



2019 Retail Trends Report



Introduction

Over the last 15 years, retail has undergone a significant transformation. The internet has provided customers with access to seemingly endless options while mobile technologies have put information at their fingertips, anytime and anywhere.

While these changes continue to reshape the retail landscape, we are beginning the transition into the second phase of this transformation. As the dust of disruption begins to settle, retailers are reinventing their operations to make them faster, smarter, and more nimble.

From fulfillment flexibility to the new x-economies to intelligent automation, retailers are embracing the next generation of retail, one that represents not only a new set of tools and systems but also a new definition and philosophy of retail.

The following will explore six emerging trends in retail that we believe will help empower retailers to create exceptional, insightful shopping experiences for their customers.



Trends

4

Customer experience is everything

Empowered customers expect amazing experiences

12

The changing face of retail

The retail business model is evolving

21

The everywhere store

Customer can purchase from anywhere

26

Operations drive excellence

Meeting customer demands requires optimized operations

32

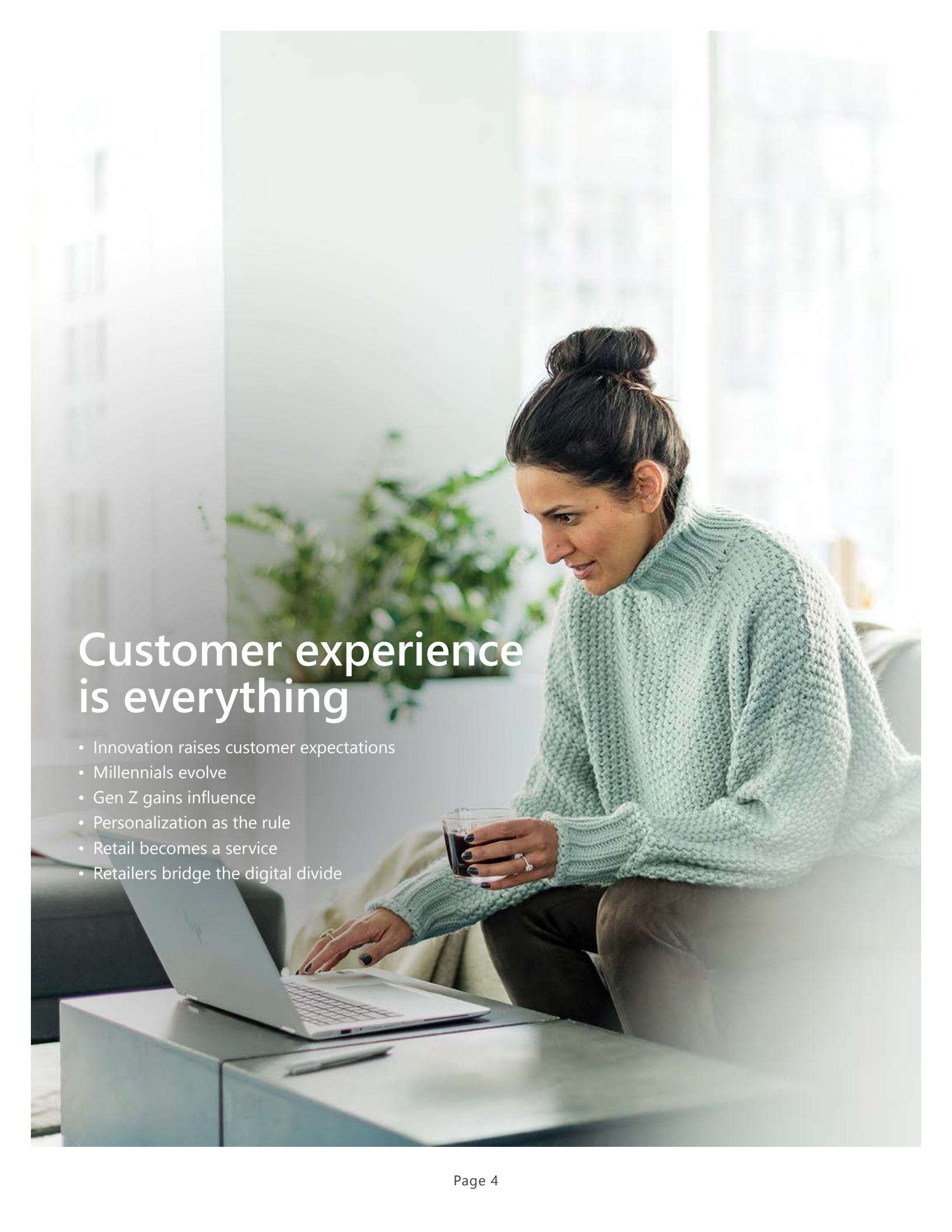
Next-gen technology makes an appearance

New technologies are revolutionizing retail

38

Living in the age of uncertainty

Uncertainty puts strain on businesses

A woman with dark hair in a bun, wearing a light green textured sweater, is sitting on a light-colored sofa. She is looking down at a silver laptop on a dark grey coffee table. She is holding a glass of coffee in her left hand and has her right hand on the laptop keyboard. The background is a bright, modern interior with large windows and a green plant.

