four technologies ready to rock the retail world

A RETAIL PRO WHITEPAPER

Ever since "the Incorruptible Cashier" — aka the cash register — was patented in 1883, technology has been a part of retail. Today, technology can do more than account for the day's sales receipts; it can track merchandise, verify identities and help predict customer behavior. In this whitepaper we will consider four technologies that many believe will have a swaying impact on the retail sector in the near future and will further cement the necessity of technology in retail.

rfid

Radio-frequency identification, or RFID, made its initial splash in retail more than 10 years ago, when Walmart's then-CIO announced in 2003 that all Walmart suppliers would be required to place RFID tags with Electronic Product Codes on pallets and cases by the end of 2006. The mandate would have permitted Walmart to identify individual items, cases, or pallets just as bar codes do – only wirelessly, providing richer data without the need for a line of sight.

The tags have a simple chip and antenna, and are embedded into product pricing labels. They are easy to incorporate onto, for example, hanging apparel tags. The tags are powered by RFID readers' radio signals. Store associates can check inventory of an entire clothing rack by walking around the display with a handheld reader. The reader provides an accurate and quick count of sizes or styles that need to be replenished. In many ways, RFID was a solution ahead of its time and Walmart was unable to implement it throughout the supply chain as quickly as the company had hoped. However, because of the detailed inventory picture RFID can paint for retailers, the technology is becoming top-of-mind for successful omnichannel implementations. For example, all 850 of Macy's stores have RFID readers and they use it to gather data from item-level tags on merchandise sold at its stores.

"RFID enables frequent [inventory] counting, which enables inventory accuracy. You can't be great at omnichannel without having high confidence at the store level, at the size and color level," said Macy's senior VP of logistics and operations, Bill Connell, in an interview with Fortune magazine.

mobile payments

While RFID works to make inventory and other back-end retail processes more efficient, wireless payments — including NFC-based solutions such as Apple Pay and Google Wallet — help streamline the front end. With the introduction of Apple Pay late last year, the segment is booming. A recent report from Business Insider predicted that mobile in-store payments will grow at a five-year compound annual growth rate (CAGR) of 154%, from $1.8 billion in 2013 to $189 billion in 2018.

Despite that accelerated rate of growth, there is ample opportunity to expand in this area because in-store mobile payments will still account for less than 4% of brick-and-mortar transaction value by 2018.

mobile payments
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2013

2018
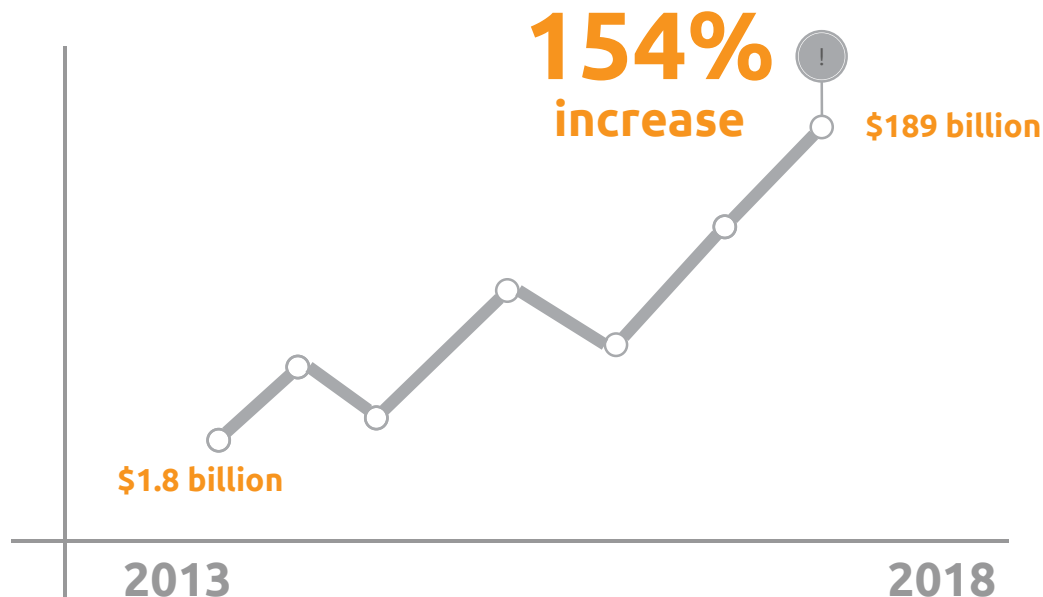
Part of that low implementation figure is due to the small percentage of shoppers currently using mobile payments. For example, a staggering 85 percent of iPhone 6 users have never used Apple Pay, a recent survey by PYMNTS.com found. That number is an improvement from the 91 percent in November of 2014, but still low considering the enthusiasm for the technology.

The reason? Something as simple as consumer forgetfulness, InfoScout Co-Founder and CEO, Jared Schrieber, told an audience at Innovation Project. Paying with cash or credit card has become an ingrained habit, and it requires purposeful thought to use a mobile option.

