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A New Era for Retail

Cloud Computing Changes the Game

This is not your mother's shopping.

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Consumers' embrace of digital technology is disrupting retailers worldwide—making a strong case for cloud-computing responses

Not long ago, it was enough for retailers to carry a wide range of great merchandise and to have a few blowout sales events each year. Not any longer. The convergence of cloud, social, and mobile has changed all of that.

The stakes for retailers are rising. To influence purchasing decisions and give consumers what they value and expect, retailers need to build detailed consumer profiles from multiple sources, enriched by insights from advanced analytics. They need to deliver a seamless customer experience across all channels and personalize offers in real time, based on consumers' location and buying habits. Collaboration with partners and consumers themselves is also essential to offer consumers solutions, not just commodities. And that is just the start.

We believe much needs to be done along all of these fronts. Accenture's recent benchmark survey of retailer's readiness to deliver a seamless customer experience found 74% of the surveyed retailers ranked at or below "underdeveloped." Delving deeper, 72.5% described absent or underdeveloped capabilities in making the end-to-end shopping experience feel connected across channels. And 81% reported absent or underdeveloped capabilities in tailoring assortment, pricing and shopping occasion to customer expectations across channels.[1]

Cloud computing, scalable computing power delivered as-a-service on a pay-by-use model, makes it possible for retailers to meet time-pressed, on-the-go and digitally connected consumers during various phases of their shopping experience. Currently, cloud computing is a very effective model for retailers to build capabilities fast enough to hold the attention of consumers.

To date, online pure-plays (e.g., Amazon, ASOS) and small retailers have achieved far more cloud-based agility than large brick-and-mortar retailers.[2] For long-established brick-and-mortar retailers, a key stumbling block has been their assumptions about their core systems. They fear disrupting these systems — particularly point of sale (POS). And because they perceive their core systems as differentiators, they often write the software in-house, which means significant resources are tied up in technology maintenance and upgrades.

To meet the business imperatives they face, we expect retailers to build momentum quickly on the journey toward a new hybrid era of cloud computing in which applications are distributed across the local data center, a cloud provider and the datacenters and cloud providers of a retailer's trading partners. As that journey progresses, we expect widespread cloud adoption in the retail industry, with the industry's cloud market tripling from $4.2 billion in 2011 to an estimated $15.1 billion in 2015.[3]

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$4.2 billion
2011

$15.1 billion
2015

Three business imperatives for retailers

1 Lay the foundation: Build seamless platforms

Creating a seamless customer experience requires seamless platforms built on this equation: Data + Insights (analytics) + Ability to execute = Seamless retailing

In our view, there are six key characteristics of seamless retailing, each of which has a technological foundation in cloud computing that would need to be put in place (see Table 1). We believe that retailers cannot build this foundation alone — and homegrown solutions will likely be unable to match cloud applications on speed, cost or scalability.

Therefore, cloud data, analytics and process partners will become equally as important to retailers as merchandise vendor partners. Once the data, analytics, and platforms are sorted out, retailers can progress to the people, process and property issues involved in delivering a seamless consumer experience.

Table 1. Characteristics of seamless retailing

	Desired outcome	Technological foundation in the cloud
	Clean, accurate retail foundational data	Personal information management (PIM), master data management (MDM), enterprise content management
	Single view of customer	Customer MDM; customer relationship management (CRM), customer order management
	Real-time personalization	Analytics and reporting/real-time access to retail foundational data and customer data
	Order from anywhere/fulfill from anywhere	Unified commerce/service platforms
	Seamless customer experience, with access to basket across all channels and real-time cross-channel inventory visibility	Customer order management/unified commercial/service platform to provide a single view of orders across all channels and enable fulfillment and returns across channels.
	Fast pace of innovation	Version, configuration and build management/change management/sandbox environments—enterprise architecture, processes and organization that enable more rapid development, configuration and deployment of new and enhanced capabilities

2 Deliver a seamless customer experience, providing solutions rather than commodities

Consumers want to shop on their terms – through the channels they choose and with the information they control. Retailers will need to configure operations to meet consumer demands. To begin with, retailers will need to transform their stores to be more flexible, dynamic and connected. But it's not just about the store: retailers must adopt agile approaches that are integrated across physical, web, social, and mobile interfaces with consumers. As they do so, they will be able to break down the silos between conventional functions such as merchandising, supply chain and channel operations.

Further, retailers need to benchmark themselves on the six facets of the seamless customer experience, which we define as a consistent experience, connected shopping across channels, integrated merchandising, flexible fulfillment/returns, personalized interaction, and enriched services to improve the overall shopping experience.

For example, in our recent capability benchmark study,[4] 38.3% of Walmart and Target customers pointed to integration among store, online and mobile channels as the top-priority area for improvement. One-half of respondents expect the same product assortment in store as online; 57% of respondents expect the same pricing in store as online; and 53% want the same promotions in store and online.

Figure 1. Capability benchmark study[4]

50%

One half expect the same product assortment in store as online

57%

57% of respondents expect the same pricing in store as online

53%

53% want the same promotions in store and online
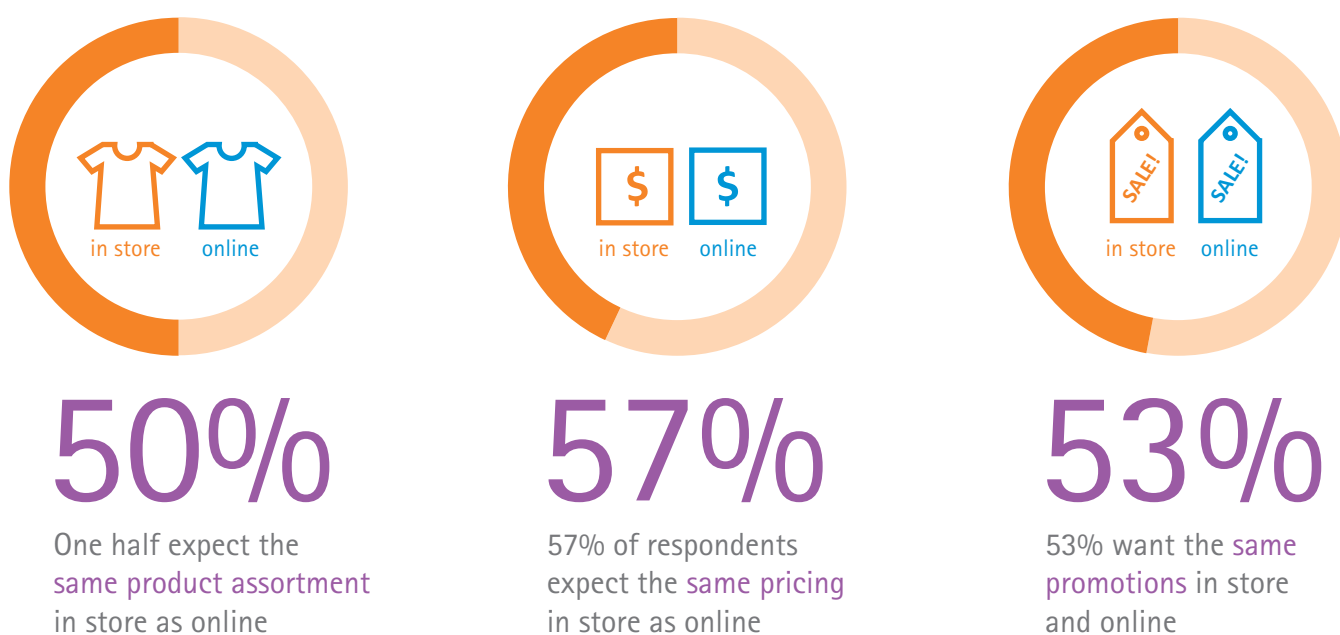
3 Drive incremental growth in new markets and services

Domestic markets no longer provide the growth trajectories that retailers' shareholders expect. With millions of citizens joining the middle class and average incomes rising in emerging nations such as Brazil, Nigeria and Indonesia, there are rich opportunities for growth far from home.

