The Analytics Trends Shaping Retail

**Leverage the power of
data to build loyalty**

Introduction

Like many industries, retail has undergone a period of unprecedented change, with emerging technologies continuing to drive digital disruption.

Artificial Intelligence (AI), automation and the Internet of Things (IoT) have already enhanced every stage of the retail journey, from inventory management to customer service. Retailers are increasingly integrating data analytics into every touchpoint of their business to improve the customer experience and gain a competitive advantage.

In this paper, we explore the retail analytics trends that businesses are adopting to gain faster access to data and drive improved business outcomes.

Building an omnichannel experience

To meet ever-demanding consumer expectations, many retail businesses have integrated in-store and online shopping to provide an omnichannel experience. These customer-centric models use data analytics to create a personalized, responsive interaction across every channel. Whether a customer is shopping online from a desktop or mobile device, or in a brick-and-mortar store, the experience is becoming consistent and seamless.

Take Amazon, for example. Despite owning 49% of all online sales[1], the multinational company made an unexpected move onto the high street a few years ago. Amazon Go is a highly automated shopping concept that reduces the need for on-site cashiers. To begin, customers simply scan their Amazon Shopping app at the turnstile before passing through to the shopping area. All items collected are automatically tallied as they leave, and their account or credit card billed accordingly.

Amazon has also partnered with Kohl's to implement returns kiosks in selected stores, and more recently opened a chain of its own branded bookstores.

5G
5G network environments are set to empower retail far beyond the traditional brick-and-mortar experience. Coupled with IoT, voice recognition and camera-based identification, 5G will become a platform on which retailers will develop an array of new services.

[1] eMarketer, Amazon Now Has Nearly 50% of US Ecommerce Market

Personalizing the customer experience

Personalization continues to be a major focus for retail, and while once it was limited to targeted offers, it now extends to the entire customer experience. High-powered analytics have typically been used to track buying patterns and interests for marketing purposes. But with more advanced technologies, this is changing. Today, retailers are beginning to retain customers through interaction; using cameras, beacons and Wi-Fi to create multiple in-store touchpoints.

Camera sensors collect data about customer traffic flows around a store, and other criteria including temperature, waiting times and typical paths taken by a customer segment. This information is fed to a broader analytics engine to identify ways of improving efficiency, increase sales and even redesign the store layout. Bluetooth-based beacons enable personalized messages and offers to be sent to customers' smartphones as they are passing a store or even standing near a specific product or aisle. This is particularly powerful in pushing customers to purchase. For example, a retailer may wish to push a discretely timed discount offer on a product the customer has previously purchased as they near the store.

Many retailers are also using their in-store Wi-Fi network to track customer's locations, including doors and checkout lanes. As the technology evolves, tracking on a product level will also present a significant opportunity.

When executed well, personalized experiences enable retailers not only to differentiate themselves but also to gain a sustainable competitive advantage that will drive loyalty.

Bringing dynamic pricing to brick-and-mortar retail

For many real time retailers, the rise of e-commerce has completely transformed the pricing game. Competing with online businesses who had the analytics capability of dynamic pricing has become virtually impossible.

Dynamic pricing enables online retailers to adjust the price of a product in relation to the current market conditions and demand. Not only has this impacted local retailers – who aren't able to adjust pricing as readily, but more and more are seeing consumers visiting their stores to simply 'touch and feel' a physical product, before buying it for less online.

It's time for the brick-and-mortar retailers to enter the ring. In the US, Kroger has already rolled out a dynamic pricing model called Kroger EDGE (Enhanced Display for Grocery Environment). The retailer has replaced traditional shelving with electronic shelf labels (ESLs) and uses IoT sensors to beam real time data from each aisle. The digital displays mean prices can be changed in real-time to undercut a competitor or take advantage of changing demand. The shelves can also be used to show video advertisements and nutritional information.

Other retailers, including Best Buy, are offering price match guarantees to customers who have seen the same product for less at a competing store or online e-tailer. Beacons can be used to help to notify the nearest rep as the customer approaches their department or high value product so they can assist in the sale.

Blockchain
In the future, Blockchain promises to bring about a more significant change in the way that retailers operate than any other emerging technology. It won't be an add-on to existing business practices either - it represents a standalone revolution that will affect consumer relations, supply chain logistics and payment infrastructure.

Introducing autonomous robots to solve challenges

Retailers of all types face similar challenges in managing stock levels, guaranteeing price accuracy, meeting visual compliance and identifying hazardous conditions. Let's take pricing accuracy. The person responsible for visual merchandising will rarely, if ever, be the person physically placing those products on the shelves. Something as small as a mistype on the plan or incorrect ticket placement on the shop floor could impact customer purchases and even result in lost revenue.

Let's also consider hazardous conditions on the shop floor. All retailers pay an insurance premium each year to cover the risk posed by hazards including slippery
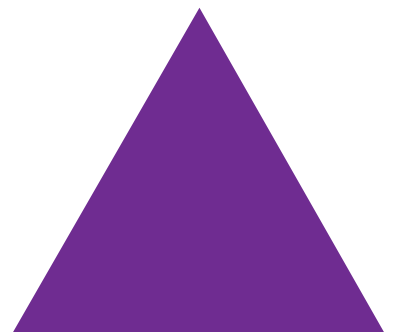
floors and items falling off shelves. Accidents can result in time-consuming and costly consequences if the retailer is found to be at fault.

What if retailers had the ability to recognize, analyze and drive actionable responses to these issues?

Robots, aerial drones, camera systems and integrated AI software for fast analytics, are all set to transform how retailers address such challenges in the future. Mobile robots are predicted to travel along store aisles looking for hazards, out-of-stock items, mismatched prices and incorrect displays. And with the ability to issue actions to staff on the shop floor in real time – thanks to high-powered analytics – any problems can be resolved immediately.

-46%

Following the Target breach, the retailer's sales fell by 46 percent year-on-year

Reinforcing data security to build customer trust

Cloud technologies and IoT have enabled endless possibilities for retailers. As a result, consumers have never had so much control over purchasing decisions. The downside for retailers? The data lying at the heart of this shopping experience presents an attractive commodity to cyber criminals, and ransomware in particular poses a serious threat.

Aside from the immediate disruption, the downtime and revenue loss that a breach can cause, it can also tarnish a retailer's reputation overnight. The Target data breach which made headline news in 2013, for example: the company was compromised via a third-party supplier and 40 million credit card records were stolen. Following the breach, the retailer's sales fell by 46 percent year-on-year in the fourth quarter of 2013 and it cost them $200 million in legal fees[2].

As retailers continue to collect more consumer data, comprehensive data protection strategies have never been more critical.

[2] Forbes, Target Profit Falls 46% On Credit Card Breach And The Hits Could Keep On Coming

Final thoughts

The retail industry is evolving rapidly. Consumer behavior is changing and the line between online and offline is blurring. More forward-looking retailers are learning to capture and manage data to transform the customer experience.

As we move towards an even more connected retail environment, businesses will need to master the full potential of the data they're collecting at numerous touchpoints. Many retailers are already putting data analytics at the heart of their operations across key stages of the value chain. The next step is to establish a complete ecosystem in order to enable clearer, analytics-based decision-making that will optimize business outcomes.

Pure Storage and DXC Technology are helping retail organizations to modernize their infrastructure and capitalize on the full power of their data. We have enabled organizations all over the world to adopt next-generation technologies such as artificial intelligence and machine learning to optimize business operations. This is leading to reductions in data infrastructure costs by an average of 30-50% and 50-60% lower TCO.

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