Customer experience is everything

- Innovation raises customer expectations
- Millennials evolve
- Gen Z gains influence
- Personalization as the rule
- Retail becomes a service
- Retailers bridge the digital divide



Customer experience is everything

Innovation raises customer expectations

Stating that technology is changing customer demands feels like stating the obvious. Innovation—from the printing press and combustion engine to computers and wireless internet—has always been a driver of demand, unlocking new possibilities and raising expectations. Today, we find ourselves at the intersection of rapid innovation and a new generation of consumers who have grown up empowered by technology.

Millennials evolve

The number and influence of Millennials continue to grow. Today, Millennials make up roughly a quarter of the U.S. population,¹ and according to the Pew Research Center, they will overtake Baby Boomers as America's largest population in 2019 (73 million vs. 72 million).² On the surface, Millennials look very different from their predecessors: they are more diverse,³ better educated, and more likely to be never married than any other adult generation was at the same age.⁴

They are also a generation who entered adulthood facing a strong headwind. They have been crippled by student loans, with over 60% of students taking out loans to pay for college.⁵ The average student loan debt for Millennials graduating in 2017 was nearly \$40,000.⁶ To compound this, many graduated in the midst of the 2008 recession. As a result, they have been pressured to take lower paying jobs and have lower employment rates compared to workers of the same age in past generations.⁷

However, despite these challenges, Millennials are smart and savvy. They have become a generation that is fiscally responsible, with 63% of Millennials setting savings goals and 59% reporting feeling financially secure, higher rates than Boomers or Gen X.⁸ Seventy-three percent of Millennials stick to their budgets every month, and 16% have saved over \$100,000.⁹

Executive summary

Customers don't just want seamless experiences across their devices; they expect personalized, experiential and mobile-first shopping interactions.

Highlights

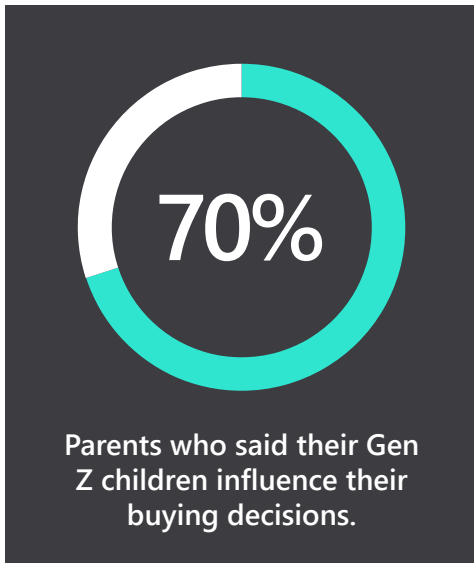
- Millennials make up roughly a quarter of the U.S. population and will overtake Baby Boomers as America's largest population in 2019 (73 million vs. 72 million).
- \$0.56 of every dollar is influenced by a digital interaction.

The average student loan debt for Millennials graduating in 2017 was nearly \$40,000.

While their financial burdens have led to lower rates of home and auto ownership,¹⁰ Millennials do spend in other areas; however, they remain thrifty when they do. Case in point: Amazon accounts for the largest volume of online apparel sales for Millennials, nearly 17%, more than double that of the next largest seller, Nordstrom.¹¹ This shift to thrift has also played a role in the growth of on-demand services, sharing marketplaces, and online consignment stores.

Gen Z gains influence

As the size and influence of the Millennial cohort grow, they are proving themselves to be a generation of tech-savvy individuals. But where Millennials were digital pioneers, helping make technology mainstream, Gen Z is the first generation of digital nativists, never having experienced life before computers and pervasive internet.



By 2020, Gen Z will be the third-largest generation in the U.S., just behind Gen X, and they are already accumulating significant purchasing power. With their oldest members only in their early twenties, it is difficult to

predict Gen Z's purchasing behaviors precisely, but what's clear is that they already wield great spending influence. There was \$829.5 billion spent on Gen Z in 2015, accounting for 6.8% of total consumer spending that year.¹² Furthermore, over 70% of parents said their Gen Z children influenced their buying decisions on clothes and food.¹³

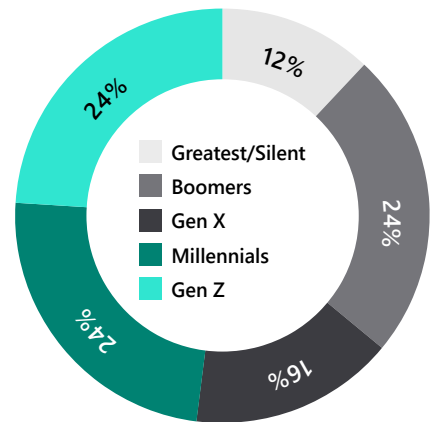
Gen Z is even more diverse than their Millennial predecessors and will become the nation's first majority non-white generation. With this diversity comes a much more tolerant and inclusive generation.¹⁴ Additionally, growing up with the internet gave them much greater visibility into global issues. As a result, they are a very globally and socially minded population. Twenty-six percent of 16-to-19-year-olds currently volunteer, and 60% reported that they want their jobs to impact the world.¹⁵

Like Millennials, Gen Z is made up of savvy shoppers. According to a recent report by Interactions, 89% of Gen Z considers themselves price-conscious shoppers and listed price as the top factor in making a purchase.¹⁶ According to the report, 72% said they would switch from their favorite brand if they found a similar product at a lower price. Members of Gen Z also value community, with 59% preferring local stores over large retailers and 72% saying they would be more willing to shop at national chains if they had more of a local presence in their community.

