

COMMERCE TRENDS AND TECHNOLOGIES

WHAT YOU NEED TO KNOW TODAY AND TOMORROW

Introduction

Analytics are getting more personal and predictive. DevOps is continuously improving commerce platform performance and user experience at a rapid-fire pace. The cloud, delivering down-to-earth technologies such as artificial intelligence and headless commerce, is anything but pie in the sky. Distribution centers – the eCommerce era's new age "department stores" – are being outfitted with smart technology to solve persistent workforce challenges.

These are some of the trends and technologies altering the commerce terrain in 2017 and, likely, far beyond. Some are relatively new – blockchain, for instance – and others like chatbots and email have been around for a long time, but are being infused with innovations and intelligence that make them relevant again.

Smart brands looking to drive sales, improve customer experience, and grow loyalty need to know about these top trends to keep up with technology and the increasing imperative to innovate, continually and creatively.



Last year was the tipping point for <u>commerce in the cloud</u> – a defining year in terms of adoption. The traction gained in 2016 will only deepen this year, according to Gartner, as more than half of all large enterprises deploy hybrid cloud offerings – a combination of public and private cloud platforms.¹

Areas in Which IT Decision-Makers in North America Expect to Spend More in 2017

% of respondents

	60%			
Cloud				
	50%			
Business Intelligence / Big Data				
	50%			
Mobility				
4	5%			
Legacy Modernization				
4	4%			
Digital Marketing / Customer Experience				
439	%			
Virtualization / Software-Defined Networks				
41%				
Digital Transformation				
38%				
Data Center Consolidation				
35%				
Enterprise Resource Planning				

SOURCE: TEKsystems, "Annual IT Forecast 2017," Dec. 6, 2016

This steady march to the cloud is resulting in seismic changes in the way brands consume software and deploy commerce technology. With cloud-based commerce systems, brands are tapping into software as a service (SaaS) delivered and managed by platform providers. Less is being invested in integrations and complex customizations as new capabilities are switched on via the cloud. Upgrades to new releases are automatic. APIs - application programming interfaces - knit services and applications into the commerce environment, enabling brand-specific customization. Brands are now becoming more agile and responsive. Highly relevant, personalized customer experiences are being delivered without requiring significant time and investment to adapt platforms with "must-have" functionality or the latest features in a new release. Richer analytics or cognitive capabilities, for instance, are more accessible and affordable through the cloud. Integrations to back-end systems such as customer relationship management, enterprise resource planning, and order management systems are enabled without massive infrastructure investments and complex implementations.

So, 2017 will bring continued blue skies for cloud commerce – along with two other compelling trends that are offshoots: DevOps and headless commerce.

DevOps

The emphasis on innovation, agility, and responsiveness enabled by the cloud will fuel greater growth this year in continuous delivery or "DevOps." Forrester <u>refers to 2017</u> as "the year of DevOps." In fact, 75% of decision makers queried in a recent survey² said that their organizations have adopted DevOps technologies to enable digital transformation.

First, what is DevOps? It is a discipline that combines operational philosophies, practices, and tools to speed and simplify technology provisioning – and faster than traditional software development and infrastructure management processes. By some estimates, **unplanned application downtime costs Fortune 1000 enterprises up to \$2.5 billion per year**.² DevOps teams develop and deploy application code – think software patches, bug fixes, customizations – continuously, as well as monitor and optimize technology performance to minimize downtime. Netflix, Amazon, Google, Facebook, Walmart, and many more top companies have embraced DevOps as a way of continuously improving customer-facing technology

Why DevOps now? Consuming software as a service (SaaS) leads to lower cost implementations and creates an expectation that new features can be rolled out rapidly. DevOps enables that velocity, creating a continuous integration environment. Netflix, Amazon, Google, Facebook, Walmart, and many more top companies have embraced DevOps as a way of continuously improving customer-facing technology. Etsy, the online marketplace with more than 24 million active buyers, depends on DevOps teams to release new applications and website features. Today, it executes code updates every 20 minutes with minimal impact to its operations compared to five years ago, when a company executive called the release process "painful and disruptive," after repeatedly bringing the marketplace to its knees.4

Headless Commerce

The cloud also is powering an emerging trend known as "headless commerce" – a mashup of content management and commerce technology that removes friction from buying. In effect, brands can embed shopping features in images, videos, banners, and other digital experiences. This convergence of content and commerce – also known as "experiential commerce" – creates alternative "store fronts," such as online books, magazines, games or applications, which become the commerce front-end. Users are presented with relevant offers within context. For instance, an athlete is reading an online running magazine and content – including imagery – can be clicked to buy from any page.

