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How WiFi and Mobility Solutions Are Transforming Retail Operations and the Customer Experience

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In the midst of the most significant industry change in 50 years, retailers are scrambling to establish priorities to drive the digital transformation (DX) of their businesses so that they may thrive into the future. Connected consumers have brought about a paradigm shift that changes the way individuals work and play, with more being accomplished while on the move. In addition, connected consumers make decisions faster and buy more, and mobile-enabled associates are more productive. Consumer interactions with mobile-enabled employees positively influence shopper behavior and often result in larger basket sizes and more profitable transactions. Retail operations best practices now include stationary inventory lookups, assisted and endless aisle selling, task management, merchandise execution, and mobile point of sale (POS). Retailers are making investments in mobile applications, Internet of Things (IoT) devices, and wireless infrastructure that enable faster, better business decisions and more efficient operations. This Technology Spotlight examines how retailers are leveraging mobile devices and applications, analytics, and underlying WiFi investments to reshape the customer experience and drive operational excellence. It also looks at Ruckus and its role in the strategically important market for WiFi solutions.

Introduction

IDC Retail Insights believes that 2017 is the year of retail reckoning. What we mean is that as technology enables the next leap in experiential retail**,** the pressures driving change in the industry and within retail business models will force dramatic shifts in technology investment strategies. Retailers will take capital out of physical store footprints and double down on consumer engagement that blends physical and digital streams of life. Retailers are shifting investments to technologies that enable faster, better decisions and actions in life and work. Mobility enables the implementation of operational improvements that make organizations more competitive and efficient as well as better at engaging customers. Some of the application areas impacted are mobile POS, mobile inventory management, WiFi-enabled operations (including task management, store walks, and departmental merchandising reviews), omni-channel selling, and multiscreen engagement (including digital signage).

Top priorities include mobilizing the workforce for well-orchestrated operational excellence and fueling the appetite for experiences from mobile customers in stores. Mobile, IoT, cloud, and customer analytics are simply becoming part of running a retail business. While companies take on broad DX initiatives, they will look to partners that can work with them to engage the consumer effectively through every aspect of the customer journey**.** For midsize or smaller retailers, rightsized cloud-based services can activate and enable capabilities that were once the provenance of larger competitors, without the associated need for internal expertise or capital expenditure.

Wireless Technology: A Cornerstone of the Fabric of Retail

Retail engagement simply requires that multiple devices — smartphones, laptops, tablets, interactive digital signs, shelf signs — connect employees, customers, and partners to rich bodies of information. The connective tissue, which is increasingly the wireless network, forms the foundation of seamless and frictionless experiences. Once implemented, WiFi unlocks augmented omni-channel business, which is limited only by an organization's ability to deploy new processes. The most innovative retailers are pushing ahead with data-driven engagement in the stream of life (contextualized in place interactions), and investments will increase in this area as retailers mature the business processes around hyper-personalized interactions.

Many retailers have leveraged WiFi in initiatives to essentially trace the physical shopper journey. When this information is combined with additional online data sources, a complete picture emerges of what makes a consumer click on or pick up and then buy an item. When the triggers to a purchase are better understood, consumers, connected via their own mobile devices, can be engaged in hyper-personalized ways. Imagine a scenario in which digital signage is employed to create awareness of a relevant offer or promotion, and the consumer device is used to "accept" or act on the offer (via QR code scanning or texting a code). A captive portal can also be used to show consumers recommended products after they log on to the WiFi network.

The challenge for some retailers is getting out of their own way and allowing themselves to imagine and design processes built for the already mobile consumer or employee. Capitalizing on the opportunity of the highly connected customer depends on not only redesigning retail business processes but also digitally enabling new customer engagement strategies and employee-driven operational processes. However, the fabric for mobility — the WiFi network — is the prerequisite to preparing for driving new capabilities into the hands of customers and employees.

Key Considerations

Today, retailers understand that to serve customers well they need to have strategies to connect customers with digital content while in the store. Leading omni-channel retailers have applications in place that enable the customer to search products, read reviews, look for associated products, and purchase at the click of a button. That button is both digital and physical, and the two need to be intertwined. We call this combination omni-channel. In the Amazon Books physical store, for example, a customer can use his/her own mobile device to scan a QR code on a shelf label to access the Amazon online store to read more about the product, get reviews, and then put the product in a physical or digital basket. When a consumer logs into his/her Amazon Prime account in the store, the sales associate at checkout can offer a special "Prime" discount and process the transaction with Amazon payments if the consumer so desires. Alternatively, the employee allows the customer to use the POS device and select another payment method.