The profile of Gen Z is lengthy, and we have much to discover about them as they mature. But for now, one thing is sure: Gen Z will have a significant impact on both business and the world.

By 2020, Gen Z will be the third largest generation in the U.S.

Population by generation





Primary goals of personalization

Personalization as the rule

From ecommerce to mobile check-out, technology is infusing the retail experience. Greater connectivity to devices has created better-informed consumers who have the ability to not only research products and shop online, but also to compare competitors' product prices and availability while in store. It is changing the way customers research products and make a purchase, and increasingly, it is changing the way customers interact and build relationships with brands.

As ecommerce leads to greater commoditization, many of today's customers are seeking a greater connection to their brands, a more curated shopping experience that feels genuine and unique to them. This type of personalization requires capitalizing on available technology to understand customers' preferences, providing them with exactly what they want, when they want it, in the way they want to receive it.

Leveraging new technologies—like recommendation engines powered by artificial intelligence and machine learning—retailers can make more individualized product suggestions that ultimately translate into sales.

These engines utilize previously collected user information (such as past purchases and items clicked on but not purchased) to provide tailored recommendations and offers. According to a Boston Consulting Group research study, brands that create personalized experiences by integrating advanced digital technologies and proprietary data for customers are seeing revenue increase by 6% to 10%—two to three times faster than those that do not.¹⁷

As customers become more comfortable sharing personal information and preferences in exchange for personalized rewards—nearly half of consumers surveyed in 2016 no longer had concerns about online privacy¹⁸—retailers are putting data to work by tying their customers' digital-channel behavior to the in-store experience, welcoming shoppers by name and making suggestions based on purchase history.

Another way to gain customer loyalty in a highly competitive market is using data to inform your rewards programs and send targeted offers based on previous purchases, a model Walgreens has leveraged for their Balance Rewards program.¹⁹

Beyond personalized messaging and recommendations, innovations in

Brands that create personalized experiences by integrating advanced digital technologies and proprietary data for customers are seeing revenue increase by 6% to 10%—two to three times faster than those that do not.



manufacturing have led retailers to experiment with a new way to differentiate their products: allowing customers to develop personalized products. Nike's NIKEiD program has led the product-personalization charge, allowing customers to create a completely custom shoe or athletic bag that arrives in four to six weeks. To achieve this, Nike partnered with manufacturers to automate factory processes and develop laser technology that streamlines the production process.²⁰

Other retailers take advantage of on-line buying to offer customization options for products that previously required in-store measurements or tailoring. On the websites of menswear companies Indochino, Black Lapel, and Knot Standard, men can select their desired fit and cut and then upload their measurements for a "bespoke" suit.

Taking it one step farther, some brick-and-mortar stores have begun testing 3D-printing and 3D-knitting stations, essentially offering on-demand personalization. Lowe's has piloted a six-month project, dubbed Bespoke Designs, that allowed customers to repair broken parts, replicate a beloved object, or create custom hardware at in-store 3D-printing stations.²¹ Adidas and business-wear company Ministry of Supply both offer customers the opportunity to craft their own cardigans and sweat-

ers with the assistance of a 3D-knitting machine.²² At the Adidas pop-up shop in Berlin, customers can complete a 3D-body scan and choose the color and design of a merino sweater, which will be knitted, washed, dried, and ready to take home in under four hours.

A personalized shopping experience increasingly includes the checkout experience as well. Customers want more control over their delivery and pick-up options. The expansion of shipping programs that offer free delivery have decreased customers' willingness to pay for shipping; 70% of consumers will choose the cheapest delivery option. More retailers are now offering customers greater flexibility in how they order and pick up their item, whether in a store or at an alternate pick-up location, such as an Amazon Locker or a UPS Access Point.

Companies are even pioneering other creative delivery-channel solutions to provide customers with greater flexibility. For example, DHL has partnered with Audi to deliver packages to customers' trunks via Audi's keyless entry system.²³ By optimizing digital inventory supply and the location of distribution centers, retailers will be better prepared to personalize delivery-channel methods, including fulfilling same-day shipments.

