

SMART RETAIL POWERS DATA- DRIVEN INSIGHTS

In the digital marketplace, technology gives retailers the knowledge they need to compete.

EXECUTIVE SUMMARY

Retailers need better and faster data-driven insights in the evolving digital marketplace.

It's no longer enough for stores to assess information after a shopping season and then apply their findings to changes that will boost sales in the next year. With fierce competition from e-commerce, retailers must be able to make real-time, in-context changes, using incoming data to improve both the customer experience and the bottom line. Although most stores already capture huge amounts of customer data, many still struggle to turn that information into actionable intelligence.

Enter smart retail, a fully integrated network and predictive analytics solution that helps companies optimize every aspect of their business. The solution empowers companies to capture and leverage data to improve the customer experience, streamline day-to-day operations, make better decisions and optimize opportunities.

The data analytics capabilities of smart retail empower stores to be strategic about gathering new information and creating value from data points that they may already collect, including areas such as peak traffic times, social media sentiment, conversion rate and time spent in location. To support smart retail, stores must invest in robust back-end IT infrastructure, including networking, processing and security solutions.

Business Drivers Create the Need for New Solutions

Shoppers have more choices now than ever before. Contrary to gloom-and-doom headlines, the growth of online retail has not signaled a death knell for traditional stores. Studies show that brick-and-mortar sales still account for the bulk of retail transactions. In 2017, for example, e-commerce sales accounted for only 8.9 percent of retail sales, according to a U.S. Census Bureau report. What's more, traditional retail continues to grow as an industry. In its "2018 Retail Transformation Study," IHL Group says the notion of a "retail apocalypse" is unfounded, noting that in-store sales increased by between 4.2 percent and 5.4 percent in the previous year, with another 4.8 percent bump expected in 2018.

However, it is true that online retailers are putting pressure on traditional stores to operate more efficiently while delivering the best possible customer experience. Although the IHL Group study says that traditional retail continues to dominate the market, it also notes that online sales are growing two to three times as fast as in-store sales, with mobile e-commerce the fastest-growing channel of all.

In the past, people essentially *had* to do their shopping in brick-and-mortar stores. Today, retailers must make the shopping experience compelling enough that customers *want* to spend time browsing in their aisles. This pressure creates an enormous opportunity for retailers to learn more about their customer base and to forge more meaningful, valuable relationships with shoppers, but it also presents a significant challenge. It's one thing to collect data on shoppers; it's another to take an individual's age, gender, location and buying history, and then tailor for them a personalized shopping experience.

Customer experience may seem at first glance to be a "soft" business benefit, but it has serious consequences for the bottom line. In "A Roadmap to Digital Value in the Retail Industry," Cisco estimated that the customer experience accounted for \$91 billion

out of a total of \$506 billion in value that retailers could generate between 2016 and 2018 through digital transformation efforts. These efforts include the deployment of features such as in-store analytics, interactive kiosks, mobile payment acceptance, self-serve channels, endless aisles and smart lockers. The potential benefits tied to the customer experience include increased upsell opportunities, more customer engagement and reduced friction between online and in-store experiences. But the report estimated that retailers are realizing only 15 percent of this digital value — meaning that the industry is leaving hundreds of billions of dollars on the table.

Retailers seem to understand the importance of connecting more deeply with customers, but there also appears to be a significant gap between how executives and customers perceive these efforts. In a 2017 PwC report, "CEO Viewpoint 2017: The Transformation of Retail," 75 percent of retail executives said they were "moderately" or "significantly" leveraging customer data to assist with the planning and development of customer offers. Seventy-two percent said they were using customer data to gain insight into customer preferences and shopping behaviors, 74 percent said they used data to personalize the in-store customer experience and 70 percent said shopper data was helping them attain a "single view of the customer across all channels and touchpoints."

Compare this view with that of customers: In Salesforce Research's "2017 Connected Shoppers Report," 63 percent of shoppers said they "don't feel like retailers truly know who they are." And more than half (53 percent) of millennials said that store associates "do not have the tools they need to deliver excellent customer service."

Another pain point that is driving many retailers to embrace data analytics is inventory management. The rise of omnichannel has given retailers a powerful tool to compete with online-only outlets, but it has also complicated processes for delivery, fulfillment and inventory (see sidebar, "Smart Omnichannel").

Smart Omnichannel

The advent of omnichannel retail has allowed traditional retailers to not only compete with their online-only counterparts, but often to outshine them. With omnichannel, physical stores become anchors that serve as brand hubs, giving customers multiple ways to buy and return products.

Studies show that the majority of retailers view connecting e-commerce and in-store experiences as critical to their business, and most say they're already connecting customers' online activity with what they do in the physical store.