"If I'm Apple, I'm dead-focused on point of sale and making sure there is a trigger to make sure I pull out my phone and not my card," Schrieber told the crowd, suggesting as well that beacon technology could be employed as a triggering mechanism.

beacons

Retailers are the leaders of the pack among industries adopting beacons, using them to provide customers with product information, flash sales or deals, and to speed up the checkout process with contactless payment systems. The technology is inexpensive to deploy, with each device often costing less than $25. For retailers, they represent a great return on investment and BI Intelligence forecasts that by 2018 there will be 4.5 million beacons.

Beacons function in a manner similar to indoor GPS: geo-location lets retailers send relevant information — such as discounts, special events and other promotions — directly to shoppers. It is an effective method of competing against e-commerce outlets, which gather information on site visitors regardless of whether they purchase.

Currently, less than 1% of the 3.5 million retail stores in the U.S. have rolled out beacon technology, according to Umbel, a business analytics company. That number is rapidly growing however, with household names including Macy's, Lord & Taylor, Starwood Hotels, McDonald's and Major League Baseball rolling out solutions.

Several Lord & Taylor and Macy's stores send shoppers messages as they enter the store and pass by certain merchandise. And a trial of beacons at the drive-thru and counter service sales areas at 26 franchised McDonald's locations in Georgia resulted in a revenue uptick of at least 7.5 percent. More and more retailers are recognizing the value of adding beacon technology to their marketing efforts.

However, adoption and implementation are proving to be more complex than companies expected.

Beacons are an effective method of competing against e-commerce outlets, which gather information on site visitors regardless of whether a purchase is made.

Retailers face the challenge of persuading customers that the benefits of beacon notifications are worth their time and effort. Customers must enable Bluetooth and accept location services on their mobile devices, then opt-in to the retailer's marketing program to receive in-store notifications. It is therefore critical that retailers provide a compelling offer to motivate consumers to opt in.

In addition, retailers must address customers' concerns about privacy invasion. User consent provides the foundation of all push-notification programs. When providing an app for customers to download, retailers must provide "terms and conditions" that clearly spell out to the app user what data is being collected by the app and how it will be used.

Some applications do not collect information that reveals customer identity. Apple, creator of iBeacon, is striving to combat user perceptions of beacon devices as an invasion of privacy.

Apple has rolled out iBeacon technology in all of its U.S. stores but does not collect any specific user information about shoppers.

iOS also will not deliver region notifications until particular conditions are met – for example, the device has to cross an iBeacon boundary, then move away from it by a minimum distance, and stay at that minimum distance for at least 20 seconds before the notifications are reported. In addition, iOS 8 randomizes the MAC address each time a device attempts to connect with a Wi-Fi network.

This maintains a shopper's anonymity, and stores are prevented from collecting data on a user who has not opted in. Measures like these ensure consumer privacy in the marketplace.

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biometrics

To further protect consumers, some companies are implementing biometrics. Biometrics was once the stuff of James Bond and science fiction movies, but with the (albeit rocky) launch of Apple's iPhone 5 with fingerprint sensor in 2013, it entered the mainstream. Samsung and PayPal followed suit with fingerprint authentication.

Today, retailers are looking at the technology to help prevent loss due to ID theft. Biometrics are incorporated into fingerprint identification, as well as palm-vein readers and facial recognition solutions to offer a heightened layer of security and help prevent fraud. In addition, biometrics can offer retailers controlled access and accurate attendance records, leading to a more secure workplace environment.

Marius Coetzee from Ideco told BizTechAfrica that biometrics were critical for fast, accurate customer ID verification — which results in fast, accurate decision making: "Point Of Sale based biometric verification is a critical aspect to reducing losses caused by increasing levels of ID fraud. Once customer details are registered, you can trade with certainty at every point of transaction." Implementing biometric technologies improves security for both retailers and shoppers.

usher in the next era of retail

More than ever before, retailers are investigating secure ways to collect critical information about their customers, aiming to use the insights gained to provide an extraordinary shopping experience.

As they begin implementation of these technologies, customers must be educated on how and when to opt-in to any new technology. Retailers that provide an appealing offer of value in exchange for an educated customer's personal information are those that will usher in the next retail era.

Whether the technology is RFID tags on merchandise, tap-and-go payments, beacons or fingerprint sensors, the rapid development, evolution, and adoption of these technologies means that retailers are better equipped to increase efficiency in their businesses and provide customers with the high-quality service and products they desire.

About Retail Pro

Retail Pro International (RPI) is a global leader in retail management software that is recognized world-wide for rich functionality, multi-national capabilities, and unparalleled flexibility. For over 25 years, RPI has innovated retail software solutions to help retailers optimize business operations and have more time to focus on what really matters - cultivating customer engagement and capitalizing on retail's trends. Retail Pro is the chosen software platform for omni-channel strategy by serious retailers everywhere.

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