Innovations in manufacturing have led retailers to experiment with a new way to differentiate their products

Retail becomes a service

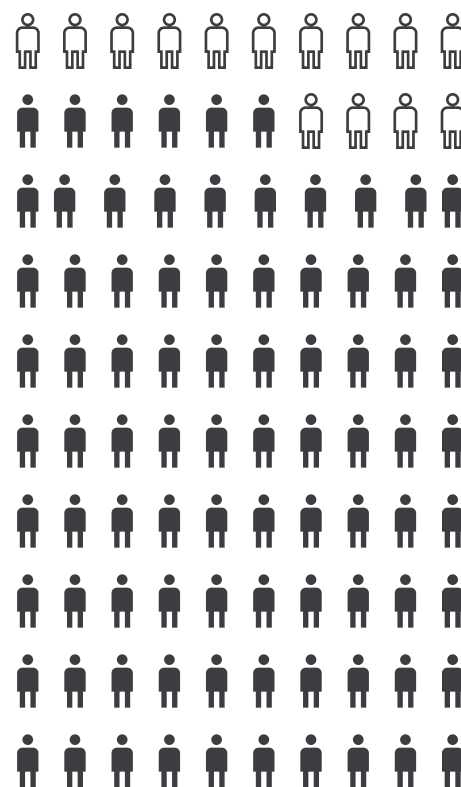
Online sales continue to outpace industry growth by 300%²⁴ making it essential that retailers seek out opportunities to generate excitement in brick-and-mortar locations. Online shopping has changed the traditional paths to purchase: 43% of customers who browsed for a product online also bought that product online.²⁵ Two practices, “showrooming” (viewing/trying products in-store before buying the same product online at a lower price) and its inverse, “webrooming” (browsing products online before buying in-store), do impact the way customers make purchase decisions.²⁶ However, customers ultimately are browsing and buying in stores at the same rate they are showrooming and webrooming combined.

Fully engaged customers—those who are emotionally invested in a brand and loyal to it—visit retailers more frequently and spend more money per visit. For example, Gallup data shows that, on a given visit, fully engaged consumer-electronics customers spend nearly \$100 more than actively disengaged customers (those who will readily switch brands).²⁷

In order to engage customers, retailers across all industries are building services and events into their busi-

ness models. According to CEI Research, 86% of customers will pay more for a better customer experience, and customers who are engaged with an experience are less likely to think about product cost.²⁸

Apple has been at the forefront of experiential retail with its in-store tech support, the Genius Bar, and hands-on product displays. But even the pioneer has recognized the need to constantly evolve its in-store offerings, launching *Today at Apple*: free, interactive programming on a variety of topics, such as music, photography, and coding.²⁹ Cosmetics companies Sephora and Ulta draw customers to their locations by providing beauty services and hosting mini-makeover events. The Home Depot offers free DIY and educational workshops for adults and children. Sportswear retailers Nike, Brooks, and Oiselle offer store-sponsored training sessions and runs to build community and increase store traffic. In addition to providing services, some retailers, like Urban Outfitters, feature in-store bars and restaurants, encouraging customers to eat and drink while browsing.³⁰ Eyewear retailer Warby Parker appeals to its social media-savvy customers with in-store photo booths and a “green room” in its West Hollywood store, where customers can record 15-second videos.³¹ Providing a unique customer experience is integral to a store’s ability to stay relevant.



Mobile payment growth is expected to increase at a compound annual growth rate of 80%, exceeding \$500 billion and 500 million users by 2019.



Retailers bridge the digital divide

Retailers have identified the need to create a frictionless omnichannel experience by providing real-time online and in-store inventory information, more fulfillment options, and cross-device compatibility. While seamless integration across all commerce platforms remains important to the customer experience, customers now rely more heavily on digital interactions at every stage of the shopping process. A Deloitte study found that \$0.56 of every dollar is influenced by a digital interaction.³² Furthermore, customers expect retailers not only to be mobile friendly but mobile first.

Customers consult their smartphones, computers, and tablets for everything from finding inspiration, to browsing and researching, to purchasing a product. In order to capitalize on this usage, retailers must

56¢

of every dollar is influenced by a digital interaction.

embrace digital platforms at every touchpoint. For example, Crate and Barrel launched the store-branded tablet program “MobileTote,” which allows customers to browse store and online inventory, add products to a wish list or shopping cart, and check out via a dedicated associate, who then collects the purchased items. Early results have shown a greater average order value from Mobile Tote users compared to shoppers not using the technology.³³

To create a smoother shopping experience, some retailers have turned to store-focused apps. The IKEA Store app notifies customers about special events and allows them to browse the product catalog, check store inventory, navigate a store, and manage a shopping list.³⁴ Target has combined its Cartwheel savings app with its main store app to support in-store navigation, Cartwheel deal alerts, and mobile payment.³⁵ Because today’s customers have so many choices to make before purchasing, implementing a digital strategy that simplifies the customer journey will help ensure customers remain loyal to that retailer.

