the customization of assortment and merchandising by store. Once you know the linear capacity of each of your modules and the sales and shoppers' behavior, you can adapt your offer and your merchandising. If you're focused on productivity, you can optimize the number of facings, pallets, or half-pallets per store to maximize filling efficiency and avoid any return to the back room. If you're focused on product diversity, you can adjust these same variables as precisely as possible to make room for more SKUs. And in any case, you can select the right SKUs, store by store. This work of curating the offer is an increasingly critical challenge for retailers in times when the number of available references is constantly increasing, following the hyper-segmentation of the leading brands, the strong priority given to private labels, and the rapid development of local and insurgent brands. Digitizing stores gives new room to maneuver and enables more relevant curation. In short, digitizing stores frees you from operational and human constraints and enables you to make more granular commercial decisions based on the data and customer needs of each store.

Expanding shopper services

For many years now, the main area of shopper service impacted by technology is checkout. Several solutions have been tested and even deployed in stores, from product scanning to just walk-out, from queue management to self-checkout. They are all designed to tackle two major problems: the friction of queuing at the checkout and the high cost of dedicated staff for the retailer. Extensive literature already exists on the topic, and we won't dwell on it for too long. Let us simply confirm that the financial and commercial stakes are high and that the grail has not yet been found. However, it is extremely important not to miss out on the opportunities that are already available by making sure that all the parameters of the equation are taken into account, including customer satisfaction, staff cost savings, impact on sales, and theft.

Retail Reload: Full transparency through RFID

RFID is not adapted to all retailers. "Switching to RFID requires an RFID tag to be fitted to each product at the cost of around 5 cents, plus any fitting costs for non-vertical distribution models that cannot have their suppliers fit them at the factory," Yves Curtat, CEO of Retail Reload, explains. This excludes food retailers, whose margins are too low and volumes too high to install tags in their warehouses, which would cost them an additional 15 to 20 cents in labor costs. Distributors of sports brands such as Intersport are exempt from this rule, as 60 to 70 percent of their volumes are now made by international brands such as Nike, Adidas, and Asics, who place RFID tags on their products themselves. These distributors only have their own brands left to be tagged at the suppliers' factories, as well as a few international brands. Eyewear retailers, on the other hand, can afford to tag their products in the warehouse, given their high margins and relatively small volumes. For department stores that already re-label their products, the business process exists, so it's transparent for them (apart from the cost of the tags). The most natural candidates are retailers with vertical models in the luxury, fashion, and footwear sectors.



Another field of customer service impacted by in-store technology is customer assistance. At Lacoste, the number-one factor for non-conversion is the customer waiting time; this is the main operational KPI for store team daily management and backstock reorganization on a weekly basis. Most non-food click-and-mortar retailers have already equipped their in-store sales staff with devices enabling them to access their extended online offer, which can be proposed to the customer in click-and-collect or home delivery modes. This has been one of click-and-mortar's key responses to the onslaught of pure players, and it is, of course, crucial to secure what is now a basic service. Another component of sales assistance is rapid access to accurate knowledge of in-store product availability and location. RFID makes this possible (see sidebar: Retail Reload: When RFID works).

In-store technology opens up the possibility of adding service where traditionally there has been little, namely in self-service verticals, particularly in the food sector. Many retailers already offer way-finding services in-store, enabling customers to easily get to the right aisle. It is also possible to make it easier to find a product by indicating its location and by flashing its electronic price tag. These services are generally provided via the retailer's application or by scanning a QR code in-store. They presuppose reliable digitization of the store layout and the ability to geolocate products, but all this is now accessible with the aforementioned IoTs.