With the use of cloud technologies, emerging markets will be able to leapfrog technologically — analogous to how rapid adoption of cell phones in these countries made moot the lack of telecommunications wires and cabling infrastructure.

Add deep value across retail business areas

Cloud computing can help augment and accelerate each of the three business imperatives.

Looking at cloud computing benefits, the pay-as-you-go aspect can help retailers improve business agility and levels of engagement with customers.
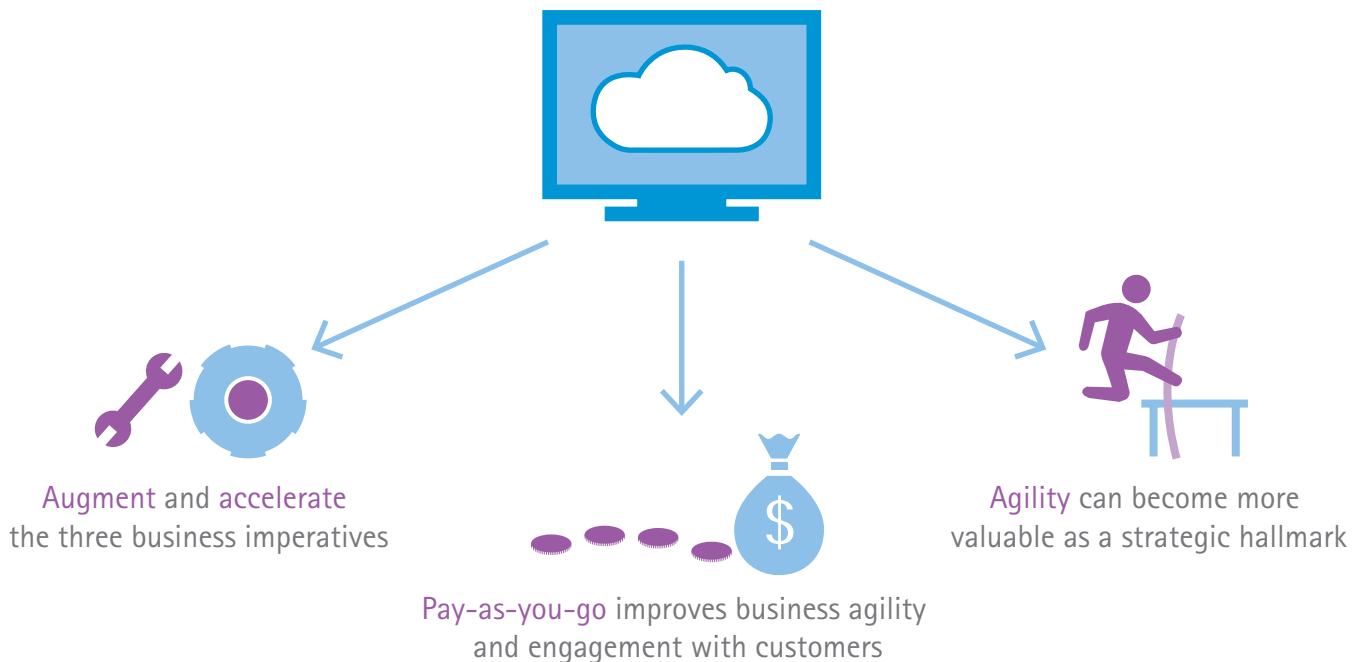
And in today's turbulent business landscape, agility can become more valuable as a strategic hallmark—making the case for cloud computing even stronger.

Retailers can use cloud —and the associated technological advances in mobility and analytics — to improve business outcomes in the following areas:

- Channel operations (e.g., store task management, scale eCommerce, contextual services)

- Merchandising and marketing (e.g., product catalog, allocation, loyalty programs)

- Supply chain management (e.g., warehouse, transportation, fulfillment)

- Sales, services and support (e.g., ecommerce, reduced total cost of ownership given optimized infrastructure spending and cloud capabilities)

In the pages that follow we'll describe how retailers can add value across these business areas through the convergence of cloud, social, and mobile technologies.

Augment and **accelerate** the three business imperatives

Pay-as-you-go improves business agility and engagement with customers

Agility can become more valuable as a strategic hallmark

Cloud computing: a quick primer

Cloud computing is a model, not a specific technology. Cloud computing, by Accenture's definition, allows companies to access IT-based services via the Internet. Cloud services are configurable, adaptable and scalable. With variable pricing tied directly to use, these services generally require less up-front investment and ongoing operating expenditure than traditional IT models.

Clouds generally take one of four forms or a combination of these forms. The main forms are:

Private clouds

Private clouds are dedicated to a single company for private use and can either be built within a company's own data center or located off premise and owned and provided by an external third party. These clouds deliver virtualized application, infrastructure and communications services for internal business users.

Public clouds

Public clouds are owned and provided by external third parties over a network.

Hybrid clouds

Hybrid clouds blend the benefits of public and private clouds by enabling companies to retain confidential information in a private cloud while also providing access to the wider choice of applications available in public clouds. For example, a hybrid cloud may use local infrastructure owned by the company as well as infrastructure owned by a public cloud provider (even though the operation of the cloud was still handled by the company).

Community clouds

Community clouds are collaborative resources shared between a number of organizations with common requirements and interests, which are often in the same industry, with the costs spread across the users. Community clouds can be hosted internally or by external third parties.

All of these forms of cloud can provide computing "on demand" at one or more of these four levels. These different types of service are often described as being in a stack. Each level builds on the one below it (e.g., platform level builds upon infrastructure level).

- At the infrastructure level, companies use infrastructure-as-a-service (IaaS) offerings to source raw computing resources, processing power, network bandwidth and storage on an on-demand basis.

- At the platform level, cloud-based platform-as-a-service, or PaaS, offerings give companies an environment that supports rapid evolution for key business application development that needs continuous change. PaaS fosters on-going business innovation by enabling developers while maintaining control of costs and operations.