Mobile technology is transforming every step of the shopping experience—including checkout. Completing a shopping trip quickly is one of the most important factors in customer satisfaction. A Harris Poll and Digimarc study found that 88% of American adults would like to check out faster, with “slow checkout speeds” and “long lines” topping the list of complaints.³⁶ A quick and easy checkout process is two times more important than any other retail experience.³³ In order to decrease the time required to complete transactions, retailers can implement one or multiple payment solutions. Equipping sales associates with mobile point of sale (mPOS) devices—tablets or smartphones that are able to process payments—allows the transaction process to occur anywhere in the store, eliminating the need for a large number of traditional POS stations and freeing up valuable real estate. Rebecca Minkoff’s SoHo store utilizes mPOS devices as self-checkout stations; customers who wish to own their shopping journey from start to finish can complete their transactions without the assistance of store personnel.³⁷

By definition, mobile payments include mobile wallet POS payments, contactless, app-based payments, and near-field communication or Bluetooth-based payments. Mobile payment growth is expected to increase at a compound annual growth rate of 80%,³⁸ exceeding \$500 billion and 500 million users by 2019.³⁹ Enabling traditional POS and mPOS devices to accept mobile wallets—such as Apple Pay, Android Pay, and Samsung Pay—will help retailers address customer desires for both checkout convenience and speed. Some retailers have developed payment-enabled merchant apps to streamline the transaction process. Starbucks, which rolled out payment through their mobile app in 2011, last reported that 29% of all transactions were mobile, and the number of mobile orders increases each quarter.⁴⁰ By incorporating intuitive digital interactions into their in-store experience and offering multiple payment options, retailers can increase customer satisfaction—and ultimately, sales.

88% of American adults would like to check out faster.

Deliver amazing experiences

Driven by new technologies and changing demographics, customer expectations for retailers are higher than ever before. At Microsoft, we’re helping modern retailers meet changing customer demands with the tools and technology to better understand customer needs and create more personalized experiences for their customers.

Gain customer insights

As customer behaviors and demand evolve, retailers must leverage technology to better understand their customers. With tools such as Dynamics 365 and Power BI, Microsoft enables retailers to gain valuable insights into their customers’ needs so they can provide better service and exceed expectations at every touchpoint.

Deliver personalization

Modern customers want a relationship with their brands, and accordingly, they expect personalized interactions with these brands. From AI-powered product recommendations to fulfillment flexibility, Dynamics 365 for Retail gives retailers the intelligence and tools they need to deliver a more personalized experience to their customers.

Exceed expectations

As the baseline for retail experiences continues to climb, retailers must rely on technology to deliver the amazing experiences that customers expect, at scale. Microsoft is empowering retailers with the tools and technology to create innovative, frictionless experiences that delight customers and exceed expectations every time.



The changing face of retail

- Rise of the monobrand, fall of the monolith
- Online retailers open physical stores
- The new X-economies
- Brands go direct to consumer
- The gig and sharing economies grow
- Brands engage online influencers



The changing face of retail

Rise of the monobrand, fall of the monolith

According to the latest U.S. Census Bureau Annual Retail Trends report, retail sales have climbed 23% since 2010,⁴¹ and year-over-year sales growth since 2012 has averaged just under 4%.⁴² However, a significant portion of this growth has occurred in the ecommerce sector. Amazon's growth alone has quintupled from \$16 to \$80 billion over the past six years.⁴³ To compete, physical retailers have shifted focus to their online stores, often cannibalizing their own customer base. Additionally, online retailers' flexible and free return policies are forcing physical retailers to offer similar deals, further slimming profit margins. The rapid change of pace has been fatal for many businesses.

Nine major retailers—including Gymboree, Payless Shoe Source, and H. H. Gregg—filed for bankruptcy in 2017.⁴⁴ Department stores that have anchored American malls for years (such as Macy's, JCPenney, and Sears) have announced they will close 100 or more locations, bringing the number of retail store closures to more than 5,000.⁴⁵ An NPR article suggests one reason malls are struggling is that social media is now the "gathering place" of choice.⁴⁶ Large, multi-brand retailers have attempted to rely more heavily on their private labels but have found themselves in a dangerous middle ground: incapable of competing with the comprehensive variety offered by online retailers, and unable to provide the curated experience of small stores.

Other big-box retailers like IKEA and Target are moving to a smaller store format. Target has opened four small-format stores on or near college campuses. This is the start of their plan to open more than 150 of these stores, mostly in densely populated urban and suburban areas.⁴⁷ In 2016, IKEA opened more "click and collect" small stores than traditional stores,⁴⁸ and Bed Bath & Beyond launched a "pack and hold" product that allows college students to purchase all the items they need and pick them up at the location nearest their school.⁴⁹ PwC's Strategy& report suggests that retailers should consider transitioning to a showroom model, in which small locations serve as a showcase for products; orders are then processed and shipped directly to the customer. This model al-

