

Why retailers need digital transformation

Creating an exceptional customer experience across all channels

Strategic White Paper

Retail is undergoing a rapid transformation, and retailers need to compete beyond simply offering the lowest price. By adopting a private or hybrid cloud enabled with software-defined networking and open cloud-based communications, retailers can design an exciting customer experience across all channels. This true omnichannel experience includes both physical and digital channels, which allows customers to transition seamlessly between these channels at any time. Moreover, by harnessing big data, retailers can personalize offers and messages to customers when they are most likely to be receptive to them. Now is the time to undergo a retail transformation.

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The time is now

It is both an exciting and challenging time to be in retail. New technologies are driving the industry forward in ways that have never been seen before. The way customers interact with retailers is constantly changing as customers increasingly turn to digital at all stages of the buying process. These trends are placing tremendous pressure on retailers to offer new experiences to their customers across all of their channels — from physical stores to web and mobile. Soon retailers will have to offer wearables and Internet of Things (IoT) devices like beacons and inventory tracking systems. Innovation is taking place at a rapid pace.

All of these innovations require retailers to re-evaluate their legacy IT infrastructure and fully embrace the process of digital transformation. Retailers need to start moving toward the cloud and implementing technologies such as software-defined networking (SDN), software-defined wide area network (SD-WAN), and open private cloud-based communications, all while improving security and preventing data breaches. The new retail experience starts and ends with the customer and depends on retailers' ability to effectively manage new applications, provide a seamless transition from one channel to another, and harness large amounts of data to personalize the customer's experience.

The time is now to transform retail and build a better customer experience for years to come.

The state of the industry

In mature markets like the United States and Europe, the retail industry has become extremely competitive. Following the 2008 financial crisis, consumers remain willing to shop at multiple retailers to get the lowest priced items. This trend has placed intense pressure on retailers to consistently lower prices and stay competitive. To keep up, they are frantically trying to reduce their expenses by closing stores, cutting staff, and putting off capital investments in digital technologies.

More troubling is that retail industry growth is fairly flat and is expected to remain that way for the foreseeable future. This means there are only two ways to grow: capture market share from other retailers or grow through a merger or acquisition. To continue to grow in a sustainable way, retailers need to differentiate themselves and add value beyond just offering the lowest price.

Avoiding digital technologies to cut upfront expenses is not the way to do this. Instead, retailers need to create an exceptional experience that goes beyond just providing a place to purchase products. All channels, physical and digital, should give customers a reason to be excited as they shop, browse or discover products. Creating this exceptional experience will add value and build customer loyalty by offering something that cannot be found anywhere else.

Three steps to an improved customer experience

Driven by experiences in other industries and technology companies like Google, Facebook and Amazon, customers simply expect retailers to offer certain features. They should have a website, a mobile app and the ability to take different payment methods. However, these are just table stakes that retailers need going forward. In other words, though nearly all retailers have an online presence, few have yet to design a completely omnichannel experience that moves seamlessly across mobile, web and the actual stores.

Step 1: Transforming stores into customer experience centers

Most retailers understand the need to improve their digital capabilities. It is not uncommon to hear people say how online retailing is going to eliminate the need for physical stores. However, Deloitte has showed that 91 percent of customers still shop in physical stores¹ and ICSC showed over 90 percent of retail sales occur in stores.²

Quite simply, a physical store offers advantages that digital commerce cannot compete with. Consumers can touch, feel and smell products, which is especially important for goods like groceries and other perishables. They have the ability to compare products side by side or try on clothing or accessories, and they can get the products right away without waiting for them to be shipped.³ And at the end of the day, some customers just enjoy the shopping experience itself, especially if the retailer creates an environment that is inviting and exciting to customers.

Technologies that transform the experience such as digital displays and signage, self-checkouts, cloud-based point-of-sale (PoS) systems, interactive kiosks with embedded voice or video functions or guest Wi-Fi can all improve the in-store experience. Stores can also become outlets for capabilities such as click-and-collect, buy online and return in-store, and ship from store to customers as physical and digital channels increasingly integrate.