This is a great example of what it means to be omni-channel. Amazon has a single view of the customer, so the customer can engage seamlessly with the company in multiple channels at once. The customer has a single view of product, and there is a direct connection between the product on shelf and the broader "endless aisle" catalog. Foundational infrastructure for omni-channel business provides this access to information about products, inventory, and customer orders and history from anywhere. However, this architecture also enables more innovation as new consumer services are rolled out. Witness the current effort to deliver voice-enabled interactions on mobile devices and at home. The architecture should be API enabled so that it flexes with business need and enables continual adaptations to customer need.

When planning and deploying a retail architecture built to deliver a seamless, frictionless, and connected experience, one that flexes with customer needs, keep in mind the following considerations:

- Stable, fast WiFi is foundational. Customers don't want to burn their data plan, and indoor cellular coverage is often poor in stores. Identify secure, stable, reliable, fast, and easy-to-use platforms that support your needs.
- Poor-quality WiFi is bad for your brand. It disappoints customers and that's likely to impact loyalty, frequency, and basket size. It also leads to employee dissatisfaction and reduces mobile application adoption.
- Companies are upgrading their infrastructures and networks. Reengineering from a technology perspective starts with data and systems architectures built to leverage advanced technologies, including real-time access to data and analytics, both in place and mobile, that predict and drive more engaging and real-time processes. Invest in a WiFi infrastructure that can reliably support new customer-facing and back-end operations.
- Mobility, cloud, IoT, and analytics are key components in enabling efficiency and faster, better business decisions.
- Whatever processes can be automated and orchestrated should be automated and orchestrated. For example, using WiFi and GPS allows the customer's location in the store to be pinpointed. If the customer has logged in to the retailer's WiFi captive portal, the retailer can use what it knows about the customer's journey and shopping behavior to engage the customer in relevant ways. One customer may be most responsive to a sales associate, while another may prefer to see information about products presented in aisle on a digital screen or through a mobile application. Establishing a common identity for a customer who walks into a retail location, and for customers who interact with the retail brand through a mobile application or website, is a huge advantage for retailers. It presents a unique opportunity to understand and simplify the buying journey from the browser to a physical retail store.
- Strategic technology partner relationships will drive improved business outcomes. Choose partners that can deliver solutions that are sized for your environment, reduce the time to value, and improve the ability to manage the environment efficiently. Work with partners to assess needs and to design, configure, implement, and support the solution.
- Moving to cloud-managed WiFi makes a lot of sense and can help retailers make this transformative leap more efficiently and quickly. Deploying, optimizing, monitoring, and troubleshooting the WiFi network for guest access and back-end processes are simplified. Customer engagement capabilities can be driven from a web dashboard or mobile app, and customer/network analytics can be accessed in real time.

Benefits

With regard to benefits, the proof is seen in the impact that WiFi and mobility in general have on business. While retailers do not often publicly disclose the specific benefits achieved as a result of their mobility initiatives, many have reported in earnings calls that they are extending rollouts or deploying more mobile devices because of the associated sales performance gains and operational productivity metrics. Leveraging mobility and WiFi can also help you:

- **Be the "king of your domain."** By taking control of business and customer experience, a leading retailer enables flexibility for checkout, supporting customer choice with a networked set of capabilities that includes Ethernet boards for connecting phones, POS, kiosks, and pop-up stores. Benefits include reduced costs by utilizing a mesh network and rapid deployment due to enablement by a cloud services provider.

- **Enable best-in-class consumer experiences.** Leading retailers don't stop once they've deployed guest WiFi. These retailers outperform competitors by engaging customers in the way that they want to be engaged and by enabling employees to support customer engagement with the necessary tools. Both parties get access to inventory data, product information, and customer history when mobile applications are deployed on the network. New processes include ordering on the fly, inventory management, and contextualized consumer interactions that enable sales to be closed in real time, leaving the customer no time to reconsider the purchase. More applications can be added as necessary to continually adapt to consumer needs, which gives the retailer an edge in the market.
- **Improve top-line and bottom-line business performance metrics.** Customers expect to digitally connect in a seamless and frictionless way across digital and physical properties, so a lack of WiFi is a significant detractor, leading to reduced satisfaction scores. Retailers that provide secure, reliable, and stable WiFi can create satisfying interactions, which result in enhanced brand advocacy and omni-experience amplification. Customers not only do more business with an organization that provides great experiences but also amplify the brand value by applauding successes via social media and directly with their own social network. From an operational performance perspective, the productivity gains achieved by mobile-equipped workers reduce the cost of customer care and operations.