- At the application level, cloud-based applications—generally known as software-as-a-service, or SaaS—are available via standard browsers, supporting device independence and anywhere access. SaaS is the most commonly used by retail companies due to the advantages shown here:

- At the business process level, cloud-based solutions — known as business-process-as-a-service, or BPaaS — offer Internet-enabled, externally provisioned services for managing an entire business process. These solutions differ from application clouds because they provide end-to-end process support, covering people processes such as contact centers as well as software.
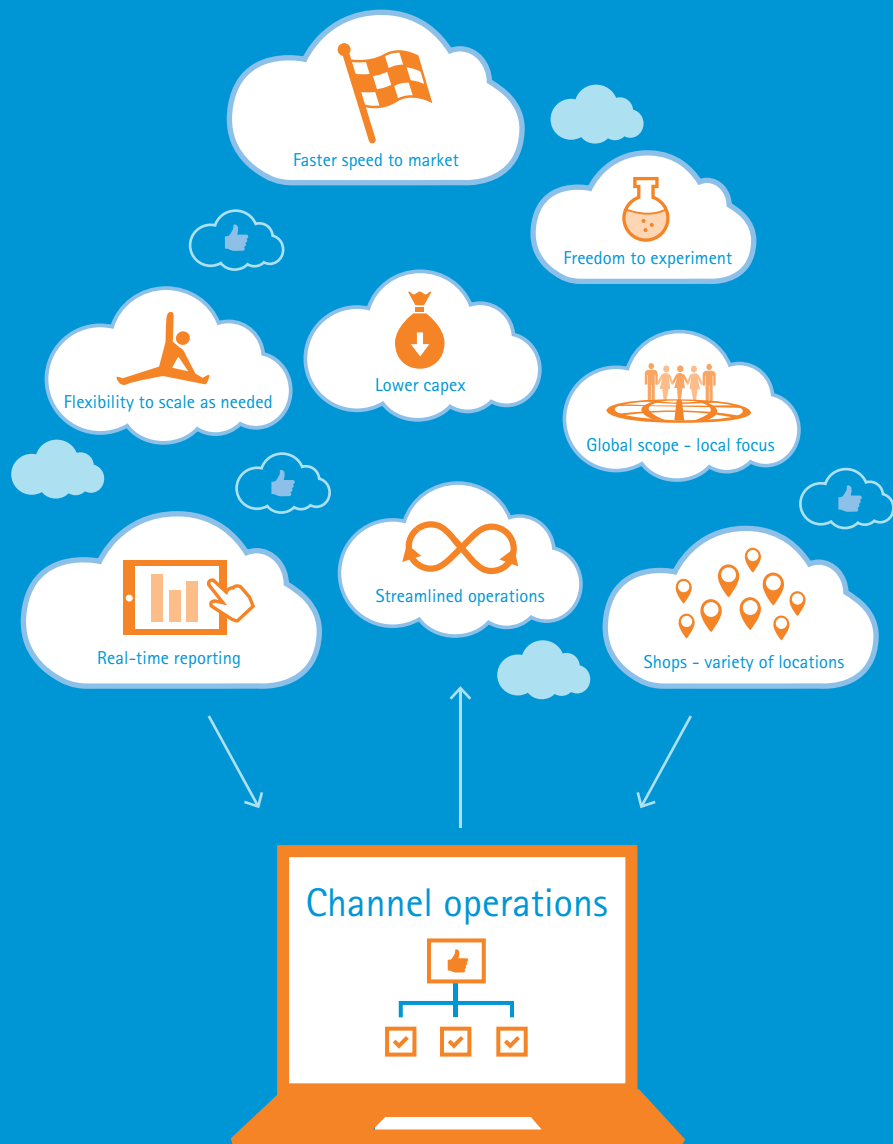
Business area #1
Channel operations

Potential benefits of using cloud computing to meet the three business imperatives in channel operation:

- Streamlined cost-effective operations that are easier to manage

- Global scope with a local focus

- Set up shops quickly in a variety of locations

- Lower capex

- Faster speed to market

- Real-time reporting

- Freedom to experiment with limited upfront investment

- Flexibility to scale up and down as needed

Highly informed and empowered by digital technology, shoppers now choose from a variety of channel alternatives — bricks-and-mortar, online, kiosk, vending, social, and mobile—to make their purchase decisions.

They readily shop online, in the store, on their mobile phones, switching between those modes without caring about the boundaries between them.

Customers expect their favorite retailer to "know" them and their preferences and to respond with "one face," regardless of the medium or channel. They want to have access to the retailer where they are at the moment.

Faster speed to market

Freedom to experiment

Flexibility to scale as needed

Lower capex

Global scope - local focus

Real-time reporting

Streamlined operations

Shops – variety of locations

Channel operations

What companies are doing today

In our view, store channels and digital channels need to be integrated and complement each other. Many retailers' systems are still operating in silos, therefore, meeting customer expectations will require a transformation of their channel operations, particularly their stores. These retailers are challenged by outdated, staid systems, operating models out of step with current market trends, and channel operations that are not set up to deliver a seamless customer experience.

Currently, many retailers have fragmented (not necessarily legacy) systems that are used to run store operations such as inventory, time tracking, reporting, shipping, and PoS terminals. Each system stores data in a different format, essentially locking up the data in the silo. At the same time, the volume, velocity and variability of data sets is growing rapidly and challenging current systems.

Some retailers are using cloud computing to streamline and standardize their systems. By using virtualized servers run in remote server farms, for example, Target has been able to reduce the number of servers in each store from seven to just two. In total, Target has retired 8,650 in-store servers, saving millions of dollars in hardware and electrical and maintenance costs, and now rolls out software upgrades to its stores in 45 days.[5]

And Fast Retailing Company,[6] one of Japan's largest apparel retailers, is growing rapidly both through acquisition and by expansion nationally and internationally. The company is able to help accommodate this rapid growth by adopting cloud infrastructure to unify the company's business processes across functions and geographies.

Point of sale (POS) changes are underway.

Smartphones and tablets can now serve as POS systems (e.g., Square[7]), handling payments, tracking inventory and sharing menu and location information. The POS system is headed toward the adoption of cloud computing, with approximately 25 percent of retailers having made the transition by the end of 2012.[8] As this transition progresses, we expect upgrades and new functionality to become easier to implement and POS hardware costs to drop dramatically. Customers win as well because they no longer have to wait in line to check out.[9]

These changes can also support faster setup of local stores by national brands. For example, they can set up small shops quickly with highly targeted merchandise suited to a particular time of year or location (e.g., a small "city" version of a box store for customers in New York City who want the brand down the street).

Nordstrom is an early adopter of mobile POS systems, having implemented these systems in all its full-line stores by mid-2012. The retailer plans to add functionality to these systems that is not available at the registers in the near term — and this added functionality of mPOS is one reason it is being called a game changer. Many components of the shopping process may change as mPOS is more widely adopted, including changing how store associates interact with customers.
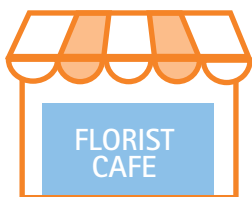
Brick-and-mortar retailers are building experiences to rise above commoditization.

An increased number of customers are "showrooming" — using the physical store to explore the merchandise and then purchasing from the online competitor with the cheapest price. Retailers are countering with tactics that give consumers a reason to walk in the door rather than purchase with a click based entirely on price. Whole Foods, for example, encourages customers to meet friends in its flagship stores for a pizza, a burger, or sushi and then shop afterwards.

Another approach is to personalize interactions with customers who do come to stores. For example, building a data hub to capture customers' contextual information as they interact with different channels (web, mobile, call centers, stores, and social networks). The retailer will then have the data it needs to generate relevant, customized customer insights and provide real-time product recommendations to individual customers. Retailers are also outfitting sales associates with tablets — both to give them real-time access to information about customers in the store but also to improve their training in creating experiences for customers.

Ultimately, according to the Economist Intelligence Unit, brick-and-mortar stores will be "more focused on establishing brand visibility and a reputation for service than on generating instore sales."[10] Such brand visibility can be enhanced by hologram technology (Walmart/Asda) and 3D interactive projection (Tesco).

Looking forward

Large brick-and-mortar retailers can gain valuable insights from other industries on moving core systems to the cloud.

Like retail, many large pharmaceutical companies long considered their core R&D systems to be sources of competitive advantage and, therefore, proprietary. They built vast internal capabilities around these systems. Basic maintenance and updates of these systems consumed a huge percentage of these pharmaceutical companies' IT resources. Further, the proprietary nature of these systems made it difficult to collaborate with partners to solve difficult problems facing the industry as a whole.