Enabled by APIs, headless commerce is increasingly important with the proliferation of new devices and tactics to buy. Think mobile devices, shoppable advertising, and, well, use your imagination. Examples range from high fashion and food – <u>Domino's Pizza ANYWARE</u> – to Amazon's popular <u>Dash buttons</u>. This convergence of content and commerce creates alternative "store fronts," such as online books, magazines, games or applications, which become the commerce front-end

Headless commerce yields a host of benefits – from performance improvements, and accelerated content creation, to highly empowered UX teams that leverage cognitive capabilities. Best of all, the contextual transactions that result from headless commerce can significantly boost conversion rates.

ANALYTICS

The world is awash in data – and volume is growing exponentially. If predictions hold, by 2020 about 1.7 megabytes of new information will be created every second for each human being on the planet.⁶ With this rising tide, the challenge for brands in 2017 lies not in collecting data, but in curating it from an increasingly wide universe of sources and quickly delivering insights to practitioners who can apply it intelligently.

1ast 30 days

As a result, brands will invest more in two key areas: Automation to extract, analyze, and report on data, and people to build and execute strategy to apply those insights. As the drumbeat for increased personalization grows louder – more than two-thirds of eCommerce executives say they have invested in personalization technology to nurture customers⁷ – strategy to manage tools is becoming more imperative than ever in digital analytics.



SOURCE: Harvard Business Review Analytic Services Survey, Sept. 2016

Vendor-neutral data visualization tools are an antidote to spreadsheets, which lagging brands still use for data analysis and planning although the "productivity" tool is regarded as deeply inadequate. More brands will begin using automation – including APIs - to compile data from disparate sources and display it on dashboards that enable easier, more immediate access to insights into performance and customer behavior. Visual and contextual representations of this data enable merchandisers to see the implications of business actions against revenue goals and margins. Daily, weekly, and monthly key performance indicators can be identified and adapted more immediately, leading to faster responsiveness to market trends and customer opportunities. And automation will enable brands to close a persistent gap: strategy formulation. The time and talent once spent sifting through data to discern patterns or glean insights now can be invested in shaping and executing strategies to drive sales and deepen customer engagement. Thus, analytics teams will be able to do the jobs they were hired for: analysis.

As more brands finesse the use of visualization and automation tools, they will graduate to predictive analytics, leveraging the cognitive capabilities making their way into technology at an accelerating pace. In its "CIO Tech Poll: Tech Priorities 2017," IDG Enterprises reports that 52% of executives surveyed said they intend to increase spending on predictive analytics in 2017. In fact, it tops a list of 16 technology investment areas. However, a return on this investment is dependent on experience with analytics tooling. Otherwise, brands only will be adding more noise and ugly data to the picture.

Expected Change in Spending for Selected Technologies According to IT Executives

% of respondents

	Increase	Sustain	Decrease	Unsure
Predictive Analytics	52%	25%	2%	21%
Business Continuity	51%	43%	6%	1%
Hybrid Cloud	47%	39%	3%	11%
Data Management Storage	46%	44%	8%	1%
Mobile Devices	46%	41%	5%	8%
Artificial Intelligence	46%	20%	3%	31%
Public Cloud	42%	35%	6%	17%
Private Cloud	40%	38%	9%	13%
Internet of Things	39%	19%	5%	37%
Virtualization - Server	37%	51%	7%	5%
Virtualization - Desktop	37%	47%	4%	12%
Virtualization - Storage	37%	46%	5%	11%
Cognitive Systems	37%	24%	4%	35%
Co-Location Services	34%	48%	8%	9%
Software Defined Networking	25%	34%	4%	37%
Software Defined WAN	23%	38%	4%	35%

SOURCE: TEKsystems, "Annual IT Forecast 2017," Dec. 6, 2016



ARTIFICIAL INTELLIGENCE

Machine learning and cognitive computing are the next frontier in commerce. Overall, IDC forecasts that global spending on cognitive systems will reach nearly \$31.3 billion in 2019 with a five-year compound annual growth rate of 55%.



U.S. Senior Marketers Who Believe Consumers Are Ready for Artificial Intelligence

SOURCE: Boxever, " Mapping Out the Customer Journey: Expectations Versus Reality for the Modern Marketer," Dec. 12, 2016

This past year, artificial intelligence moved into the mainstream as more consumers grew comfortable interacting with intelligent technology, including Amazon Echo. Data from Consumer Intelligence Research Partners LLC, indicates that <u>8.2 million U.S. shoppers</u> own one of Amazon's intelligent digital assistants. That's up **173%** from the previous year.