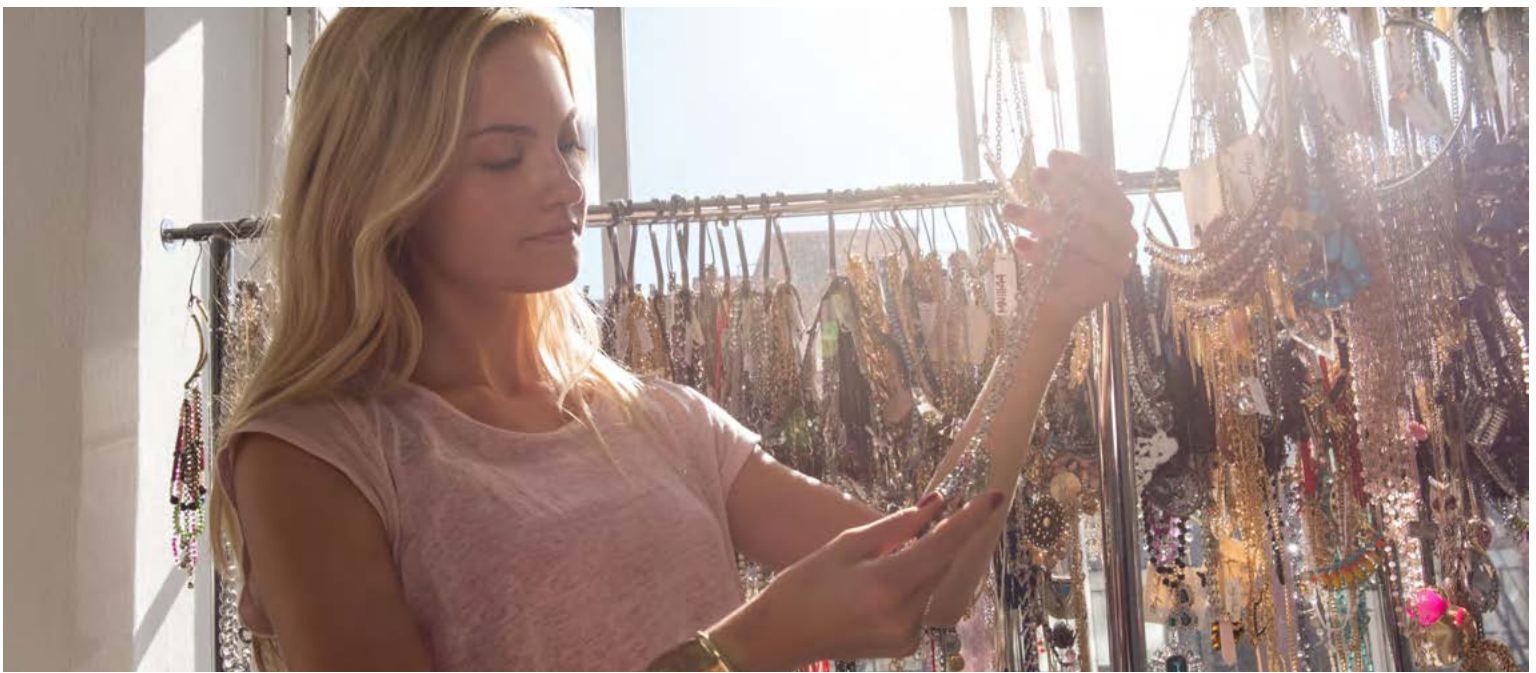
Executive summary

Ecommerce leaders are opening physical stores, while large retailers are closing hundreds of physical locations or shifting toward small-format stores. Subscription services and online influencers can help retailers reach their target audience.

Highlights

- More than 5,000 retail stores announced closures in 2017.
- Direct-to-consumer models allow for more personalized customer experiences, which is preferred by 75% of consumers.
- The average influencer marketing campaign generates a return of \$6.50 for every \$1 invested.

Retail sales have climbed 23% since 2010, and year-over-year sales growth since 2012 has averaged just under 4%.

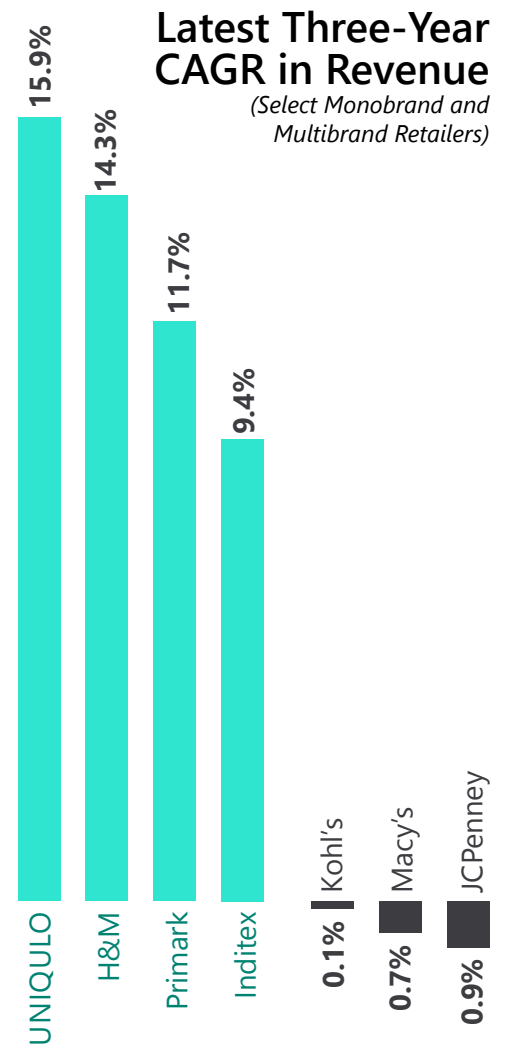


lows for more personalized customer interaction and can cut down on inventory costs.⁵⁰