But when stores bungle the execution, omnichannel can become a source of customer frustration. Take the

example of buy online, pick up in store (BOPIS). If customers make purchases online and then drive to the store, they expect their orders to be ready. But some stores lack sufficient fulfillment processes, employee training and inventory integration to make the experience seamless.

Retailers can solve this problem by integrating inventory data from various stores and warehouses. Radio-frequency identification (RFID) tagging can help associates locate missing items. And predictive analytics can take omnichannel fulfillment to the next level by helping to ensure that products are in the right place, even before customers place an order.



In the Salesforce Research report, 55 percent of shoppers said retail experiences are generally disconnected from channel to channel.

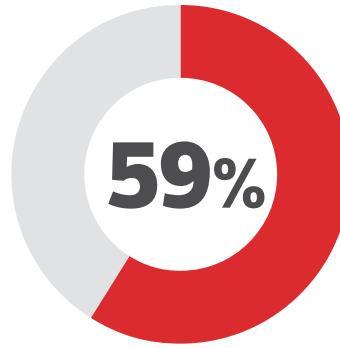
Shopper expectations continue to evolve, and retailers must evolve too if they want to stay relevant in the eyes of their customers. In a 2017 International Council of Shopping Centers survey, more than half of customers said they expect to see a variety of smart systems in stores by 2020. Shoppers envision tools that will enable them to find out if products or sizes are in stock without asking a salesperson and to input their shopping lists to store apps, which will then give them a map to help them easily locate products.

Customers still want to shop in brick-and-mortar stores. But as time goes on, the bar for what they consider an attractive, valuable shopping experience will only continue to get higher. Smart retail solutions can help.

From the Ground Up: Infrastructure to Support Data Analytics

Many retailers opt not to make large-scale IT infrastructure changes all at once. Instead, they take a wait-and-see approach to new technologies, implementing them as new needs arise. It makes sense not to spend large sums on unproven solutions, but there is one area where retailers should absolutely invest with an eye on the future: IT infrastructure.

When retailers lack the back-end resources to support new technologies, they can find themselves falling behind their competitors, with then-necessary rip-and-replace efforts slowing future progress and increasing the cost of new initiatives.



The percentage of millennial shoppers who say it would be helpful if retail store personnel knew about their online product research as a way to improve customer service¹

In IT infrastructure planning, retailers should not only consider the technologies they plan to deploy within the next nine to 12 months, but also attempt to anticipate their needs up to five years down the road. While retail IT leaders might not be able to say with certainty which specific applications they'll be rolling out in half a decade, it's all but certain that demands on infrastructure will continue to rise, and it's important for organizations to position themselves to adapt rapidly to a changing environment.

Although new use cases will continue to pop up, the business goals driving the need for IT investments — such as increased customer engagement — will largely remain constant. These are the business drivers that should inform the design and deployment

of retail technology solutions. Smart retail is a big-picture approach that identifies not only critical business problems, but also opportunities to improve decision-making and operations through better data. The best technology solutions work to achieve both of these goals in tandem, solving problems while empowering retailers for continuous data-driven improvement.

For instance, CDW offers configurable building blocks within specific solution domains, such as point of sale and network infrastructure. These building blocks can be bundled to help retailers solve their unique business problems.

Investments in the following areas can help stores implement smart retail solutions today while preparing for a changing future:

Network Solutions: The rise of mobility in recent years has heightened the importance of robust networking solutions, and emerging technologies such as the Internet of Things (IoT) will only deepen retailers' reliance on their networks. In addition to

Real Retailers Making Smart Changes

Customer Service: Macy's uses a virtual agent based on the Microsoft Dynamics 365 AI solution for customer service to assist customers on the company's website. The tool connects to the company's internal application programming interfaces to access information about merchandise and orders and then provide customers with real-time responses to common questions. When the virtual agent can't solve customers' problems, it transfers them to a live agent.

Logistics: CEVA Logistics, one of the world's leading logistics enterprises, migrated multiple electronic data interchange (EDI) systems to the cloud-based IBM Supply Chain Business Network. The move helped the company achieve 90 percent

faster reactions to seasonal peaks in EDI requirements, while avoiding the capital costs of a new in-house platform.

Operations: JJ Food Service, the largest independent food distributor in the United Kingdom, used IT solutions to enhance operational efficiencies and improve relationships with customers and suppliers. The company already had years of customer ordering history stored in Microsoft Dynamics AX, and Microsoft Azure Machine Learning is able to combine this information with market data and information about local event schedules to build preference profiles for each customer. The solution lets the company anticipate orders and offer personalized recommendations.




wireless technologies such as access points and mobile beacons, many stores are beefing up their investments in areas such as WAN/LAN, telecommunications and software-defined networking. As data analytics use cases become more prevalent, it is the network that will ensure retailers are able to accommodate information from customer-facing mobile apps, inventory systems, smart cameras and other IoT endpoints.