Now, however, due to blockbuster drugs going off-patent and rising R&D costs, pharmaceutical companies have had to find a new way of doing business. Most of these companies no longer perceive foundational or operational transactions—and the supporting IT environments—as differentiators. Pfizer, for example, has streamlined its operating model and outsourced clinical trial operation to two alliance partners. As part of that solution, it has built a cloud-based platform for aggregating, sharing, pooling, and analyzing the data, thereby creating a "single version of the truth" for both the partners and itself. Pfizer is now in position to retire its own internal proprietary clinical trial systems infrastructure.

The benefits some large pharmaceutical companies like Pfizer have experienced are likely to resonate with retailers, given that 65.5% of respondents to a recent Retail Information Systems (RIS) survey indicated that freeing up in-house IT staff was a top driver for moving to cloud. Other top drivers included scalable processing power (53.8%) and rapid deployment (50%)[11] — both of which are benefits that even large pharmaceutical companies are beginning to access through cloud computing.

Retail-as-a-service (RaaS) is finally becoming a solution.

RaaS has been held up as a solution for bloated and expensive retailer systems since cloud computing first took hold. Only a few early adopters (e.g. Hallmark[12]) have committed so far to a RaaS solution for their core operations; but we expect that number to increase quickly, particularly among small to medium-sized retailers. Cloud vendors (e.g., Magento[13], Epicor[14] and Dell[15]) seem to think so as well, given the increase in offerings.

With RaaS, operational processes (e.g., sales associate management, task management, restocking) will be handled by a single retail cloud platform, with data from each optimized process informing and improving the other processes.

System updates will be handled by the cloud service providers without consuming effort from the retailer, which eliminates the need for outmoded legacy systems.

Think of it as "retail systems in a box" or retail as a service. Retailers no longer have to own and maintain the additional servers required to support peak loads at holidays or product launches. Instead, through cloud technologies, they can simply sign up for more capacity on an as-needed basis, paying for what they use, as Domino's Pizza does on Super Bowl Sunday. After all, Super Bowl Sunday is Domino's biggest day of the year. The Super Bowl is for pizzerias what Valentine's Day is for florists."[16] And 30 percent of the 11 million pizza slices that Dominos' sales on Super Bowl Sunday are ordered online.[17]

Big data manipulation will be faster and cheaper.

Existing enterprise systems were not built for the flood of data now available to retailers. Cloud providers are bringing an increasing array of solutions to market, such as Amazon's Redshift data warehouse, which promises ten times the performance at one-tenth the cost of on-premises infrastructure.[18]
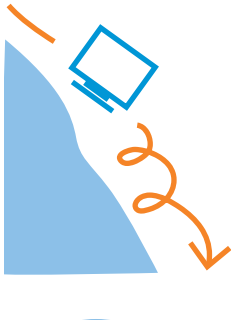
In-store computing will drop.

We believe retailers will take increasing advantage of Software-as-a-Service (SaaS) solutions to lower their total cost of ownership and reduce IT costs. Virtualization gives retailers flexibility — for example, in a virtualized environment, Windows applications can be run on Android or Apple iOS devices. In addition, retailers will gain access to a multitude of cloud-based applications that they do not need to purchase or manage.[19]

Geographic expansion will be easier.

Cloud-based services enable retailers to scale their IT fast without the burden of traditional IT infrastructure – and to respond rapidly to volatility in consumer demand. When a cloud data center can be spun up literally in a day, without upfront capital costs and with no facilities development cycle, it makes it easy to rapidly create a prominent overseas presence—and to learn quickly from the initiative. Resources can then be devoted to other tasks, such as finding suitable properties (if a physical store is planned), configuring web services for the targeted country, and sorting out legal, payment and fulfillment components.

Running proven company systems in the cloud builds consistency by allowing a franchisee to rely on the franchisor's applications in the cloud. It also means companies do not need to be as reliant on finding local talent with a specific skillset — for example, a retailer could move into an emerging market that lacks the IT skill base to run the main systems.

Business area #2
Merchandising and marketing

Potential benefits of using cloud computing to meet the three business imperatives in merchandising and marketing:

• Better understanding of trends in clients' shopping habits

• Expanded product and service offerings, and more bundled sales

• Fewer stock-outs

• Access to global markets with limited investment

• Reduced cost to serve with greater product placement

• Greater ROI from targeted promotions

Many retailers have been floundering in floods of internal (e.g., from loyalty programs) and external data, looking for insights to help them make merchandising decisions. That data may be months old before it is analyzed.

The questions of what to stock, how much to stock, and using which promotions grow more complex as retailers expand into new markets, integrate online and brick-and-mortar storefronts, and offer new services. And the risks of customers failing to find what they want are potentially higher — with a click of the mouse or a tweet to a friend, customers can find what they want elsewhere.

The omnichannel and marketing functions of brick-and-mortar retailers are under intense competitive pressure from online pure-play retailers. Change is lightning-quick in this area, and traditional retailers need all the firepower at their disposal.[20]

Better understanding of trends in shopping habits

Fewer stock-outs

buy now

Expanded offerings, more bundled sales

sale

Access to global markets

ROI from targeted promotions

Reduced cost-to-serve Greater product placement

Merchandising and Marketing

What retailers and their customers are doing today

Customers use cloud-based social tools to shop on their own terms.

Many cloud-based tools are available to help retailers allow customers to shop on their terms, through the channels they choose and with the information they control.

Case in point: Gigya[21] provides a cloud-based social login tool that lets a retailer's customers log in with a social network identity (e.g, from Facebook, Google+ or Twitter) to purchase products. Customers who log in with social identities often purchase and spend significantly more on average than other online shoppers.

PowerReviews[22] offers a ready-made, cloud-based rating and reviews service that leverages social media. By integrating its ratings-and-reviews solution with Facebook, PowerReviews multiplies the influence of brand advocates and builds a community of trusted friends and followers around a retailer's website, brand, and products. Reevoo[23] is another example of a cloud based customer review and conversation application in the cloud.

Retailers are using cloud-based tools to engage customers.

Case in point: Burberry's implementation of Burberry Chat on Salesforce's Chatter platform. Sales teams had noticed that large-framed male customers were dissatisfied with one of the retailer's suits. This news was passed quickly through Chatter to the design team, which made quick alterations to the product.[24] Another example of a retailer adopting cloud-based technology to engage customers is Walmart. Early in 2012, Walmart launched its Get on the Shelf contest, allowing anyone in the U.S. to submit online video pitches for an invention or a request for Walmart to carry a new product. The winners, selected by the public, were to be invited to sell their products on Walmart.com.[25]

These examples show how technology has allowed direct customer feedback into the buying department. However, these incremental changes do not yet demonstrate how cloud tools can be used to handle the key merchandising functions (e.g., deciding which products go into which stores or how much of each item the buyer should purchase).

E-commerce portals are improving on the cloud.

Witness Nambé,[26] a purveyor of artist-designed kitchenware and diningware, which transitioned to a cloud-based, software-as-a-service ecommerce portal. Now the company pays only for what they use on-demand.[27] Control of the system is now in the hands of the marketers and merchants. Even without the IT department's help, they can retrieve transactional data easily. At least initially, Tesco launched its F&F clothing brand online by sourcing its e-commerce site from a cloud provider. This approach allowed the supermarket chain to launch the brand quickly and in multiple geographies; however, the platform may very well migrate in-house, given the desire of larger retailers to own and control.