Monobrand retailers, such as H&M, UNIQLO, and Zara are now outperforming multi-brand institutions like JCPenney and Macy's.⁵¹ In 2016, H&M saw a three-year compound annual growth rate of 15.9%, while Macy's and JCPenney saw decreases of 0.7% and 0.9% over the same time period.³⁵ Carrying a single brand affords retailers the ability to differentiate their product, combat direct product/price comparisons, and maintain greater credit as a fashion brand. Of course, being a monobrand retailer does not guarantee success; in 2017, Gap announced the closure of 200 Gap and Banana Republic stores.⁵²

Online retailers open physical stores

Acknowledging that the majority of consumer goods are still purchased in stores, online pure plays are looking to give their customers a way to interact with the brand and close deals. Ecommerce companies like Amazon, Rent the Runway, and Warby Parker all opened physical stores in 2016 and have plans to open more locations. Warby Parker opened 25 brick-and-mortar stores in 2017, maximizing its online success by providing physical locations to try on eyewear, talk to associates, and repair damaged products.⁵³ According to Listrak, the rate of cart abandonment (when a customer adds items to an online shopping cart but exits the site without purchasing the items) in 2016 was 79%.⁵⁴ Online-only retailers can reach customers who are not completing transactions by allowing them to test products in physical stores.



The new X-economies

Millennials, burdened by high unemployment, low wages, and high debt, have rapidly embraced new business models that offer them the latest products with greater flexibility and lower costs. In today's market, startups have led the way with these new offerings, but large businesses—either through acquisitions or internal development—are beginning to evolve their business models to the needs of the modern consumer. These models fall into one of a few categories:

On-demand services

Projected to grow to nearly \$57 billion in 2018, on-demand services represent perhaps the largest of these categories.⁵⁵ A model popularized greatly by Uber, on-demand businesses are launching for just about every category imaginable, from printing and dog walkers to babysitters and massages. While many of these businesses are service-based, the growth in on-demand services has also driven growth in on-demand and micro-manufacturing.

**\$57
billion**

Projected size of the on-demand economy in 2018.

Sharing economy

The sharing economy—where consumers “share” products and services directly instead of purchasing via a retailer or distributor—is another business model that has grown in popularity over the last several years. Perhaps the most commonly known example of a sharing economy business is Airbnb, where travelers can rent rooms and homes directly from other individuals. The sharing economy is projected to grow to 86.5 million U.S. users by 2021, up from 44.8 million in 2016.⁵⁶ While the sharing economy helps reduce waste, it also poses a threat to retailers, as consumers may opt to “borrow” goods opposed to buying new products. As such, retailers are being forced to re-evaluate their business models to participate in this new economy.

Subscription box services

Subscription box services have become incredibly popular due to their highly targeted nature and ease of use. Companies like Birchbox, Winc, Stitch Fix, and NatureBox are just the tip of the iceberg when it comes to the subscription box market, which now provides services for dog owners, coffee lovers, mountain climbers, gold miners, and sock enthusiasts.

The sharing economy is projected to grow to 86.5 million U.S. users by 2021, up from 44.8 in 2016.

Online consignment

When eBay and Craigslist launched in the mid-1990s, they provided individuals with the opportunity to use the internet to sell used goods. Nearly two decades later, a new set of online consignment stores has emerged to help streamline this process. Sites like thredUP, Swap, and TheRealReal allow shoppers to sell and purchase used clothes, jewelry, toys, and luxury fashion accessories online. Similar to the sharing economy, online consignment stores pose a unique threat to retailers, as well as a unique opportunity for those willing to think differently about their business models.



XaaS

As cloud computing becomes more ubiquitous, Anything as a Service (XaaS) business models are also becoming more popular. The principle behind XaaS is that businesses can provide better, more cost-effective solutions to customers via subscriptions or pay-as-you-go models than via traditional software licensing models. The most commonly known XaaS model is Software as a Service (SaaS), which provides individual software applications and services through the cloud; however, Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) models have also gained traction as a way for technology companies to expand their footprint.

While XaaS has historically referred to cloud computing, it is increasingly being used to define all service-based business models, from Transportation as a Service (Uber and Lyft) to Shopping as a Service (Trunk Club and Stitch Fix). Regardless of what you call it, it's clear that customers' needs are evolving, and businesses must adapt accordingly.