Trends

When considering WiFi and mobile investments, note the following important trends:

- Consumers have set a high bar for always-on access. They expect to be able to access applications — including high-bandwidth video and audio streaming — at your location. If the WiFi is bad, everyone loses, so make sure the network is adequately resourced to:
  - Avoid customer walkouts and negative word of mouth
  - Keep employees from losing confidence and disparaging or ignoring mobile applications
- Investments in advanced cloud-based WiFi have accelerated, which can benefit marketing and operations. Cloud-based WiFi solutions also ease the burden on IT in the following ways:
  - A single-pane-of-glass user interface enables remote management and monitoring of multiple sites.
  - Physical service calls are reduced, so travel to different locations to provision access points or to complete troubleshooting is no longer required.
  - Alignment with "Lean IT" practices means there is no need to install or configure software on-premise.
  - Virtually unlimited scaling is made possible by upgrading local controller hardware.
  - Associates and guests can use pre-integrated services such as analytics.
  - Mobile app–based management and analytics are included with many solutions.
  - It is easy to set up customized/branded guest networks capable of professional enterprise-class capabilities, such as hooking up legacy printers and POS as well as enabling data streaming and social media engagement.
  - Frequent, automatic security updates and end-to-end security, policy changes, and provisioning can benefit companies that have no or limited cybersecurity expertise.
  - Built-in engagement tools — such as the ability to brand and promote the WiFi captive portal and enable social media interaction — and built-in analytics of customer usage patterns and behaviors are available.

By their nature, cloud-based services, such as cloud-managed WLAN, are faster to adapt to ongoing digital transformations as software enhancements and new features and integrations are released on a frequent, ongoing basis.

Considering Ruckus

Ruckus Cloud WiFi helps take the complexity out of managing multiple sites and provides a single-pane-of-glass view of all of an organization's WiFi-enabled locations. The solution is designed for retailers that require a secure, high-performance WiFi network but have limited IT resources to attend to network management. Features include:

- Intuitive browser-based user interface
- Full-featured mobile app for anywhere, anytime network management and monitoring
- Easy process to set up secure guest networks with multiple authentication options, including SMS and social log-in (Facebook, Google, Twitter, LinkedIn)
- Ability to brand and customize the captive (guest log-in) portal on the fly to deliver targeted marketing messages
- Built-in WiFi analytics that enable an improved understanding of customer usage behavior for better planning

The Ruckus Cloud WiFi service works with a wide variety of its indoor and outdoor access points (APs). The company also offers related products:

- CloudPath is a security and policy management software offering that secures physical devices such as IP surveillance cameras and POS terminals.
- Ruckus SPoT Smart Positioning Technology provides high-precision analytics on footfall traffic and can be combined with the company's partner solution that enables location-based marketing.

Ruckus has a history of providing high-performance WLAN infrastructure in industries, including retail, hospitality, and education. Its strength lies in providing exceptional WiFi performance despite challenging network conditions. Solution differentiators include the following:

- Strong and stable APs with better capacity, coverage, and throughput using patented RF technologies
- Superior throughput and quality of experience in high-density environments and mesh networking scenarios for mobile (POS) common in large hard-to-wire spaces
- Lower total cost of ownership as a result of better coverage and capacity (Fewer APs are required, thus lowering the cost of AP infrastructure, management subscriptions, switches, cabling, and power.)

Challenges

Store infrastructure investments are forecast to grow at a healthy 9.7% CAGR from 2016 to 2021, according to IDC's *Worldwide Retail IT Spend Forecast* (2Q17), and worldwide retail mobile connectivity services spending (wireless voice and data) will grow at a CAGR of 6.17% for the same period, according to IDC's *Worldwide Semiannual Mobility Spending Guide* (2H16). These trends bode well for Ruckus.

However, while 51% of retailers overall report that they have installed guest WiFi, 11% are upgrading and 20% are installing within 24 months, according to the IDC and RIS News *Customer Engagement Tech Trends Study, 2017*. It is likely that fewer retailers in Ruckus' target market of small and medium-sized companies have completed WiFi implementations than retailers in the large enterprise segment. Additionally, analysis of the same study shows that the move to connect employees is heating up, and this will drive more WiFi investment, with 40% of respondents saying they will implement mobile devices within 24 months.

The midtier market segment also shows the most profound interest in managed cloud services offerings because these companies often do not have adequate capacity to take on more enterprise IT complexity and responsibility.

Conclusion

Investments in WiFi and mobility are fundamental to support customer-centric — seamless and frictionless — omni-channel retail. WiFi provides the connective tissue by which consumers, employees, and information can be linked, thus enabling operational efficiencies and higher levels of customer satisfaction. Consumer interactions with mobile-enabled employees positively influence shopper behavior and often result in larger basket sizes and more profitable transactions. Retail operations best practices now include stationary inventory lookups, assisted and endless aisle selling, task management, merchandise execution, and mobile POS.

Cloud and managed services are increasingly employed by retailers to achieve faster time to market, lower capital costs, and enable hands-off remote management, which bodes well for vendors that align capabilities with market demands. Demand for network refreshes, omni-channel investments, DX initiatives, and the continued maturation of WiFi in retail environments are positive indicators for stronger growth into 2018.
