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Cloud—the retail essential

Enabling cloud to deliver the next-generation retail experience

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Delivering the new retail experience

For years, retailers have been trying to keep pace with ever-evolving consumer demand for an always-on, personalized experience that blends the physical and virtual worlds.

That demand has only intensified during the global pandemic, which 65 percent of consumers said has changed their online buying behaviors.[1] The pandemic also has affected consumer expectations for sustainability. Consumers expect retailers to act in a sustainable and responsible way, and 67 percent of them agree that companies will build back better from the pandemic by investing in longer-term, sustainable, and fair solutions.[2]

> **An adaptive retailer can respond to constant disruptions, building the kind of sustainable resilience it needs to weather the storm.**

Together, these shifts have increased pressure on retailers to accelerate the development of the future retail experience. Even during this incredibly challenging economic environment, significant opportunities exist for retailers to adopt advanced technologies to jumpstart stalled or derailed business initiatives and create a new gold standard for how they engage with consumers— all while generating significant environmental sustainability benefits.

Consumers, the business, and IT are all moving quickly. The business values speed and will pay a premium for it. IT needs flexibility to deliver at speed. And all the pandemic has done is speed up digital adoption by three to five years. Now retailers need to ask the question: What does it take to compete at the speed of digital? The answer is adaptability. An adaptive retailer can respond to constant disruptions, building the kind of sustainable resilience it needs to weather the storm.

But here's the hitch: Too many retailers today are struggling to find their way to this new future. Most retailers' businesses are still too hard-wired and static to quickly flex and evolve, and too dependent on traditional models. Retailers need to break free of these constraints to reflect the fact that shopping habits are very different now and will continue to develop in unforeseen ways. It can be done—but it's going to take an aggressive move to a new cloud-first mindset.

Creating Living Systems for retail

Today's platforms can completely reshape both online and in-store experiences—but to take advantage of them, retailers need to overcome a significant stumbling block: their back-office systems.

To support the next-generation shopping experience, retailers' back-office systems must be moved to the cloud to fully integrate with the cloud-based front end. Once this happens, a whole new world opens up for retailers.

To work, front-end platforms need to be tightly integrated with inventory, billing, and other back-office systems. Yet for most retailers, integration today means slow interactions across disparate legacy systems with limited ability to act in real time. And legacy doesn't even have to refer to old code or antiquated systems. It could also mean modern applications and associated services that are no longer relevant to the business.

The reality is, the current retail infrastructure is increasingly untenable in an era of change and disruption. To effectively support the next-generation shopping experience, retailers' back-office systems and processes must be moved to the cloud to fully integrate with the cloud-based front end. Once this happens, a whole new world opens up for retailers.

Are retailers asking the right questions about cloud?

Unfortunately, cloud conversations still are inextricably tied to cutting costs. But the argument to use the cloud to cut costs isn't very convincing. Every reasonably mature retailer will have sunk costs in data centers, depreciated hardware and software, and resources that often make the status quo more economical in the short term from a cost perspective.

CFOs prefer the depreciation and stock valuation benefits of capital expenses over operating expenses which, in their minds, means renting versus owning their IT may not always make sense. Most rosy cloud economics imagine a greenfield where the sunk costs of a brownfield are conveniently ignored. Thus, the question shouldn't simply be, *Can the cloud cut costs?* The more important question is, *Can the cloud make my business more adaptable, and therefore enable affordable change, innovation and growth?*

The important question is not about cost cutting, but: Can the cloud make my business more adaptable, and therefore enable affordable change, innovation and growth?

The price of adaptability

Every retailer in this pandemic would like to be more digital, with integrated channels, offering curbside pickup and profitable home delivery models, with repurposed stores that double as storehouses to complement their warehouses.

But that's just on the surface. What every retailer really wishes for deep down is the ability to quickly adapt to change. For example, a very successful North American grocery retailer saw its digital business skyrocket during the pandemic. But what also shot up was the lost opportunity cost, due to the company's inability to offer curbside pickup effectively. The company was plagued by excessive substitutions, typically more than 70%, in customers' orders because it lacked inventory visibility that rendered click & collect ineffective and riddled with negative customer experiences.

What if a successful COVID-19 vaccine spurs a different set of consumer behavior changes and curbside pickup becomes passé? Then what? The point is, what retailers really need is the ability to rapidly and affordably adapt to whatever the current situation requires. And that necessitates a business built on what Accenture calls Living Systems.

Putting data first

The key to Living Systems is data. While such things as operating models, governance, organizational structure and skills are all important, the value of data in this modern age of digital retailing cannot be overstressed. The entire value of a retailer—the nature of assortments, reactions to prices, promotions, customer behavior, employees, vendor and trading partner engagement—are all encoded in the company's data.