As another example, eBay Europe is crowd-testing its frequently updated online auction platform through the cloud-based crowdsourcing platform passbrains.com. Testers from more than 60 countries and heterogeneous backgrounds and behaviors look for bugs not found by traditional in-house means.[28]

Virtual storefronts and endless aisles are gaining momentum.

Virtual storefronts (e.g., in train or subway stations) feature photos of products. A user who scans a product's QC code with a mobile phone is directed to an online site for purchase. Virtual storefronts are another tactic to battle showrooming. As one marketer said, "The time increment between being made aware, considering that product, intending to purchase and going through with the purchase is so small that it should make it much easier to convert."[29] Indeed, this is one of the reasons why the value of mobile transactions is predicted to rise elevenfold across Europe between 2011 and 2017.[30]

Tesco offers a similar idea—an "endless aisle" touchscreen catalog that allows customers to search (with filters) over 11,000 products, rotate the view as desired, scan the QR codes, and order. According to Tesco's UK general merchandise director: "Our focus is on making shopping as convenient as possible for our customers, and we also want to make sure store customers don't miss out on the growing range of products we have available online. This giant screen makes use of a single section of the store to offer shoppers access to an enormous range of toys, like being able to stroll down the longest aisle in the world."[31]

Using cloud's unique characteristics as a source of competitive advantage

As retailers' usage of cloud grows, they are on a journey toward using cloud's unique attributes as an ever greater source of competitive advantage. Accenture has devised a cloud adaptation matrix to help retailers map their path to cloud maturity, pinpoint their company's stage in the journey, assess the upcoming opportunities and plan best next steps.

The matrix divides the journey to cloud maturity into five main phases starting with on demand / trials, such as analytics and new ventures. Then stepping up to foundational IT, such as storage and computing. Core IT systems follow by enabling cloud for systems such as supply chain and non-POS store operations.

The cloud is enabled in the extended enterprise for the retailer's suppliers and partners, finally progressing to real-time services for POS and flexible fulfillment.

At the same time, the retailer's objectives in using cloud also mature, progressing from a focus on costs to ad-hoc strategic enablement, before finally making cloud an integral part of their operations.

Each of these objectives addresses a different defining factor of the utility context that we described earlier.

Clearly, different retailers will move into the cloud at their own pace, reflecting the unique characteristics of their business and the competitive environment they face.

Real-time moments of truth
- Point of service
- Personalized customer insights
- Product and service visibility
- Flexible fulfillment

Extended enterprise
- Suppliers
- Partners

Core IT systems
- Merchandising
- Supply chain
- Store ops (non-POS)

Foundational IT
- Storage and compute
- Email & collaboration tools
- Back office non-core

On Demand/Trials
- Analytics
- Apps
- New Markets/Ventures

	Test & Flex	Optimize the Foundation	Agile Analytics & Execution	Connect with Customers	Innovate & Collaborate
Value levers	• Lower testing costs • Enable speed to deployment • Offer flexible and scaleable computing	• Reduce capital expenditures and IT TCO • Simplify infrastructure	• Analyze big data • Offer shared access • Sense & respond	• Improve response time • Enable social and mobile capabilities	• Facilitate virtual collaboration and rapid iteration

Looking forward

Context-based services will personalize the in-store experience.

Smartphones provide a mechanism by which an experience meant for everyone can be personalized with little change to the physical store — so long as the retailer is able to successfully prompt customers to log in when they enter the store. Many retailers already provide their customers with mobile apps for their smartphones. By using Facebook Connect™ as a login service for the app, the smartphone can be used to collect social profile data to learn more about the customer.

With this context, a customer can be classified into one of a few pre-defined customer segments. For each segment, a custom experience can be designed to address the needs of customers in that segment. Technologies such as augmented reality and quick response (QR) codes can be used in the physical store to enhance physical products with digital content that is tuned to the user's needs.

Real-time, 1:1 customized offers to become the next trend.

As Gartner explains the trend: "First, the ability to access context-aware, real-time information on customers is increasing (for example, customers' locations communicated via their mobile phones). Second, advances in database and cloud computing are significantly increasing the analytical capability to produce real-time offers. Third, some consumers are becoming more receptive to receiving and requesting promotions "in the moment" (for example, on their mobile devices and via Twitter).[32]

Retailers have used customized promotions for a while in stores, according to Gartner, but currently these are selected days or weeks in advance. The prerequisites are significant: "Retailers that are considering real-time offer engines will require good customer data (ideally, across all interaction channels), context-aware data (for example, location), and a vehicle by which customers can receive and respond to offers...."[33]

Once retailers "accept that more data lives outside their enterprise than within it," they will recognize that "a full, real-time view of their shopper — and their own product data and inventory — is only possible through the cloud."[34]

Gartner cautions: "Retailers should not attempt to supply customers with real-time, customized, 1-to-1 ratio offers until they are confident that they have adequate segmentation and behavioral analysis."[35] Otherwise, attempts to provide personalized experiences in the store will backfire if offers are untimely or irrelevant.

Expanded product offerings will not translate to larger inventory costs (so long as inventory is held by a third party).

Retailers can run targeted promotions with the assurance that they have enough inventory on hand to handle the uptick in purchases. Supplier collaboration, enabled through the cloud, allows goods to be shipped directly from the retailer's suppliers to customers — creating an "endless aisle" for the retailer.

Automated, optimized processes—the foundation of retail-as-a-service—are fed by behind-the-scenes analysis of consumer habits and purchase histories. These processes can take a lot of the "guessing game" out of merchandizing for retailers — for example, by helping them get smarter about which products to place where, based on trends, or about which products are best aligned with customers' purchasing habits.

Stores will juxtapose influencer data with physical products.

Consumers' trust has shifted to social networks — including reviewers whom they do not know. Therefore, brick-and-mortar retailers are likely to bring online tactics such as consumer reviews into the store and identify key opinion influencers. Partners are available to help. For example, Klout[36] finds influencers in everything from barbecue to tech gadgets to gardening. Klout measures influence based on the influencers' ability to drive action, not potentially misleading metrics like follower or friend count. Klout has analyzed over 85 million people on major social networks and is used by over 3,000 brands and applications.

Context-based services

We believe the next big challenge for retail is to determine how to use smartphones to engage with customers and drive purchasing by providing key insight during the purchase decision process. Retailers who can provide effective decision-making tools for in-store customers can open up a new channel through which to market and sell.

When blended with social activity and local context, personal data can be used to generate highly targeted offers that include customized communication styles and incentive structures.

The coming shifts are starting to take shape in what Accenture labels "context-based services," where data from a host of new sources (see Figure 2), combined with technologies that rapidly aggregate and analyze the data, will deliver fresh insights that can give users much more immersive and valuable experiences online—and in the real world.

Essentially, the real world and digital data are merged to understand who the shopper is, where he is, and what he is doing, resulting in a highly customized technology service.

Today's customers have increasingly high expectations that retailers will use contextual information to deliver the right information at the right time in the right location.

One early example of a context-based service is shopkick, a mobile marketing and rewards app. Installed in a mobile device, shopkick's location technology can detect if the user has stepped into a departmental store and then send relevant shopping promotions to her phone.

Tomorrow's context-based services will go far beyond today's location-based mobile apps. A good example might be a shopping app that gives a customer fast access to more information about a new jacket whose quick response (QR) code she's scanned in the store; tells her how far she is from stores that carry other sizes of the jacket (the "local" element); alerts her to her available credit balance (personal); and gets instant opinions, via Facebook, from her friends about whether or not they like the jacket (social).