Brands are just beginning to understand how intelligence-infused commerce technology will change the game in retail. Office supplies giant Staples, for instance, is infusing intelligence in its iconic *Easy Button*. The retailer is using IBM's Watson Conversation service to allow small and medium-sized retail customers to ask questions such as "What's my office Wi-Fi password?" and to order goods and track shipments. But by 2020, companies will increasingly turn to smart systems that automatically assess and respond to buyers at the point of need. A full 50% of companies will use cognitive computing to automate marketing and sales interactions with customers.⁸ Yet, make no mistake, AI may not yet be ready for prime time. Forrester notes that AI is a potential disrupter, but the technology is not mature enough yet to influence customer engagement without significant investment.¹⁰

Chatbots

What's old is new again. Chatbots have been around since the 1960s. Today, the difference is that they are intelligent. As a result, top brands are deploying smart chatbots – software capable of storing, synthesizing, and recalling information – for customer service applications.

A gift concierge innovation at 1–800-Flowers uses natural language processing to learn conversation and give customers advice on what to buy. Many fashion and beauty brands are using the technology, too. Premium retailers like Louis Vuitton have been using chatbots as a customer service tool to answer questions, share online order information, and help shoppers find products. Facebook recently announced that it has created a platform that allows companies to develop bots that run within its Messenger app, which has some 900 million users worldwide.



Merchandising

Cognitive systems can learn about consumer behavior and identify patterns, and retailers can adjust in response. For instance, online merchandisers can create highly targeted campaigns and content aligned with specific customer behaviors and preferences. Content can be curated – not just merchandise, but insights, articles, and multimedia materials that appeal directly to the shopper's interests and preferences. Customer interactions with a brand become more personalized and holistic, and less transactional, more focused on creating an experience where customers interact with each other and digital information, essentially building an environment where consumers want to buy.



Yes, 2017 is the year of smart technology across the commerce continuum. AI, robotics, and intelligent customer interfaces are improving back-end processes and technologies to fulfill and ship orders in distribution centers. Business intelligence portals with customizable dashboards offer insights shared by clients and third-party fulfillment providers – including what's moving fast and, of course, inventory levels.

Technology also is helping providers address one of the biggest challenges faced in distribution centers today: Workforce. The talent pool that providers draw from is limited geographically. Multiple distribution centers may be concentrated in the same geographic areas – and pulling from the same potential workforce.

Intelligent user interfaces are guiding employees to the fastest path to merchandise and speeding returns replenishment

Fulfillment providers must do more with less. As a result, smart technology is being used to improve "pick rates," increasing the velocity and accuracy of order fulfillment in outsize facilities that span across acres. Intelligent user interfaces are guiding employees to the fastest path to merchandise and speeding returns replenishment. Moreover, more smart systems with simpler user interfaces are enabling providers to onboard talent faster – critical as workforces flex to address peak seasons.

EMAIL MARKETING

Rumors about the demise of email are greatly exaggerated. Personalization technology will continue to reinvigorate this marketing medium. Brands are tapping into insights about buyers and delivering highly customized content – say, product recommendations based on past purchases and browsing history, as well as abandoned cart content.

Personalized emails ensure higher open and click-thru rates – 29% and 41%, respectively (eMarketer). In fact, 78% of retail consumers are more likely to become repeat customers if they receive targeted personal offers (Infosys). So, 2017 is the year when email gets more personal and drives sales higher that employ personalization technology to customize content and experience (eMarketer). 89% of eBusiness and channel strategy pros who plan to invest in personalizing customer experience in though 2017 (Forrester).

Video and Interactive

The inclusion of video content in email is an evolving trend along with interactive or "kinetic" email, providing new ways to engage readers with content. Think of it this way: **Consumers can see options, customize, and complete purchases in a self-contained email**. No clicks to a transaction site are required – and, it's common knowledge that fewer clicks lead to higher conversions. Abandoned cart reminders can be sent and acted upon in email, too, and across all platforms – desktop and mobile. Interactive email can be tricky, though. Not all browsers and operating systems support these features, so adoption may be slower.