Setting this data free from legacy systems, developing deep insights from it, and leveraging it to drive better business decisions is the name of the game.

Employing the right operating models and advanced machine learning to develop impactful scenarios that can be planned, tested, and simulated—and then using insights from those scenarios to discern the right trade-offs—that's the key to adaptability. And cloud computing is built for this.

What cloud are we talking about?

The likely path for most enterprises is a hybrid cloud. This implies that SaaS, PaaS, and IaaS are employed both on-premise and/or in private and public clouds, depending on the workloads. In the retail industry, cloud adoption has followed three broad waves, each driven by a distinctly different purpose *(see right)*.

Although plenty of retailers still look to use cloud as a cost takeout lever, the momentum of the industry as a whole is clearly behind innovating with data. Living Systems adds adaptability to the mix.

1 Delivering buying outcomes

Interestingly, many retailers leveraged SaaS models first, often for specific outcomes that were necessary to administer the business, but didn't differentiate their brand. Thus, functions like email, CRM, procurement, and HR were the targets of early cloud adoption. Also among the first to cloud were certain retail functions like merchandise planning, assortments, and forecasting, which required very specialized analytics.

2 Optimizing costs

Many retailers have already gone down this path: migrating their on-premise data centers and workloads to leverage IaaS from public cloud providers like Microsoft Azure, Google Cloud Platform, or Amazon Web Services. Of course, these moves are often undertaken in response to some forcing event, such as end-of-life, end-of-lease, or major transformation.

3 Innovating at scale

The next wave is the most impactful: taking advantage of the economies of scale that cloud computing can offer and putting it to work to drive innovation—often using data, artificial intelligence and machine learning—and, hence, differentiation.

How can Living Systems drive innovation and change?

With Living Systems, retailers can do something completely new: use the cloud to integrate their entire business as a new retail platform. First, this enables them to rearchitect the end-to-end retail business to get closer to consumers and thereby become more relevant and valuable to them. And, second, this substantially reduces their impact on the environment.

With the cloud as their core infrastructure, retailers can cost-effectively, continually, and sustainably innovate to provide the right shopping experience and engagement for every customer, in the moment of need, that's necessary to survive and thrive in any environment.

Living Systems enable retailers to incrementally and continually adapt their capabilities and skills in a world of constant change, breaking free of the confines of their existing business model to unlock robust, sustained, and profitable growth.

Living Systems enable retailers to incrementally and continually adapt their capabilities and skills in a world of constant change

They enable retailers to leverage technology and the full power of the cloud's constant stream of innovations. With the cloud, retailers can create a true living retail platform that eliminates outdated legacy applications and their associated technical debt. This creates a robust and integrated data backbone and accelerates the adoption of advanced digital tools such as analytics, artificial intelligence (AI), and machine learning (ML) to deliver the unique, personalized experiences consumers crave—and do it far more cost effectively, efficiently, and quickly than they do today.

Pandora— agility, cost savings, and risk reduction

As global Danish jeweler Pandora's presence grew around the world, it had to become significantly more nimble in an industry that requires speed and agile responsiveness. Pandora needed the capability of the cloud to deliver the technology required to execute on its digital aspiration of delivering a truly seamless customer experience. With support from Accenture, Pandora successfully transitioned approximately 70 percent of its applications and infrastructure to the cloud within 18 months. The money and resources gained will be redirected to new digital initiatives including enhanced online shopping experiences.

Source: Accenture, Global jeweler Pandora: Going for cloud

Fueling the shift to **sustainable retail**

Importantly, cloud-based Living Systems also can bring significant sustainability benefits to retailers that embrace them. A sustainable cloud migration can have multiple direct environmental effects that result from using hardware optimally. But cloud journeys also enable retailers to take the next leap toward responsibility through circular business models, traceability and optimized supply chains, and a sustainable customer experience.

Optimized hardware usage from the sharing economy

The number of large-scale data centers is increasing by 14 percent each year,[3] but this double-digit growth comes at a cost. Greater need for data power creates a compelling case for retailers to migrate to public cloud—and do so responsibly.

Twenty-two million car-equivalents or 59 million tons of CO2 per year could be saved globally from companies migrating to cloud if choosing a sustainable cloud-provider.

Source: Accenture, The green behind the cloud 2020

Migrating from on-premise to public cloud results in direct positive environmental effects. These include pooled resources that reduce material and energy needed in hardware production and a more energy-efficient infrastructure with less excess server capacity. It also facilitates the placement of data centers in geographically optimized locations.