In effect, context helps organizations shift their focus from insight (for example, business travelers value ease and speed of interaction when choosing rental car companies) to actionable insight (speeding up the car rental process helps frequent renters to avoid lines, and increases customer loyalty).

Context can move things even further, spurring insight at the point of action—where the car rental company automatically detects when an accident with one of its cars has happened, initiates emergency services if needed, and sends a new rental car to meet the renter at the scene, making it much more likely that the renter becomes a loyal customer for life.

Cloud computing underlies many of the elements of context-based services—the Facebook conversations and likely the software-as-a-service (SaaS) processing of customer data.

Cloud computing makes it far easier for retailers to experiment with technology trends such as context-based services. And it makes set-up of such services faster and less costly. Its as-needed characteristics mean the cloud can scale up rapidly, integrating inputs from many sources, online and offline.

Figure 2. Using contextual information to understand customer needs[37]

Location

Actions

Social

Lists

Browse history

Payment

Account

Shipping

User Context

Anonymous

Search queries

Games

Loyalty

Order history

QR code scan

Call Center

Ads

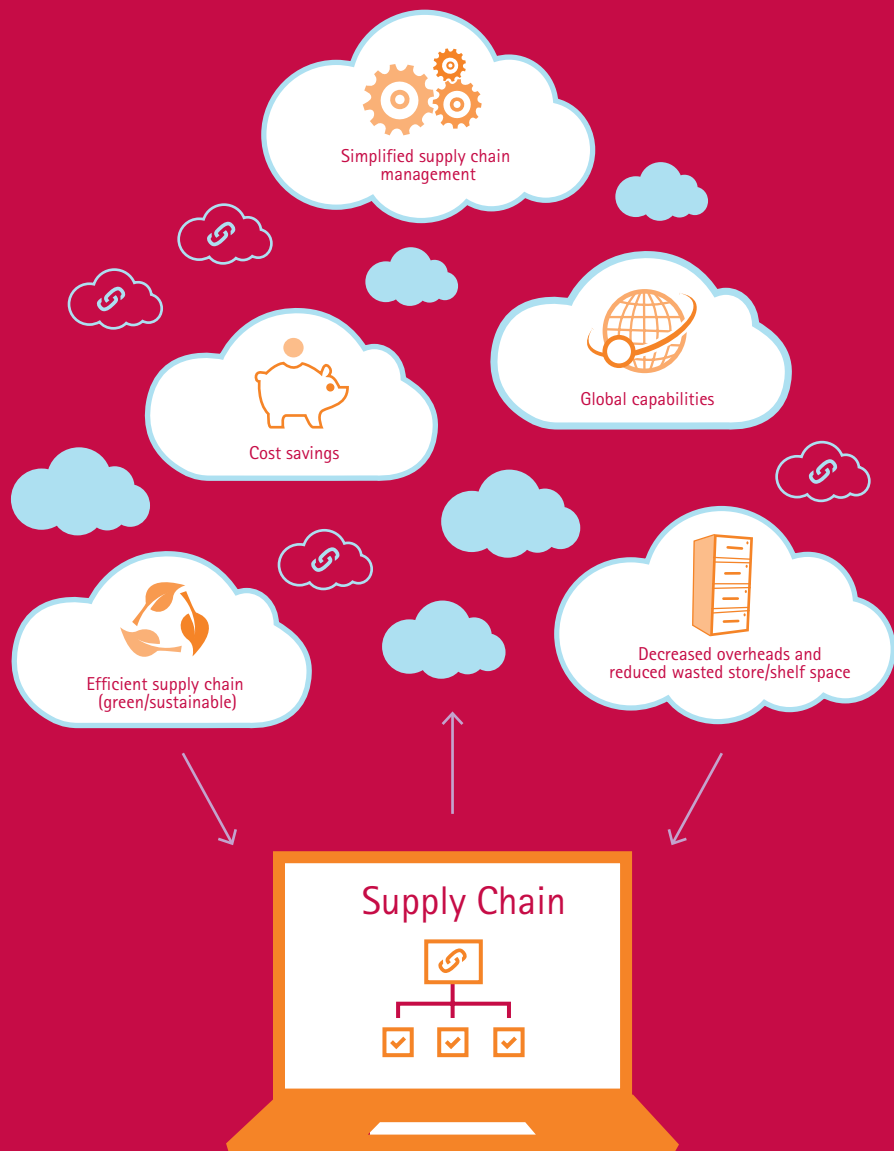Traditional Context

Expanded Context

Business area #3
Supply chain

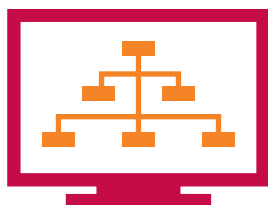Potential benefits of using cloud computing to meet the three business imperatives in the supply chain area:

- Simplified supply chain management

- Decreased overhead costs, and reduced wasted store and shelf space

- Global capabilities

- Cost savings

- Efficient supply chain (e.g., greener, and more sustainable)

Few retailers have supply chain systems capable of adequately handling their current business without stock-outs, expedited deliveries, or high inventories — though some grocers are getting close. Fewer still have systems fed by real-time data on customer purchasing patterns and the company's growth plans. As a result, these outmoded supply chain systems may shackle the retailer's aspirations and reduce the effectiveness of other efforts (e.g., promotions or localized product mixes).

Supply chain and inventory management are generally run by applications that are unique to retailing and critical to success. This is precisely the category of applications in which there has been the least cloud penetration to date. In contrast, there has been far deeper penetration in business applications used by any enterprise and in omnichannel and marketing applications.[38]

Simplified supply chain management

Global capabilities

Cost savings

Decreased overheads and reduced wasted store/shelf space

Efficient supply chain (green/sustainable)

Supply Chain

What companies are doing today

Larger retailers and manufacturers are addressing the challenge of master data management (MDM).

Consider Del Monte's recent selection of a cloud-based service to automate its inventory and document management processes.

Implemented on the GT Nexus trade and logistics platform,[39] Del Monte's central supply chain information hub manages international shipments and captures real-time status information and digitized documents from suppliers, carriers, logistics providers, brokers and the U.S. government. The data is standardized online and available to a broad spectrum of users across the company.

Del Monte now has visibility into its inventory, across transport modes, from order to final destination. Further, it has views and controls to support orders, inventory, shipment plans and trade documentation.[40]

Stores are doubling as distribution centers.

When a product is not available in one store, some retailers are applying weighting factors such as distance from the customer and inventory levels at different stores to determine how to fill an order. Using cloud-based applications for this purpose, particularly at holiday crunch times, can improve the bottom line. Macy's is using its stores in this way with strong results — the retailer reported a 52% gain in online sales and 4% increase in overall sales in 2012 over 2011.[41]

Cloud-based cross-channel shipping solutions are being deployed by leading retailers at this time. These solutions provide the visibility across the supply chain to be able to find a product in the most cost-effective location and move it to a customer. Possible distribution paths include warehouse to consumer, warehouse to store, store to store, store to consumer, or supplier to any of these points.[42]

Looking forward

MEGA MART

Master content management will mature, span multiple domains, and be accessible to retailers of all sizes.

Retail-as-a-service in the cloud uses a single master inventory system across multiple channels. Such a system drives out complexity, potentially decreasing overhead costs, wasted shelf space and long-sitting inventory — all while controlling stock-outs.

With the cloud, small- and medium-sized retailers gain access to industry leading inventory processes that up until now could only be afforded by large multinationals. In 2012, adoption of cloud solutions for inventory hovered around 16%; by 2014, close to 50% of retailers will have transitioned.[43] One momentum driver for this is the confidence of smaller retailers in adopting processes tested across industries and by the demands of companies far larger than themselves.