Data Center/Cloud Solutions: The data center, along with cloud solutions, will play an enormous role in data analytics initiatives, which require retailers to store and process more information than ever before. As stores grow their capacity, retail executives will need to make decisions about which resources to keep on-premises and which to outsource to the cloud. For retail data analytics in particular, a hybrid cloud approach may make sense, as this allows stores to quickly scale resources up and down according to demand — an essential capability in an industry that sees dramatic seasonal spikes.

Increasingly, organizations are turning to hyperconvergence for the on-premises component of their hybrid clouds. Hyperconverged infrastructure combines compute, storage and networking into a single solution, mimicking the scalability benefits of the public cloud while letting organizations keep mission-critical applications and sensitive data in-house.

End-User Solutions: More of a near-term concern than back-end infrastructure, end-user solutions can play a pivotal role in powering current data-centered initiatives and giving organizations the ability to test out new applications. These solutions include mobile point-of-sale (mPOS) devices, barcode scanners, smartphones and tablets. Retailers can use these devices to put both product and customer information at the fingertips of floor associates, which increases their value to shoppers and mitigates an existing pain point.



\$68.1 billion

The value in sales that retailers lose annually due to “in-store hassles,” such as an employee being unable to locate an item that’s supposed to be in stock²

According to Salesforce Research, half of millennials believe they typically know more about a store than store associates do, and 43 percent believe robots could effectively replace store associates. These are worrying numbers in an industry where customer service is rapidly becoming a key competitive differentiator. Mobile apps that instill employees with more information can help. Retailers should also ensure their corporate staff have the collaboration and communication tools they need to be effective, including up-to-date desktops, voice/phone solutions and videoconferencing tools.

Branch Location Facilities Solutions:

By nature, retail organizations are spread across multiple locations, and this distributed geography can create challenges for IT infrastructure. It is often advantageous to locate technology resources at each individual store, but in the past, this has created problems tied to both security and management. Individual stores typically do not have an IT staffer onsite, so it has been difficult for IT shops in retail organizations to keep a handle on in-store resources and respond quickly when trouble arises.

A number of organizations are solving this problem with micro data centers — self-contained solutions that provide not only essential infrastructure, but also physical security, power and cooling, and remote management capabilities.

Security Solutions: Nothing torpedoes customer trust as quickly as a data breach. As retailers build out systems to collect and analyze more information, they must implement robust systems to keep that information out of the hands of malicious actors. Security investments may include tools such as identity and access management, next-generation firewalls, physical security and incident response systems. Onsite assessments and testing can help retail IT leaders identify gaps in their cybersecurity strategies, and security monitoring can help retailers ensure that systems

Secure Your Valuables

It takes only one major cyberattack to undo much of retailers’ work to build customers’ trust. Return and refund fraud is the most common cyberthreat faced by retailers, according to research from management and information technology consulting firm Booz Allen Hamilton, but point-of-sale breaches occupy the top spot for threats ranked by severity.

In its “Cyber4Sight 2017 Peak Retail Season Special Report,” Booz Allen Hamilton notes that POS malware is declining with the implementation of chip-based payment cards, but such attacks can still be effective. Most commonly,

attackers install malicious programs through social engineering attacks, including the use of compromised remote-access credentials.

Eventually, the adoption of chip-and-PIN cards will eliminate traditional POS malware, the report predicts. But this doesn’t mean retailers will be able to let down their guard. Researchers have already shown that chip cards can be compromised by ATM shimming devices, and the report warns that hackers will likely attempt similar schemes on POS terminals as traditional attacks become less effective.



are working as designed. Organizations must also look beyond prevention. No cybersecurity plan can guarantee that a breach won't occur, and retailers should have detailed incident response plans to help them recognize an attack and mitigate damage.

Support Solutions: New IT infrastructure requires additional support, which can strain overburdened IT shops. Often, retailers turn to a trusted partner to assist with provisioning and deploying resources, managing infrastructure over time and providing help desk support.

Data Analytics Yields Actionable Insights

With an integrated IT infrastructure, retailers have the ability to gather, analyze and leverage valuable data that can drive improvements across business processes. In particular, data-driven insights give retailers an unprecedented understanding of user behavior and motivations — essentially providing stores with the keys to deliver an optimal customer experience.

Retailers can derive several competitive advantages by applying analytics to the following types of data about customer presence, many of which stores may already be capturing:

- Visitors versus passersby
- Repeat versus new visitors
- Connected visitors
- Time spent in location
- Hours for new visitors
- Busiest days and hours/ peak traffic
- Social media sentiment
- Conversion rate

Data-driven insights go well beyond simply tracking trends. Analytics can yield efficiencies in day-to-day operations that directly translate to cost savings and competitive advantage. The range of potential retail data analytics applications may include the following:

Market Share and Forecasting:

Predictive analytics lets retailers understand current and future market trends to achieve more accurate financial results. This positions retailers to make better decisions around staffing and growth, and it can prevent situations where stores miss sales targets as a consequence of poor forecasting capabilities.