Going beyond just migrating to cloud to also designing and optimizing applications specifically for cloud can further reduce energy consumption and carbon emissions. Overall, according to Accenture research, 22 million car-equivalents or 59 million tons of CO2 per year could be saved globally from companies migrating to cloud if choosing a sustainable cloud-provider.[4]

H&M— doubling down on sustainability with the cloud

H&M delivers fashion in a sustainable way, and is green even within IT. Its online ecommerce solution that is built and run by Accenture, was already running H&M's own data centers and sourcing only green energy, and in the future will use wind power on Microsoft Azure cloud. Thanks to cloud transformation features such as auto-scaling it will use even less energy—essentially, it's a sustainable green cloud.

Source: Accenture, Let there be change

Cloud-powered circular business models

Sustainable and circular business models such as re-commerce and subscription models enable companies to minimize environmental costs while delivering value. In the fashion industry alone, $30 to $90 billion is at stake.[5] The drivers for circularity are many and come from multiple stakeholders. These include customers' demand for more environmentally friendly products, growing regulatory pressure for greater sustainability, including lower CO_2 emissions, and many retailers' own voluntary commitments, such as limiting use of plastic.

Cloud-enabled Internet of Things (IoT) enables circularity by making products digitally identifiable. By creating a digital identity (i.e. a virtual "birth certificate") for real-life products, a retailer can share and leverage data across the value chain to provide transparency to stakeholders and minimize the environmental impact of products and material. Connected products facilitate sustainable choices from the beginning and infuse trust in the process, paving the way for the use of a wide range of circular business models including rental, re-commerce of used goods, and Product-as-a-Service.
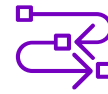
Traceability and an optimized supply chain

With greater customer and other stakeholder demand for sustainability and product origin transparency, tracking and tracing sustainability data (such as product-related CO_2 emissions) has become increasingly important for retailers. The ability to optimize the supply chain, using data and analytics, to decrease CO_2 emissions and reduce material waste has become crucial to meeting regulations and sustainability goals.

The cloud and efficient data computing help accelerate retailers' adoption of emerging technologies to reduce the supply chain's overall environmental footprint and improve resource efficiency across the supply chain while increasing regulatory compliance and improving risk mitigation. Analytics, IoT, and blockchain are examples of cloud-enhanced technologies that can, together or in isolation, help optimize the supply chain and reduce environmental impact. Examples include limiting overproduction, minimizing shipping distance traveled, maximizing sell-through, and managing returns in a more resource-efficient way.

Sustainable customer experience

As mentioned in the previous section, cloud-based Living Systems enable retailers to create and deliver the next-generation customer experience. This includes responding to rising customer demands for sustainability as an integrated part of the customer journey. For example, 3D modeling tools and digital twin technology enable online shoppers to customize and more accurately visualize products, thus increasing customer trust in the product while reducing returns and their associated environmental impact. Additionally, accessible product information, made possible by cloud-enabled IoT and digital identity, along with cloud-connected PLM systems, boosts customers' confidence in a retailer's sustainability story. For example, when buying a box of teabags, a customer would know exactly which farmer grew the tea leaves and, if the customer wanted, could support that farmer with a donation.

Tackling the obstacle of **legacy systems**

The promise of cloud-based, sustainable Living Systems for retailers is enormous, as is the pressure to adopt them. So why aren't more retailers embracing them? And why, on average, are only one-third of retailers fully achieving their expected cloud outcomes?[6]

There are proven approaches that can help retailers address modernization in a way that funds the move to the cloud, making the financials far less of an issue.

In our experience, the biggest obstacle continues to be the elephant in the room: the overwhelming scale and technical debt of old technology that needs to be modernized. But this doesn't have to be the reason for retailers to sit on their hands when it comes to the cloud. There are proven approaches that can help retailers address modernization in a way that funds the move to the cloud, making the financials far less of an issue.

Most large retailers have massive old on-premise data centers that have ballooned as the companies have grown, as well as applications that have been adjusted over time with undocumented code, and data sets that further complicate the move to a modern architecture. It's a huge challenge, filled with complexity and risk.

How can retailers address this old technology?

The solution is to conduct an application/code "MRI." Breaking down massive data centers, applications, and their corresponding workloads requires taking a forensic look at the underlying code of all applications. This imaging enables a retailer to determine whether and where each application will fit in a cloud model (if at all) and identify the interconnections each app makes with other apps.

The output of this exercise is a detailed blueprint of the retailer's entire legacy technology estate that illustrates what kind of work needs to be done to simplify and move the relevant apps and associated workloads to the cloud, or replace them with cloud-native versions.

How can retailers fund a move to the cloud?

In addition to the scale of legacy applications currently underpinning retailers' businesses, the sheer cost of those systems can be another obstacle of moving to the cloud. That's especially true today, when so many retailers' businesses have been hit hard by the pandemic. To afford a move to the cloud, retailers need to think differently about how they manage and remediate technical debt to make the cloud journey more financially feasible.