Inventory is only one aspect of the master content management required to run seamless operations. Gartner explains MCM in this way: "As a growing number of retailers are [focusing] on using content like "big data" and social data to understand and influence consumer behavior, the need for "governing content" (we call this, master content management) is growing."[44]

Master data management (MDM) is a precursor to master content management. As such, according to Gartner, it "helps organizations break down operational barriers enabling greater enterprise agility, improved revenue, reduced IT and business costs and simplified integration activities." Cloud-based MDM solutions are maturing rapidly, heading from single-domain (consumer or product) to multi-domain solutions.
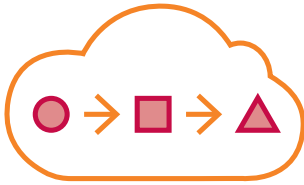
Retailers will adopt cloud deployment models for supply chain processes/ functions.

Cloud deployment models can help enable business agility, flexibility, and speed, and the reduction of fixed assets cuts costs. Major adoption across industries [currently] is clearly in logistics — specifically, transportation management functions. We see limited movement away from on-premises for planning applications. Gartner estimate less than five percent of the market is using alternative models for SCM planning processes today, but data from a survey completed in early 2012 indicates that companies are seeking

SaaS and BPO solutions for certain aspects of planning, such as elements of demand planning. The reason for low adoption of alternative delivery models for planning applications is because planning applications and the associated business processes that are powered by the planning applications (sales and operations planning) involve extracting and analyzing data from multiple systems, including data that is considered confidential, such as promotional plans and new product introduction forecasts.[45] Accenture believes that as security concerns diminish, we will see a steady ramping up of alternative SCM planning processes in the cloud, particularly over the next several years.
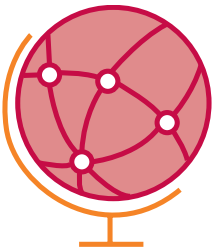
Supply chains will be challenged to fulfill growing global demand.

Without a single additional brick, retailers can leverage cloud and social media outlets to push local products into global markets. In this way, they gain potential access to billions of potential new customers —and those customers' social networks—with relatively limited investment.

Business area #4
Sales, services and support

Potential benefits of using cloud computing to meet the three business imperatives in the sales, services and support area:

- Reduced IT budget
- Greater adaptability and flexibility
- Reduced response times
- Moving at the speed of trends
- Easier integration
- Testing new ideas with limited upfront investment and at speed

Sales, service and support are essential to what IDC calls the "new rules of retail": retailers must "take strategic actions toward satisfying each individual customer's needs rather than on how they position their business for greater scale and growth. Greater scale and growth will be a result of omnichannel excellence that is a consequence of greater customer loyalty."[46] And loyalty is enhanced or eroded by every interaction with sales and customer service representatives.

Reduced IT budget

Easier integration

Greater adaptability and flexibility

Testing new ideas: limited investment and at speed

Reduced response times

Moving at the speed of trends

Sales, services and support
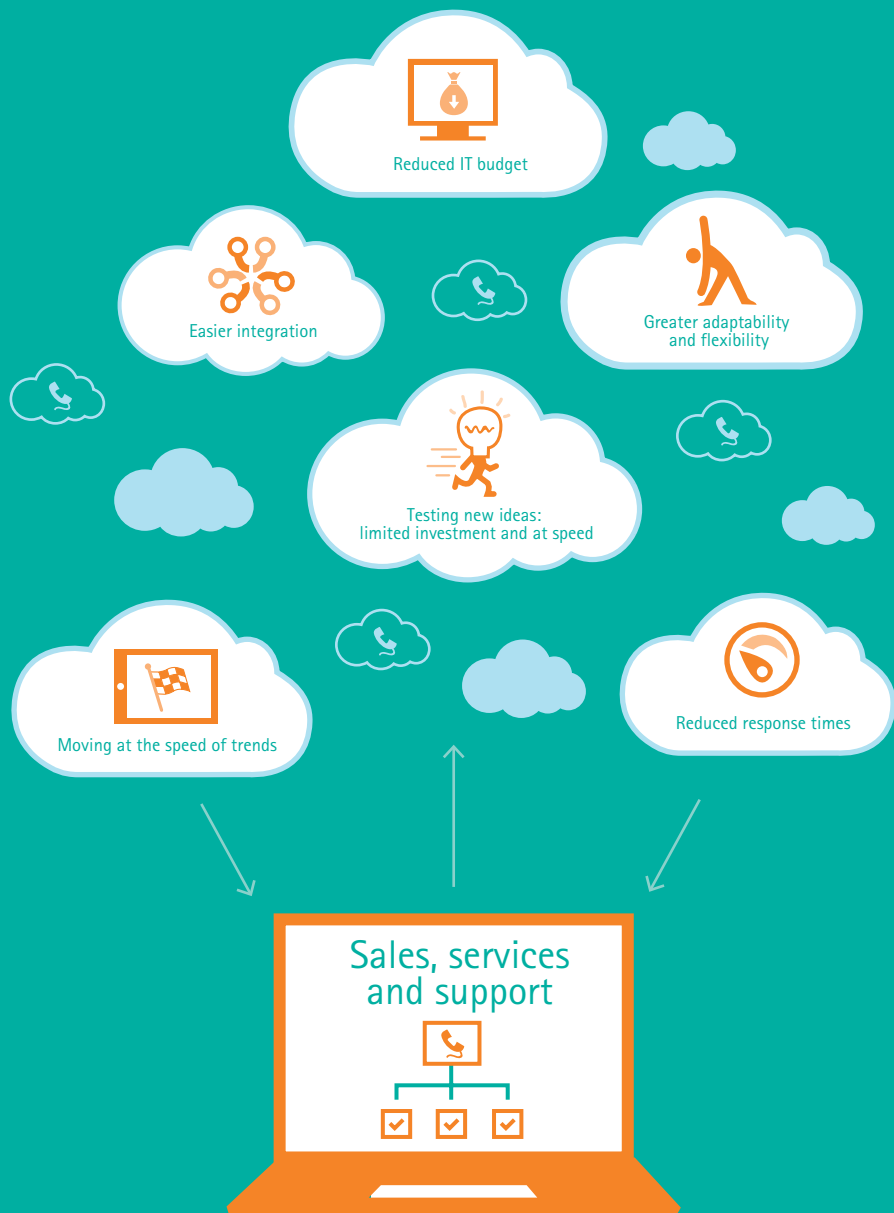
What companies are doing today

Mobile channel is helping customers in stores.

The mobile channel has been called "a silent salesperson."[47] QR codes in stores direct customers to content that generally triggers additional sales. Large retailers are also launching applications that help customers navigate large stores or take advantage of services (e.g., make reservations at store restaurants). Some are putting tablets in fitting rooms so customers can listen to music while trying on clothes.[48]

Early adopters of cloud computing have armed sales associates with mobile devices.