Inventory, Distribution and Logistics:

Best-in-class inventory management, supported by RFID technologies, can extend inventory to full customer transparency. Customers are developing the expectation that they will be able to quickly and easily see what's in stock at a particular location via a store's

website or mobile app. Maximizing this capability can help retailers increase brick-and-mortar sales, online sales and cross-channel sales, such as BOPIS sales. Internally, data analysis and predictive analytics enable retailers to maximize distribution, inventory management and purchasing power.

A number of stores are already using analytics solutions in innovative and creative ways that serve to connect customers with products and optimize shelf space. For example, one sushi chain that sells meals from a rotating display is using data from RFID tagging to help chefs determine which types of rolls to make during certain times of day, an improvement that reduces food waste while increasing profits. Grocery chains are using artificial intelligence and machine learning to optimize product replenishment and automate ordering, which frees up staff for other tasks and reduces shelf gaps by up to 30 percent. And new Software as a Service tools that use data analytics for product recommendations and replenishment are hitting the retail market, giving decision-makers access to dashboards that have real-time information about inventory and buying patterns.

360-Degree Customer View: Data analytics built around omnichannel programs and multiple data points gives retailers

a comprehensive understanding of their target market. Developing a comprehensive view of shoppers can be a tricky enterprise. While customers want retailers to deliver a valuable, tailored shopping experience, stores must also be wary of bombarding them with offers or making them feel that stores are watching their every move. Still, there is evidence that shoppers are growing more accustomed to targeted messaging, and they are willing to trade a bit of privacy and anonymity if this results in a more productive trip to the store.

Sentiments vary across age groups, however. According to Salesforce Research, 24 percent of millennials would like to receive automated push notifications from retailers based on their preferences, a feature that appeals to just 14 percent of baby boomers. Similarly, 21 percent of millennials say they're interested in receiving personalized offers from store associates based on their purchasing history, compared to only 11 percent of boomers.

Mobile Applications: These tools serve multiple functions for retailers, from meeting customers' expectations for a personalized, proximity-based digital experience to delivering location-based analytics.



Source: ³National Retail Federation, "Winter 2017/2018 Consumer View," December 2017

As customer adoption of retail mobile apps increases, these tools have the potential to become an even more important source of two-way communication. Ultimately, mobile applications can help stores gather more (and better) data about their customer base, while giving companies the ability to push out special offers and messages to a receptive audience.

Loyalty Marketing: Digital interactions allow retailers to understand their customers' buying habits and fine-tune price

points and promotions.

It's clear that data analytics has the potential to help stores alleviate numerous pain points while creating additional value. But to take advantage of this potential, retailers must have a connected system in place to capture, share, secure and analyze data. The most effective smart retail deployments start with retail leaders identifying long-term goals and then creating the technology systems that make it possible to achieve them.

CDW: A Retail Partner that Gets IT

CDW's SmartRetail is an integrated solution that helps retailers make smarter business decisions by taking a holistic, big-picture approach to help them meet customer needs. By embracing SmartRetail solutions, retailers can streamline day-to-day operations, transform supply chain and inventory management, create secure and reliable IT infrastructure and further their business goals.

CDW also offers the following services to retailers:

Retail IT Security: CDW's solution architects can help retailers examine their systems to identify and rectify security vulnerabilities, preventing attackers from accessing customer payment information and other sensitive data.

Digital Signage and Displays: From digital screens running promotions to self-serve kiosks loaded with product information, digital signage solutions connect retailers with customers. CDW's solution architects can help retailers select the right tool to help them meet their goals, and also assist with configuration and back-end infrastructure.

Point of Sale: CDW can help retailers select and implement individual mobile point-of-sale (mPOS) solutions, integrated POS and inventory solutions for multilocation businesses and everything in between.

Retail Mobility: With the help of CDW's solution architects, retailers can modernize their in-store experience with mobility strategies that incorporate mobile devices and apps, beacon technologies and wireless networks.

The CDW Approach



ASSESS

Evaluate business objectives, technology environments and processes; identify opportunities for performance improvements and cost savings.



DESIGN

Recommend relevant technologies and services, document technical architecture, deployment plans, "measures of success," budgets and timelines.



DEPLOY

Assist with product fulfillment, configuration, broad-scale implementation, integration and training.



MANAGE

Proactively monitor systems to ensure technology is running as intended and provide support when and how you need it.

To learn more about SmartRetail, contact your account manager at 888.706.4239 or visit CDW.com/SmartRetail

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