More recent developments include access to a wealth of product information (ingredients, carbon footprint, nutritional score, technical specifications, and so on), and even augmented reality platforms to recreate in-store the experience shoppers would have if they were browsing the banner or brand's website, including the possibility of filtering product searches according to various criteria (price, pack size, brand, product specifications, and so on). But the most interesting is undoubtedly yet to come, with the emergence of services based on AI, particularly language-based AI. This will enable stores to deliver the same service but with much less friction (no QR code scanning or multi-step search). In the very near future, we can see a whole range of services emerging based on the simple opening of a store's application and language recognition, making it possible to filter products, locate them, and benefit from personalized offers.

The stores of the future are connected

As seen before, store digitization significantly impacts in-store operations, commerce, and supply chain. But benefits don't stop at the store. In fact, if we take a step back, the challenge is to transform the store into a digital node fully connected to the rest of the ecosystem, opening the way to a true omnichannel model and creating opportunities for further collaboration with CPGs around data monetization and retail media.

Omnichannel is more than a buzzword

As e-commerce grows, synchronizing stores and online becomes more crucial. Digitizing stores enables seamless integration with e-commerce in a range of activities.

It starts with pricing. Shoppers benchmark prices online between e-commerce sites, but they expect to find the same price in stores. Equipping stores with price automation secures an easy alignment between both online and offline prices. This has been historically a challenge for many stores. Indeed, prices tend to change more often online, where price competition is very high (due to the ability of e-shoppers to easily compare prices) and price changes are effortless. Stores couldn't keep up the pace if they had to change paper tags manually.

Photo by Rachael Rinchiuso
Kearney, Chicago

But it's also about availability. The most basic promise is often not met yet: ensure that the online shopper is not buying items that end up being out of stock in the store serving the order. By digitizing stores, you both improve the quality of the inventory data at the item level and instantly inform e-commerce about an out-of-stock and de-publish the related item (until it goes back to stock and then instantly re-publish it). This is important for home delivery orders and even more crucial for click-and-collect. Imagine a mom or dad shopping online for a toy for their kid during the Christmas season. While the item may be included in a broader grocery order, it may be the main reason for driving to your store. If this shopper collects the order with no toy, you can imagine the disappointment. Let's pull the thread. Retailers are well aware of this risk. So, what do they do? They just do not publish online items for which they are not confident about the inventory data. Store digitization gives the opportunity to publish a broader range and generate additional revenues. This is typically the case for seasonal general merchandise that many click-and-mortars don't publish online or de-publish as soon as the item store inventory goes below three or five units. Maximizing the publication of these categories can increase the average online basket size by up to $4 or $5.

And connecting stores to other stores. Many retailers are engaged in a multi-format strategy, developing different sizes of stores under the same banner to serve different shopper missions. It has been the case for decades in grocery with banners such as Tesco, Carrefour, and others hosting under almost the same brand-name hypermarkets, supermarkets, and convenience stores. It is increasingly true in other verticals like DIY or home improvement that try to capture the potential for expansion in city centers with a narrower assortment and complementary services. Following that logic, bigger stores often become hubs serving the smaller ones. It can be a hypermarket fresh counter preparing bakery for a network of smaller stores or a DIY large store preparing e-commerce orders for a city center store. Conceptually, this is great. Operationally, it requires accuracy, efficiency, and agility to ensure a good quality of service and operate at the lowest cost level possible. Store digitization makes this possible, for all the reasons mentioned before.

Monetize retail assets and collaborate with suppliers

Connected retail is not just about going beyond the boundaries of the store to truly become omnichannel or integrate with the supply chain, it's also about going beyond the boundaries of the retailer and connecting to the ecosystem of suppliers. First of all, it's worthwhile noting that all the work on compliance has a positive impact on supplier relationships. The ability to do what you said builds a banner's credibility with its partners. Suppliers also count every penny, and when they have to arbitrate investments between customer brands, they naturally take into account their retailer customer's ability to carry out what has been bitterly negotiated.