For example, **Accenture's Technical Debt Model *(see next page)*** enables a retailer to clearly illustrate where costs are tied up in old systems and quantify the related potential savings by breaking down component costs into four discrete buckets.

Accenture's Technical Debt Model

Principal

This is the largest and easiest to measure and includes the cost to remediate and maintain legacy systems. Like financial debt, a retailer makes measurable progress in debt reduction by paying down principal.

Liability

When systems are fragile and vulnerable, outages, breaches, or data corruption can occur, creating significant costs to patch software, restore systems, or in some instances replace hardware. Similar to deferred maintenance on a home, other issues surface that create additional, unforeseen expenditures.

Interest

These are the workaround costs such as staffing, delays, and redundant systems that must be maintained because decisions to integrate or retire older systems have been deferred. By not paying down principal, interest costs mount.

Opportunity Costs

These costs are the most difficult to measure, but are nonetheless essential to understand, as they represent borrowing from the future due to the inability to support benefit-producing initiatives today. Current gaps in cost, performance, and security grow wider for every year modernization is deferred.

Key to this view is a zero-based mindset, which enables a retailer to move beyond historical spending patterns and identify what it actually needs to spend on IT to drive its business forward. This approach can save a typical large company considerable IT spend, which can be reinvested into growth-generating activities, such as a move to cloud.

Navigating the barriers to innovation

Creating Living Systems via the cloud is, at its essence, a technology play first, but in reality, the technology part is easy. The hard part is realigning mindsets and the business to fully leverage the cloud and all that it offers.

In other words, it's not an incremental change, but a true step-change in how a retailer thinks about its business and how it adopts, integrates, and uses new technologies to unlock trapped value. And making that change requires understanding the five key levers that influence success.

1

Reimagine the business growth strategy powered by technology

Retailers need to completely re-envision how they create value and adopt business models and customer offerings that drive meaningful growth. By effectively using integrated technologies with embedded security, AI, and ML principles, retailers can move from a traditional stores-based approach to an intelligent, event-driven retail-as-a-platform model that answers the demand for next-generation, responsible retail. This is core to continuous innovation.

2

Realign the organization to put technology at the heart

Along with the new growth strategy, retailers need to install an agile organization in which application owners become transformation agents supporting the business as true product owners.

3

Adopt new practices for agility and experimentation

Many retailers build Centers of Excellence or Enablement (CoEs) that help drive cloud adoption and operation. But typically, what is lacking is a similar Innovation and Consumer Experience (ICE) team that's aligned to cloud CoEs. Building a developer advocacy team that sits within a cloud CoE and is aligned to the ICE team will facilitate quick and radical changes in how retail IT and business leaders view each other's roles.

4

Create a flexible technology core for sustainable change

Cloud technologies are flexible by their very nature. However, they become tactical and siloed if they're not incorporated as the foundational piece that drives the preceding three levers.

5

Empower talent to innovate with technology

When the first four levers have become a reality for innovation and change—fostering empowerment, agility, flexibility, and "responsible fearlessness"—a cultural shift ensues, with IT professionals moving out of the data center and into customer experience, working closely with their business and product owners.

Seizing the opportunity to become a cloud-first enterprise

Before the onset of the global pandemic, retailers already were challenged to align their businesses with consumers' rapidly changing expectations and behaviors. And many if not most had already begun to roll out programs to move more of their business to the cloud.

The pandemic has just accelerated those plans, creating not only a heightened sense of urgency to change (especially to preserve cash and support more widespread remote working), but also opportunities for retailers to implement their next generation of systems and business models to capture consumers' business while becoming more sustainable. As one retail executive told us, the pandemic has moved up his company's omni-channel growth plans by a full five years.

The fact is, while the current environment is very challenging for retailers, it will eventually get better. And when it does, retailers that haven't taken advantage of this time to transform their business will be considerably disadvantaged and find themselves playing a game of catch-up against those that have.

Retailers that haven't taken advantage of this time to transform their business will be considerably disadvantaged against those that have.

And that doesn't mean simply moving more existing systems and applications to the cloud. Retailers that have used the cloud to rapidly re-envision their business on a cloud-enabled, sustainable Living Systems platform will become a true digital retailer, able to keep up with the pace of change and to cost-effectively and continually evolve and innovate to deliver the experiences customers want.

Authors

Jill Standish
Senior Managing Director
& Global Retail Lead

jill.standish@accenture.com

Vish Ganapathy
Managing Director
& Global Retail Technology Lead

vish.ganapathy@accenture.com

Elizabeth Marrion
Managing Director
& Global Retail Cloud Lead

elizabeth.b.marrion@accenture.com

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