Leading Email Marketing Tactics Used by Retail Marketing Executives Worldwide

% of respondents



SOURCE: Magnetic and Retail Touchpoints, "Inbox Love: Investigating the State of Triggered Emails & Personalization for Retailers and Consumers." Jan. 6, 2017

Mobile

The persistent trend is mobile – yesterday, today, and tomorrow. It's still all about mobile. Data from eMarketer reveals that 42% of consumers will delete any email that cannot be opened and read on a mobile platform. No surprise there, since mobile transactions this year will drive \$156 billion in sales compared to \$116 billion in 2016. In 2017, eMarketer projects, the share of U.S. mCommerce sales that come from smartphones will grow to 65% - up from 58%. Mobile-optimized experiences, faster connectivity, and bigger screens – all the better to read email with - are among the reasons why smartphones are gaining share over tablets.



Many B2C trends in 2017 will dominate the B2B commerce landscape, too. Analytics, cloud, personalization, artificial intelligence, and mobile will be key drivers for B2B success as sellers seek to replicate and even improve on B2C customer experiences. Mirroring B2C interactions seems to be the number one priority for B2B sellers.

B2B Buyers Worldwide Who Believe Their Mobile Device is Essential to Their Work, by Generation



SOURCE: Salesforce, "State of the Connected Consumer," Oct 24, 2016

So, it's no surprise that spending on B2B eCommerce platform technologies, systems, and services outpaces B2C by a significant margin as companies invest in technology to catch up with the expectations youthful, digitally savvy buyers. More than 70% of purchasing decisions involve millennials today, while approximately one-third of millennials report being the sole decision-maker for their department.⁹

These and other B2B buyers expect – no, demand – the same experience they have when shopping for, say, apparel or books online. This is giving rise to data-driven marketing for B2B along with mobile, omni-channel commerce, and personalized content. And, it is bringing into sharp focus the need to replace legacy systems – often wonky, home-grown solutions tangled with back-end integrations – with more agile, cloud-based platforms that can support this demand, delivering omni-channel performance and online experiences across every device and channel.

CPQ, OMS, and Portals

Enhancing B2B customer experience extends beyond adopting a B2C approach, though. Other capabilities are required for success. Configure Price Quote (CPQ) software enables sellers to generate accurate and highly configured quotes, centralizing and automating complex product, pricing, and business rules. More than 40% of sales professionals worldwide depend on CPQ applications (eMarketer). <u>Order management</u> capabilities integrated at the platform level can not only enable order processing synchronicity across all channels, but also deliver agile capabilities, including just-in-time availability with automated replenishment, and customized purchasing workflows. Self-service portals on the rise enable B2B brands to empower customers with self-service tools and information access. At the same time, manufacturers can extend dealer networks and enable these sellers with technology to support sales and increase selling velocity. Dealers can create, brand, and manage their own eCommerce sites based on the manufacturer's platform. Unique product assortments can be added along with other options, including shipping and logos based on business rules set by the manufacturer; the possibilities are infinite.

BLOCKCHAIN

Retail Info Systems News called <u>blockchain technology</u> called "the omni-channel-of-old buzzword of 2017" and others have identified it as one of the top retail trends to watch this year.

A vast digital ledger or data base, blockchain technology keeps track of transactions. It is shared across a distributed network of computers – a tamper-resistant, encrypted registry that is replicated across all computers in the network. Networked users in the blockchain can access and manipulate the ledger. With each transaction shared across the network, the ledger is updated with a new "block" that's added onto the end of the chain. All transactions are transparent.

Imagine, for instance, a B2B brand buys goods to manufacture its top-selling item. A serious defect is discovered. Blockchain technology would enable the brand to pinpoint the precise origin of the flawed component, and quickly respond and remediate.

Think of this in the context of food supply – Walmart did. The mega-retailer turned to IBM to help it track two products using blockchain technology: a packaged produce item in the U.S., and pork in China. A blockchain co-developed by IBM is enabling Wal-Mart to record a list of transactions indicating how meat has flowed through a commercial network, from producers to processors to distributors to grocers and, lastly, to consumers.

Blockchain technology acts as an encrypted registry that is replicated across a network of computers

Retail is one of the first industries to embrace blockchain technology – second only to financial services. Practical applications include protecting consumers and sellers from fraud – counterfeit items, for instance. One retail start-up plans to use blockchain to verify and sell items from artisans and designers. But according to the National Retail Federation, most applications in retail will revolve around payments as retailers seek ways to increase profits by reducing transaction costs.

CONCLUSION

The march of commerce technology is unrelenting. All of these technologies – cloud, artificial intelligence, big data and more – will be used in unforeseen ways, continuing the expansion of global digital commerce and enhancing user experiences beyond 2017. What's certain is this: brands that invest in the right platform technology, think creatively, team with the right partners and work hard to understand their customers can expect to outperform.

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Endnotes:

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