But even more importantly, suppliers are extremely hungry for fresh, reliable information about what's happening in-store. Think of all the money spent on financing field sales forces, who have to visit stores without having a reliable diagnosis of the problems to be addressed. That's not to mention the money spent developing new products, whose in-store presence and visibility vary, and on designing and negotiating a promotional plan whose performance largely depends on the way it is theatricalized on the shop floor. Then you still have to negotiate shelf shares and merchandising plans whose execution, as we have seen, deteriorates a bit more every week, and build safety stocks to compensate for a lack of transparency in the value chain. The data generated by the digitalization of stores is, therefore, without doubt, a true goldmine for brands.

In this context, what is there to share? First, we would like to stress that some retailers still fear losing control and exposing themselves to complaints from their suppliers, but this concern is largely unfounded. The reality is that the data concerned is hardly controversial, and the actions arising from their analysis are almost always win–win. Maximizing availability is in everyone's interest, as is the success of a promotional campaign and increasing the presence of a new product. Unless the negotiation was a fool's bargain and structurally designed as such, suppliers are quite used to living with execution problems in stores and will spend far more energy resolving them than blaming retailers. And that's why they like this data—because they can use it to take immediate, highly operational action without having to go through a round of negotiations with their buyer.

The opportunity for in-store media

In addition to sharing data and insights, the other major topic that is receiving increasing attention from retailers is monetizing in-store traffic and space through in-store retail media. As mentioned before, in recent years, retailers have invested in new capabilities to develop an online retail media offering and not leave 100 percent of this opportunity to Amazon and other pure players. But they have neglected the heart of their traffic and power: the store. Many still confine themselves to a basic offer, mixing a bit of digital out of home (DOOH) with small paper shelf talkers. Numerous digital solutions are now emerging to convert the store into real media, as close as possible to the customer's purchase decision. The recent announcements of Walmart Connect's acquisition of Vizio, Criteo's acquisition of Brandcrush, and Tesco's massive deployment of digital media solutions are all symptomatic of this growing interest in monetizing in-store traffic. Capturing the potential of digitized in-store retail media requires combining the implementation of diverse digital touchpoints, operating them via a dedicated CMS, and integrating high-performance analytical services upstream and downstream of campaigns. All this is now available.

A wide range of hardware dedicated to in-store retail media is available on the market, from classic LCD screens with the potential for visual recognition and flow counting, to full-color e-paper screens in various formats that can be integrated into aisles and end caps throughout the customer journey, via video rails or even the publication of content on electronic price tags. Tapping into these devices leads to the integration of a complementary inventory of touchpoints seamlessly and granularly into a store's concept, turning it into real media available to brands. The analytical services that accompany this offer must and can meet brand expectations. Before campaigns, sales and customer data analysis enables brands to target stores and periods of the year with the highest potential for additional sales. During campaigns, execution and impact monitoring can be shared in near-real time, leading to decisions to change content or correct execution. Post-campaign, rich campaign measurements should include sales impact (penetration, re-purchase, basket by customer segment and store) and even insights into customer exposure (number of impressions, dwell time). In any case, the various systems already in place prove that double-digit sales uplifts can be generated for brands during a campaign, which is hardly surprising, given the extreme proximity of these campaigns to the act of purchasing.

The benefits for retailers and brands are numerous: total agility of inventory, reliable and proven execution, elimination of all the installation and removal costs currently associated with single-use paper, superior analytical capabilities, and even a growing potential for personalization. Today, very few players are approaching the full potential of digitizing in-store retail media. We estimate that, at cruising speed, revenues of between 0.5 and 1 percent of sales are achievable.

Very few players are approaching the full potential of digitizing in-store retail media.

The end-to-end business case for connected stores

When it comes to the business case, there is no one-size-fits-all answer, as expected benefits and costs will highly depend on the specificities of each retailer and, in some cases, on the store. Many dimensions should be considered, such as:

— **Retailer revenue and growth.** While most technologies require specific investments on a store-by-store basis, we also see significant fixed costs (for example, the creation of the supporting analytics/algorithms and project costs). Economies of scale will allow for better ROI. In parallel, the scale will allow for better deals with tech solution providers, also driving ROI.