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Step 2: Designing a true omnichannel experience

Going forward as a pure play retailer, focusing solely on online or brick-and-mortar channels, is no longer good enough. Even massive online players are starting to open physical stores, and traditional physical stores are moving into the online space. Deloitte reported that nearly 80 percent of shoppers engage with a retailer through digital channels before going to the store, and that these digital interactions influenced about 64 percent of retail store sales in the 2015 holiday season.⁴

Further, though retailers often worry about showrooming (when consumers browse the retail store only to purchase the product online, often from another retailer) it turns out that webrooming is in fact more common.

¹ International Council of Shopping Centers, 2016. "Holiday Consumer Purchasing Trends."

² Deloitte, 2015. "Deloitte's 2015 Holiday Survey – Embracing retail disruption" (http://d27n205l7rookf.cloudfront.net/wp-content/uploads/2015/10/DUP-1238_2015-Holiday-Survey_MASTER.pdf).

³ International Council of Shopping Centers, 2016. "Holiday Consumer Purchasing Trends."

⁴ Deloitte, 2015. "Deloitte's 2015 Holiday Survey – Embracing retail disruption" (http://d27n205l7rookf.cloudfront.net/wp-content/uploads/2015/10/DUP-1238_2015-Holiday-Survey_MASTER.pdf).

Sixty-nine percent of customers look online at a product and then go to a store to purchase it, compared to only 52 percent who showroom.⁵

This behavior by customers makes it a necessity to design an omnichannel experience. Many retailers claim to offer an omnichannel experience because they have a website, an e-commerce portal and perhaps a mobile app, but simply having these platforms is not enough to have a true omnichannel presence. These channels must all interact seamlessly to create a single, unified and consistent experience no matter where the customer is or what device they are on. When considering this, only 14 percent of retailers rate their omnichannel execution as advanced.⁶

It is important to remember that customers shop by brand, not channel. This means they expect that whenever they are interacting with that brand, whether on a mobile, a tablet, the internet or in the store itself, they will get the same user experience. Moreover, they use different channels depending on where they are in the buying stage.

Fortunately, 80 percent of retailers see this channel development as a high priority, with a further 83 percent saying they see cross-channel behavior as an opportunity they can tap into.⁷ Nonetheless, it is impossible to integrate channels if the network and IT infrastructure are not up to the task. Fifty-nine percent of retailers cite legacy systems as one of the top three factors inhibiting omnichannel strategy and execution, and 24 percent cite information or operation silos.⁸ Further complicating integration is the fact that many large retailers operate their online and physical commerce as separate business units, creating more silos in the process.

So what does this mean for retailers? It means that it is no longer about “bricks versus clicks”, but “bricks and clicks”.

Step 3: Harnessing big data to personalize the experience

One of the most exciting trends for retailers is the increasing collection and use of big data. Every channel now offers a wealth of information on both an individual and big picture level. Retailers that effectively harness big data can personalize the experience to each customer based on their previous and predicted behaviors. This could take the form of individual offers, unique marketing messages, or timely promotions on what the customer is actually looking at. From a big picture perspective, retailers can analyze massive amounts of data to identify trends, improve inventory management, project demand, or even open up new business areas not previously thought of.

Data can come from a variety of sources and is often unstructured. It needs to be brought together to create a single, 360° view of the customer regardless of how they interacted with the retailer. It is of no use having three separate pictures of the same customer. Retailers also need the right analytics solution to synthesize data and provide a clear, easy to understand view of

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5 Deloitte, 2015. “Deloitte’s 2015 Holiday Survey – Embracing retail disruption” (http://d27n205l7rookf.cloudfront.net/wp-content/uploads/2015/10/DUP-1238_2015-Holiday-Survey_MASTER.pdf).

6 Retail Systems Research, 2016. “Retail Insight: Consumer Expectations Transform the Industry” (<http://www.spscommerce.com/resources/fulfilling-consumer-demand/>).

7 Ebeltoft Global, 2015. “Global Cross Channel Retail Report; Entering the Omnichannel Era” (<http://www.ebeltoftgroup.com/downloadform.html?cID=167627>).