In Apple stores, sales representatives answer customers' questions, check stock and finalize sales with their iPads. GUESS is also arming its sales associates with these devices, which means they will be able to "access our online resources in the store and sales associates can roll the iPads into the dressing room to visually display options and accessories to make shopping more fulfilling and enjoyable."[49]

Looking forward
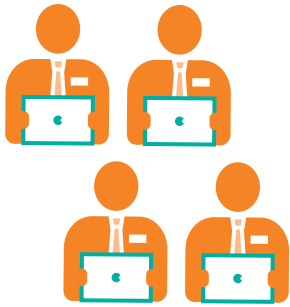
Every sales associate will have a mobile device.

mPOS and other cloud solutions will transform store operations and change how sales associates interact with customers in the stores. These sales associates will also know far more about customers who "check in" to the store with their mobile devices and will be able to offer a personalized set of products and services to these customers. The customer's physical presence will trigger the presentation of personalized promotions to that customer, which can also be delivered to the nearest sales associate's tablet. In addition, some retailers are beginning to use video from in-store cameras to create maps of foot traffic in their stores in order to focus sales associates appropriately.[50] When they are not helping customers, these sales associates will have training applications at their fingertips on their tablets or other mobile device.

Retailers will build loyalty and sell additional products by adding services to their offerings.

Lowe's, for example, recently announced a cloud-based home management system. The service is aimed at the mass market and, in its first iteration, gives customers anytime, anywhere access to lock their doors, pull up their window shades, turn down their thermostats, and turn on lights.[51]

Retailers will increasingly adopt cloud support solutions used by other industries.

As retail moves more core applications into the cloud, and as cloud vendors offer a wider range of solutions, we expect to see more retailers adopting solutions that have been tested across industries.

The future of cloud computing in retail

Two primary drivers — competition with online pure-plays and customer demand for a seamless experience — will motivate increasingly faster adoption rates for cloud in retail. As our recent seamless retail survey showed, customers want the same products, pricing and promotions in store and online. They expect to be recognized for their loyalty and receive personalized offers regularly. And they want a seamless rather than a channel-specific experience of the brand.

We see large retailers embracing this concept — witness Walmart's interest in "winning in ecommerce by giving customers a seamless shopping experience through mobile and online" and Target's search "for a broad, seamless experience across all retail formats."

So far, retailers have focused on the easier capabilities. Now it is time to use cloud computing to tackle the harder work. Building these seamless capabilities will lead to collaboration across retailers and with existing and emerging third parties. We believe, one reason for this trend is that retailers will change their understanding of what differentiates them in the marketplace; as technology infrastructure becomes a service, retailers will develop best practices as collaborators, such as is happening in the pharmaceutical industry.

Further, we believe that efficient innovators will win the seamless game. The pace of change will not slow down. Consumers will continue to be quick to change their priorities and therefore their expectations of retailer capabilities. The cloud gives retailers the easily scalable resources they need to innovate using a consumption based model — and provides resource bandwidth, as employees are freed from tasks moved to the cloud.

In order to address their customers' demand for seamless service, traditional retailers need to seriously evaluate their operational capabilities. They must be seamless in terms of buying, placement and promotion of merchandise. And that means having inventory visibility, as well as developing pricing strategies and managing metrics and incentives across all channels. We see the following trends:

1   Merchandising and Marketing converge with a unified position with the customer experience becoming equally important as product and price

2   Single-channel teams (Marketing, Merchandising, Supply Chain) consolidate to serve the customer across the enterprise

3   Store Associates coalesce into two specializations: customer-facing associates providing increasingly sophisticated customer experiences and fulfillment-centric associates, enabling increasingly complex delivery options
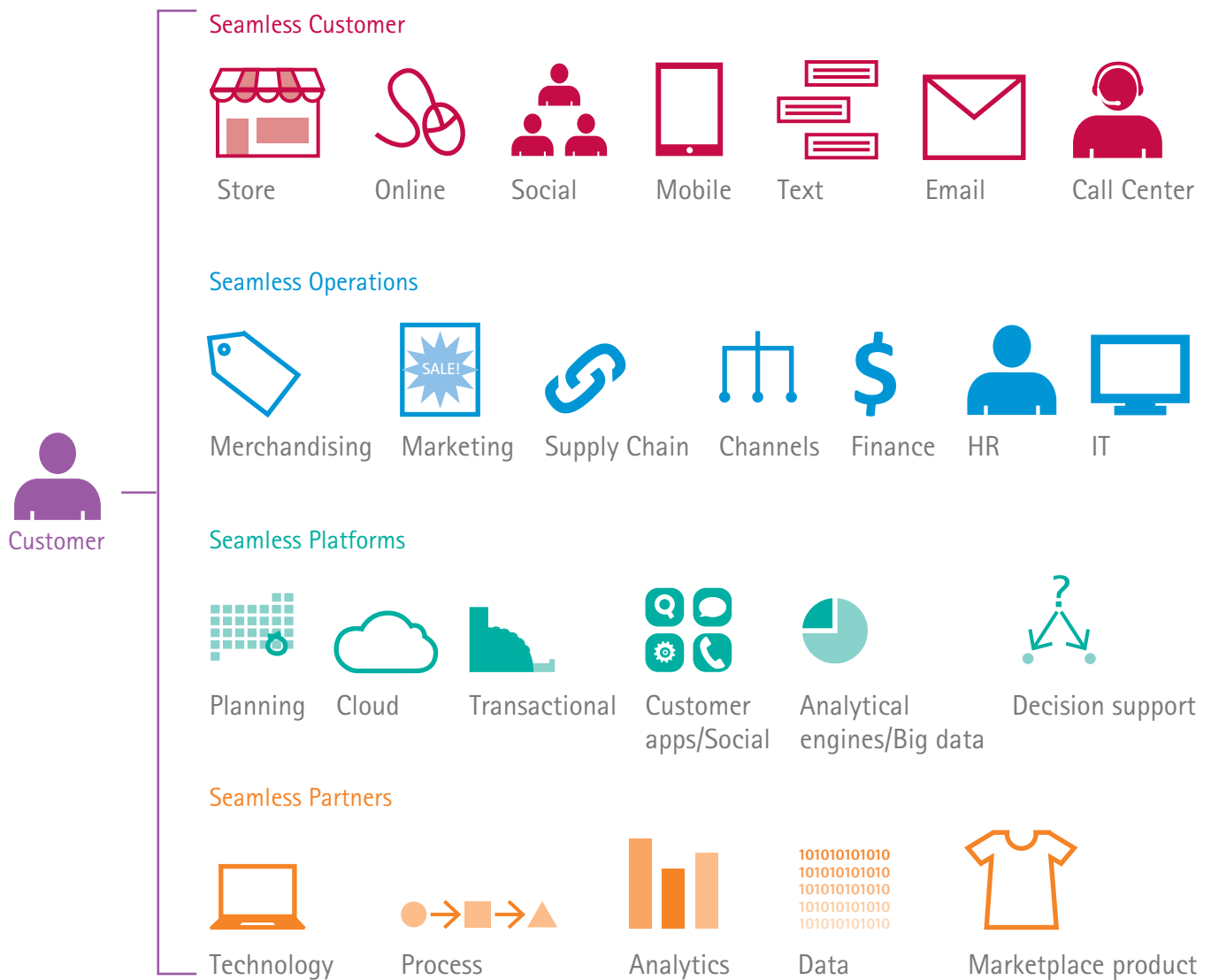
4   Supply Chain evolves to holistically manage inventory forward, backwards and sideways

5   Metrics and incentives expand to include holistic customer value—comp "customer" sales becomes as important as comp "store" sales

Figure 3. Seamless retail delivered

Seamless Customer

Store Online Social Mobile Text Email Call Center

Seamless Operations

Merchandising Marketing Supply Chain Channels Finance HR IT

Customer

Seamless Platforms

Planning Cloud Transactional Customer apps/Social Analytical engines/Big data Decision support

Seamless Partners

Technology Process Analytics Data Marketplace product

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