— **Format mix and store specificities.** In larger stores, benefits related to efficient traffic navigation, inventory management, and overall in-store operations efficiency will typically be even higher.

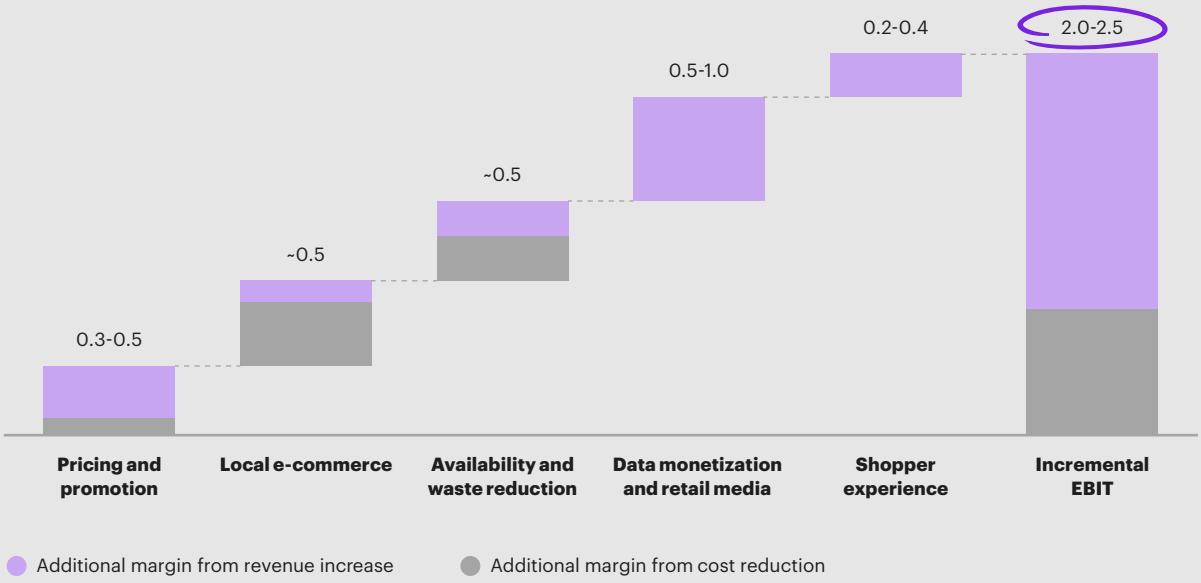
— **Category mix.** For products that have a high turnover rate, digitization can improve inventory accuracy and help in managing frequent product rotations efficiently; categories with slow-moving items may use digitization to implement targeted promotions, reduce excess stock, and minimize losses.

— **Retailer strategy.** Broader retailer strategy directly impacts the potential related to in-store digitization. For instance, the level of collaboration with suppliers or the share of A-brands versus private label will drive the potential for monetization with suppliers.

The impacts will vary according to the industry: food, electronics, furniture, beauty, and so on. By extrapolating the business case on the basis of a grocery store (for example, average hypermarket) and combining all use cases detailed in the previous pages, retailers can expect to achieve up to 2.5 points of additional operating margin. This could be a game changer for company valuation in low-margin industries. The details of the margin increase can be found through an illustration of the grocery industry (see figure 2).