8 Retail Systems Research, 2016. “Retail Insight: Consumer Expectations Transform the Industry” (<http://www.spscommerce.com/resources/fulfilling-consumer-demand/>).

what is happening. Right now, 74 percent of retailers have applied analytics technology in finance and sales, while 64 percent have implemented web analytics, according to Retail Touch Points.⁹

The nature of digital shopping has meant that retailers always had better analytics capabilities online than in store. That's changing as Bluetooth beacons and IoT devices are becoming more widely used to track customers' behavior throughout the store. By knowing where the customer is, personalized push notifications can be sent through a mobile app to suggest products or offer discounts.

Digital transformation starts with the cloud

Technology is certainly going to play a large role in retail going forward and all of this technology will place a heavy strain on the network. A typical network simply cannot scale up cost effectively to meet the peak seasonal demand loads required. If a retailer tried to build a network that could handle these seasonal surges they would be left with little flexibility and a costly, inefficient network for the rest of the year.

This is why a private or hybrid cloud is a necessity for any digital transformation project. In fact, IDC states, "No major digital transformation initiatives are even possible in a scaled up implementation without the cloud as the foundation."¹⁰

With the cloud, each store can have access to technology, data, software, or other cloud-based applications without having to host it all on-site. Similarly, customers can access their personalized shopping experience anytime, anywhere and from any device.

The ability to rapidly scale allows retailers to effectively and efficiently utilize compute and storage resources when needed while still having the flexibility to reduce capacity during slower periods. This offers a massive cost advantage and greatly reduces the overall IT footprint. Add in the reduced maintenance costs and the total cost of ownership is substantially lower than that of a traditional network. In an industry looking everywhere to lower costs, the cloud is an excellent place to start.

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Implement SDN to get the full benefit of the cloud

In a 2015 Nokia survey of large enterprises in various industries, 81 percent of retailers used the cloud in some way. Of these, 68 percent chose a private cloud over a public or hybrid model.¹¹ If implemented with SDN, a private cloud offers the same benefits as a public cloud, but it is controlled and operated by a single institution and gives retailers more programmability, security and control over their data. At the scale required by retailers, the upfront cost of building a private cloud ends up being much less than paying recurring fees to cloud service providers on an indefinite basis.

⁹ Retail Touch Points, 2015. "Metrics that matter to retail CXOs" (https://nrf.com/system/tdf/UXC_UX004_SURV_CXO%20Survey_FINAL.pdf?file=1&title=Metrics%20That%20Matter%20to%20Retail%20CXOs).

¹⁰ IDC FutureScape, 2015. "Worldwide IT Industry 2016 Predictions: Leading Digital Transformation to Scale," webinar.

¹¹ Nokia, 2015. "A Window into Large Enterprise IT" (<http://resources.alcatel-lucent.com/asset/190209>).

A critical benefit of some SDN approaches is that they can sit on top of an existing environment (overlay) and not require a full rip and replace of existing infrastructure, regardless of the vendors or architectures involved. This overlay approach allows retailers to upgrade to a private cloud in a non-disruptive, planned fashion rather than risking downtime or upgrading the entire environment at one time.

Retailers with many locations and stores should also consider expanding these benefits to all locations with an SD-WAN solution. After everything is in place, SDN and SD-WAN will provide full programmability and give retailers maximum flexibility to manage their network, automate traffic to the best connection, and enable an agile cloud environment all from a centralized location.

Though only 25 percent of retailers said they currently use a hybrid cloud for their business, this model will likely become more widespread as retailers understand the benefits of combining the public and private cloud. In this case, retailers can use their own private cloud for business critical applications and burst to the public cloud as needed for less sensitive applications or when additional resources are needed.

Open up communications with customers

It is difficult to provide the same level of customer service and support online that is possible in-store. Typical contact or email forms are clunky and slow, and a customer may simply move on rather than go through the process of writing a message and waiting for a response.

Fortunately, there is a better way. By embedding communications functions directly into the app or web page, retailers can provide instant support to a customer across a variety of platforms. Customers could initiate an instant message, voice chat or video call directly from the application itself. They would then be automatically routed to the best customer service representative based on what they are looking at, and the representative would see all of the customer's information and history pop up on their own screen when the call is placed. A similar functionality could be provided through in-store virtual kiosks, allowing retailers to provide specialized product advice from a centralized location rather than having generalists at every store.