Figure 2
Retailers can expect to achieve up to 2.5 points of additional operating margin

Incremental % of operating margin driven by in-store digitization



Source: Kearney analysis

There's also a first-mover advantage to introducing tech capabilities in-store, which has direct advantages for retailers. The latter includes collecting reliable consumer data or enhanced relationships with suppliers, compared to competitors not implementing any of these use cases mentioned. The technologies mentioned above can benefit from a quick installation coupled with a few days' training for employees. For instance, installation time for electronic labels and/or cameras in-store is estimated between half a day and five days, depending on retailers and store size. Recently, the entry cost of technology has decreased while IoT has also evolved, offering more functionalities. Payback is estimated at 6 to 18 months on average depending on technology chosen and the diversity of use cases.[9]

Each technology can enable multiple use cases. Therefore, business cases should be calculated based on combined use cases. To maximize the benefits of technology adoption and reduce payback, retailers should explore synergies through mutualization—pooling investments for multiple applications that share commonalities in technology. This approach allows retailers to achieve economies of scale and leverage the synergies between various use cases.

Two notable examples of this mutualization strategy are ESL and cameras. Initially introduced for price automation, ESL have evolved beyond their primary function and are now employed for planogram management, retail media, and picking systems. Similarly, cameras, initially utilized for accurate price execution, have found application in planogram management, inventory optimization, and even fresh product production planning. This expansion of use cases demonstrates how a technology, when effectively harnessed, can deliver multifaceted benefits across different aspects of retail operations. The more solutions and use cases that are integrated, the more the ROI increases.

A direct impact on shopper satisfaction with seamless experience

For grocery shoppers, long lines and out-of-stock are among their biggest pains. Looking at shopper complaints, pricing errors in-store and lack of order compliance (incomplete order, product mismatch or defect) are among the most recurrent. Luckily, store automation technology can solve these issues. By avoiding manual scanning, self-checkout relying on RFID or computer vision minimizes friction associated with long queuing. Another major benefit related to the use of digitization (ESL primarily) is the capacity to eliminate both pricing and picking errors (<1 percent) with a positive impact on shopper NPS. Assortment and planogram compliance, mentioned earlier, directly remove empty shelf pain points and inventory issues, guaranteeing consumers enough choice and clear merchandising when visiting stores. This should be one of the top priorities for retailers, as we know that stockouts are among the main reasons for negative NPS. All in all, shoppers' most common irritants are addressed through in-store technology, leading to a rise of 5 to 10 points in NPS (for example, +7 points at Monoprix, France).

Empowering employees with digitization

Another indirect but major benefit of store digitization is the empowerment of store associates. These days, most retailers claim to face difficulties in attracting and retaining employees. Considering this, it's essential to remember that, when you equip your store teams, you're not just generating direct benefits in terms of compliance or efficiency, you're also developing employee satisfaction and motivation. Employees feel respected when employers decide to invest in modern tools. It means that their work is important and that they're important. But it also means that unnecessarily complex, mundane, or low-value-added tasks are taken off their agenda. Typically, spending hours in gap-scanning, getting lost in the aisles, and struggling to locate a product are repetitive, unnecessarily time-consuming activities that bring little sense of personal satisfaction to employees. Technology enables you to give back time and energy to the store staff, which they can use to better service the client.

[9] Retailer interviews

The aim is to better retain and motivate current employees. But technology can also be used to adapt to the loss of skills that many retailers are experiencing. The solutions made available actually lower the level of experience and expertise required to operate a department effectively. An employee's ability to create value depends less on their historical knowledge of the store and its operating mode. Instead they are guided by tools, reports, and alert systems that have analyzed and filtered information beforehand, in order to direct action toward the highest value-added tasks.

Finally, equipping stores with modern technological solutions also means reconciling operations with merchandise. Most retailers are struggling with a not-so-positive tension between these functions. You can surely picture nice arguments around "These folks in their ivory tower know nothing about real life. We face clients and move products every day, couldn't they just listen to us?" or "You don't need a PhD to know that this brand needs more shelf capacity. I am not going to spend my life traveling between this aisle and the back room." In other parts of the organization, you can hear "Execution in store is not at the level where it should be" and "These folks in store should focus on executing plans rather than trying to reinvent the wheel locally."

Transparency on execution brings a great deal of rationality and temperance to this dialogue. Firstly, because these conversations can become fact-based, with precise KPIs. Secondly, it gives the extended value chain the means to improve execution and thus limit the number of friction points. For example, when out-of-stocks are detected instantly, the supply chain can address the problem very quickly if there is a logistic root cause. Another example: once you know the actual shelf capacity of the store for each category, you can adapt the various commercial choices for the store, such as checking that the number of references and facings do not jeopardize operational efficiency.

Photo by Kathleen Ford
Kearney, Chicago

From here to there: making connected stores a reality

While the case for change is clear and the benefits are significant, only a handful of retailers have engaged at scale on this journey (see sidebar on page 20: Walmart: One step at a time). We see several roadblocks to remove as well as a few prerequisites. To drive in-store digitization successfully, retailers need to:

— Break silos to get an end-to-end perspective, including involving C-level executives.

— Arbitrate properly between legacy tech and long-term vision.

— Go beyond technology to change your organization's culture.

Breaking down silos

When considering technology choices and expected benefits, most retailers look at it according to their own organization silos. Typically, the team in charge of digitizing in-store will value use cases related to in-store operations efficiency, prioritize use cases related to category management insights, and potentially assume monetization based on already available data; the supply chain digital factory will focus on logistics optimization. In the end, each team will build the business case and select the tech solution according to this fragmented and incomplete perspective.

This is a missed opportunity for retailers when the true value and ROI of in-store digitization come from the combination of multiple use cases that are enabled by a common technology backbone. For instance, a common mistake is to assess the business case for electronic price tags solely on the basis of personal productivity gains when there is at least as much to be gained in terms of margin: ESLs do not only allow for updated prices in a more agile and efficient way but can also support in-store picking for e-commerce order fulfillment, enable in-store retail media, improve assortment and merchandising compliance and, combined with computer vision and micro-cameras, drastically improve on-shelf availability.

Not considering the end-to-end potential behind each technology and each solution provider might lead to suboptimal use cases and wrong technology choices that will engage the company for years and become a technology burden. The mobilization of C-level executives is vital to avoid a siloed approach, get the high-level perspective, and advocate for the strategic importance of technological integration in day-to-day operations. They ensure that the necessary resources and attention are allocated to drive successful implementation across the organization. Ultimately, in-store digitization should rank high on the CEO's list of priorities.

The mobilization of C-level executives is vital to avoid a siloed approach.

Walmart: One step at a time

How do you ensure the success of your in-store digitalization? Don't rush into it and don't try solving everything at once, warns Walmart. The key success factors for the US giant grocery retailer are threefold.

First, understanding which use case to prioritize, whether it is pricing, pick to light, or "stock to light" to gain inventory speed and accuracy. For Walmart, inventory was a must-have. "Retailers are transforming stores to become practical as fulfillment centers through capabilities that allow for precision in stocking and picking," explains Mark Propes, retail store head of product at Walmart.

Second, a clear sequencing must be defined. "We started with a basic MVP tag assignment application as we just wanted to be able to test the experience and see success criteria being met. Afterward, we came back to understand how we could build a great associate experience in managing digital tags to delight our customers," comments Propes. The scale-up phase then began with the ambition to expand to about 50 Walmart stores. Finally, KPIs should evolve as the road map progresses. As scaling began, Walmart carefully monitored financials to understand achievement of the defined business case as well as customer experience.

Finally, KPIs should evolve as the road map progresses. As capital started to be involved, Walmart carefully monitored internal rate return and net present value to achieve the defined business case.

Balance legacy tech with long-term vision

As already mentioned, the business case behind in-store digitization is quite specific to each retailer. Use case ROI and prioritization will depend on a retailer's size, format mix, geographic footprint, category mix, share of private label, level of collaboration with suppliers, and other dimensions that should be clearly considered when building the business case. The costs behind each technological solution will also depend on the legacy of each retailer. Previous technology choices and existing partnerships directly impact the ROI of the various options that can be considered, especially the relevance of an integrated tech stack versus a best-of-breed approach. In a cash-constrained environment, doing things step by step and building on existing tech legacy and partnerships might be the preferred options for many retailers.