These customer interactions are only possible with a cloud-based communications framework that is open, offers application programming interfaces (APIs) to access key functions and provides the ability to customize the user interface (UI) rather than locking the user into one vendor's approach. With high levels of consolidation and various store refresh projects on the go, retailers most likely have disparate technologies across hundreds or thousands of locations. By choosing an open framework, retailers can easily integrate these legacy technologies together while also selecting the best-in-breed communication functions they need from various vendors. Given the sensitivity of information, retailers should look for a private cloud-based framework rather than one based in a public cloud.

Improve security and prevent breaches

The number of high profile data breaches continues to rise as attacks become more sophisticated and coordinated. For retailers, not only are the attacks costly, they also severely damage the reputation and image of the brand, sometimes irreversibly.

IBM found that the average retailer's cost per lost or stolen record was \$165 in 2015, up significantly from \$105 the previous year.¹² They also found that the average total cost of a data breach was \$3.79 million, with approximately 41 percent of that cost coming from lost business following the breach.¹³ For retailers in the public eye, media coverage of recent breaches has made the effects even worse.

For these reasons, retail executives see security and protecting customer data as one of their top priorities.¹⁴ However, in today's rapidly changing environment, there is no one device or system to guarantee security. To start, retailers need to be using encryption both during data transport and while storing data locally, and for retailers concerned about regulatory and compliance requirements such as PCI Standards, encryption should also be implemented at the data link level.

From this data link level, a layered approach can defend against more sophisticated attacks, but with new technologies like mobile, wearables and IoT devices on the network, there is no longer a well-defined perimeter to protect. Security needs to be both layered and distributed, protecting every enterprise workload and all traffic already on the network. With the introduction of dynamic cloud and virtualized environments through SDN, retailers also need to secure and isolate virtual machines. The right SDN solution allows retailers to take a policy-based approach to limit the effects of a breach and provide the programmability and extensibility needed to leverage best-of-breed security approaches.

A further advantage of SDN and SD-WAN solutions is that they allow retailers to segment traffic depending on the security requirements. Large retail breaches in the past have occurred because PoS and transaction data was accessible by attackers who had breached a vendor's network. There is simply no reason why a vendor should have access to this data. This vulnerability created a back door for attackers to steal customers' credit card and personal information. Properly segmenting traffic can drastically limit the scope of a potential breach.

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Reap the rewards of digital transformation

Retail is undergoing an exciting transformation. Technology is playing a role that is bigger than ever before and retailers that successfully integrate both their digital and physical channels together will be able to reap the rewards. Customers are looking for an exceptional experience whether they are on mobile, online, in the store or on new devices that are just now coming into the market. They are also looking for retailers that make them feel valued through personalized offers that cannot be found anywhere else.

To capitalize on these expectations, retailers need to evaluate their IT technologies and consider the advantages of a private or hybrid cloud. From there, implementing SDN in the data center and SD-WAN in the stores

¹² IBM, 2015. "2015 Cost of Data Breach Study: Global Analysis" (<http://public.dhe.ibm.com/common/ssi/ecm/se/en/sew03053wwen/SEW03053WWEN.PDF>).

¹³ Ibid.

¹⁴ Nokia, 2015. "A Window into Large Enterprise IT" (<http://resources.alcatel-lucent.com/asset/190209>).



can fully enable an agile, flexible and simplified cloud environment. To better serve the customer, embedded communications on digital devices or on in-store kiosks can make it easier to provide expert information or customer service. Of course, all of this needs to be done securely to protect customers and comply with regulations.

The time is now for retailers to undergo a digital transformation and improve the customer experience. Those that do will find they are able to add value, improve customer loyalty, drastically lower costs and bring customers into the store for reasons beyond price.

Acronyms

API	application programming interface
IDC	International Data Corporation
IoT	Internet of Things
IT	information technology
PCI	payment card industry
PoS	point of sale
SDN	software-defined networking
SD-WAN	software-defined wide area network
UI	user interface

About Nokia

Nokia is a global leader in the technologies that connect people and things. Powered by the innovation of Nokia Bell Labs and Nokia Technologies, the company is at the forefront of creating and licensing the technologies that are increasingly at the heart of our connected lives.

With state-of-the-art software, hardware and services for any type of network, Nokia is uniquely positioned to help communication service providers, governments, and large enterprises deliver on the promise of 5G, the cloud and the Internet of Things.

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