Yet, given the size of the prize related to in-store digitization, the value of getting the right solution will, in the mid- to long term, offset the higher cost of fixing previous suboptimal technology choices. This requires time to build capabilities and to take a long-term view with a business case on a 5+ year time period to ensure the right decisions are made. Here again it requires the involvement of the CEO and C-level executive to bring this strategic view. To facilitate investment decisions, several providers have developed alternative financing solutions with a SaaS approach that allow retailers to reduce their capex bill.

Don't forget about culture

Selecting the proper tech solutions and providers, with the right investments behind them, will not suffice to enable in-store digitization. Getting the data and insights only makes sense if you actually use them.

The first prerequisite is to review the operating model beyond technology, addressing organization structure, governance processes, and KPIs. The biggest challenge becomes the ability to integrate a whole new set of data into robust processes with the right alert systems and the right routines to address issues. Defining how to access data, what actions it should trigger, who is responsible for each action, and how to measure impact is absolutely required to capture the benefits of in-store digitization. As the use cases and their benefits are cross-functional, success will rely on the ability to ensure seamless collaboration across various teams, including analytics, merchandizing, operations, and technology, as well as the appointment of technology leads and operations leads to enable successful transformation. Regular progress monitoring provides insights into the effectiveness of the digitization efforts. Additionally, associated incentives can be introduced to motivate specific actions in-store, fostering a culture of continuous improvement.

The second requirement is to support change along the way. Of course, teams in each function will have to be trained and upskilled based on new data and processes. But even though we see in-store digitization as a driver of employee satisfaction, it might be perceived at least initially as a threat. Therefore, a consistent change management and communication plan is key to address concerns, convince employees about the case for change, and implement the target vision.

Full creation of value will only come from the ability of retailers to collaborate with their suppliers.

Finally, it is all about the ability to manage an ecosystem. Maintaining a close relationship with technology partners is essential for retailers seeking sustained success in in-store digitization. Regular communication with these partners ensures that retailers stay informed about evolving solutions. This proximity allows retailers to adapt swiftly to technological advancements, ensuring that they capture the full value generated by continuous improvements. Full creation of value will only come from the ability of retailers to collaborate with their suppliers, which requires a culture of collaboration and joint value creation but also more specific capabilities such as:

— **Easy data and insight visualization.** Sharing large quantities of raw data in flat files doesn't attract the greatest investment. Modular SaaS platforms allow you to offer a whole set of prepackaged analyses as close as possible to operational insight and decision-making.

— **Negotiation and monetization.** To go beyond negotiation window dressing and actually create 100 percent additional value, most advanced retailers negotiate separately from their usual negotiation framework through a catalog of services or take a more hybrid approach.

The future is here

If you have a large network of stores and believe that physical stores will still have an important role in the future, then you must embrace store digitalization at scale. What's the best way to do it? By adopting a holistic approach to the connected store, exploring synergies through mutualization and combination of use cases to guarantee a high return of investment. Technology is maturing quickly, and delaying those investments creates a gap that represents a major risk for the sustainability of the business. Leaders such as Walmart have understood this and are prioritizing in-store digitization as the right strategic move for the future. What about you?

Authors

Xavier Mesnard
Partner, Paris
xavier.mesnard@kearney.com

Delphine Bourrilly
Partner, Paris
delphine.bourrilly@kearney.com

Thibault Hollinger
Partner, Paris
thibault.hollinger@kearney.com

Katherine Black
Partner, New York
katherine.black@kearney.com

Siddarth Pathak
Partner, Singapore
siddarth.pathak@kearney.com

The authors would like to thank Alix de Lary and Nicolas Bienvenu for their valuable contributions to this report.

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