Brands go direct-to-consumer

In order to pursue bigger profit margins and retain control of the customer experience, some manufacturers are bypassing traditional retail channels and going straight to the consumer. Cutting out the middleman allows brands to build relationships with customers and collect more accurate data. This shift, in turn, enables manufacturers to develop more personalized experiences, something that 75% of customers prefer.⁵⁷

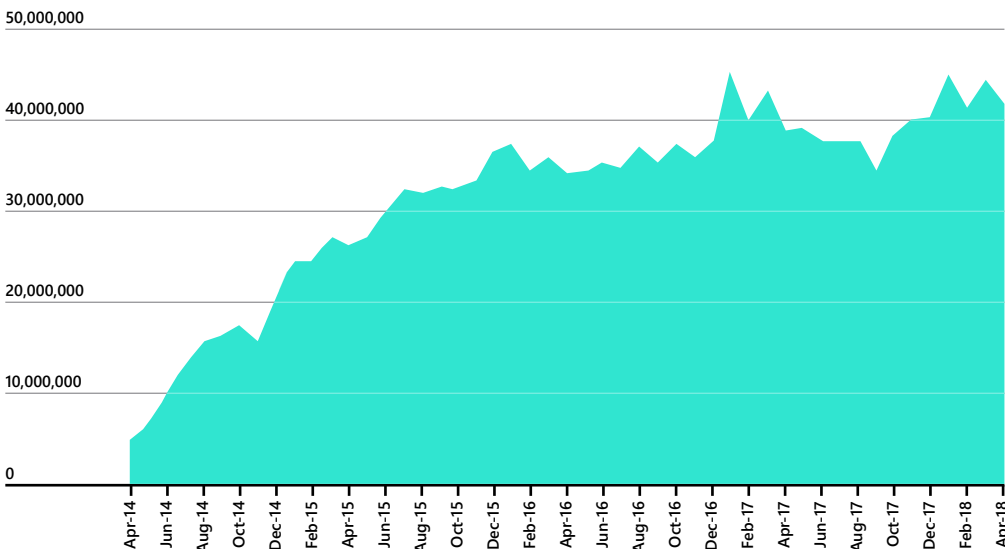


Having achieved a valuation of \$1.2 billion, eyewear manufacturer Warby Parker has succeeded with direct-to-consumer (D2C) sales, initially via ecommerce platforms and now with physical locations as well.⁵⁸ Major multi-channel brands Nike and Adidas have doubled down on their D2C efforts. Nike announced a new company alignment, the Consumer Direct Offense, that includes the creation of a Nike Direct organization, which will strategize ways to deepen one-to-one relationships with customers.⁵⁹ In 2016, Adidas launched Avenue A, limited-edition boxes that ship curated selections of women's apparel and footwear to subscribers.⁶⁰

Direct-to-consumer subscription services have grown significantly in popularity; visits to subscription-box websites increased 890% between 2014 to 2018.⁶¹ Arguably one of the most successful D2C practitioners is Dollar Shave Club. The men's grooming company disrupted its sector, retaining nearly half of its customers for

one year after their first subscription, and was purchased for \$1 billion by Unilever in 2016.⁶² To compete with Dollar Shave Club and online market competitor Harry's, Gillette recently initiated its own shaving subscription club, Gillette On Demand. The new service allows customers to order re-fills via text.⁶³

Since the cost of entry is minimal, the marketplace is already saturated with subscription services; as of early 2018, subscription box aggregator My Subscription Addition indexed roughly 3,000 boxes.⁶⁴ And now, even major retailers—including Starbucks, Amazon, Macy's, Walmart, and Nordstrom—are joining in with their own subscription box services. To succeed in this sector, subscription services must feature an offering that has the ability to surprise and satisfy customers on a recurring basis.



U.S. Subscription Box Industry Total Monthly Visitors

The gig and sharing economies grow

The proliferation of digital platforms and technology has made the gig economy more feasible and appealing to an increasing number of people. Thirty-six percent of the American workforce is now freelancing;⁶⁵ workers are choosing the flexibility of freelance work over the traditional perks of a nine-to-five job (such as paid time off, healthcare benefits, and retirement packages).

Intuit estimated that 3.9 million people regularly worked in the gig economy in 2017, and by 2021, they project that number will reach 9.2 million.⁶⁶ Forty-one percent of people participating in the gig economy also have a part-time or full-time job, with the extra hours they gain being used to supplement income.⁶⁷ One common misconception is that the gig economy is solely powered by Millennials. While they currently make up the largest share of the gig economy workforce, a recent survey by Payoneer reported that one in three U.S. gig workers was over the age of 50.⁶⁸

None of this would be possible without rapid advances in technology. Cloud-based platforms make it possible for remote workers to connect with employers from anywhere in the world, and companies like Airbnb and Uber used mobile applications to radically disrupt their respective industries.⁶⁹

The gig economy poses a unique challenge for traditional businesses. Corporations need to figure out how to effectively engage and manage a remote portion of the workforce, as well as determine how to securely grant access to internal systems.⁷⁰ There are also concerns that a company's culture will suffer if there are too many freelance workers in the environment. However, there are substantial benefits for businesses who utilize the gig economy.

Freelancing offers corporations a more flexible and affordable means of hiring talent, especially if the company is only looking to fill a temporary need. In 2017, Samsung decided to experiment with using Upwork to satisfy needs for quick turnaround

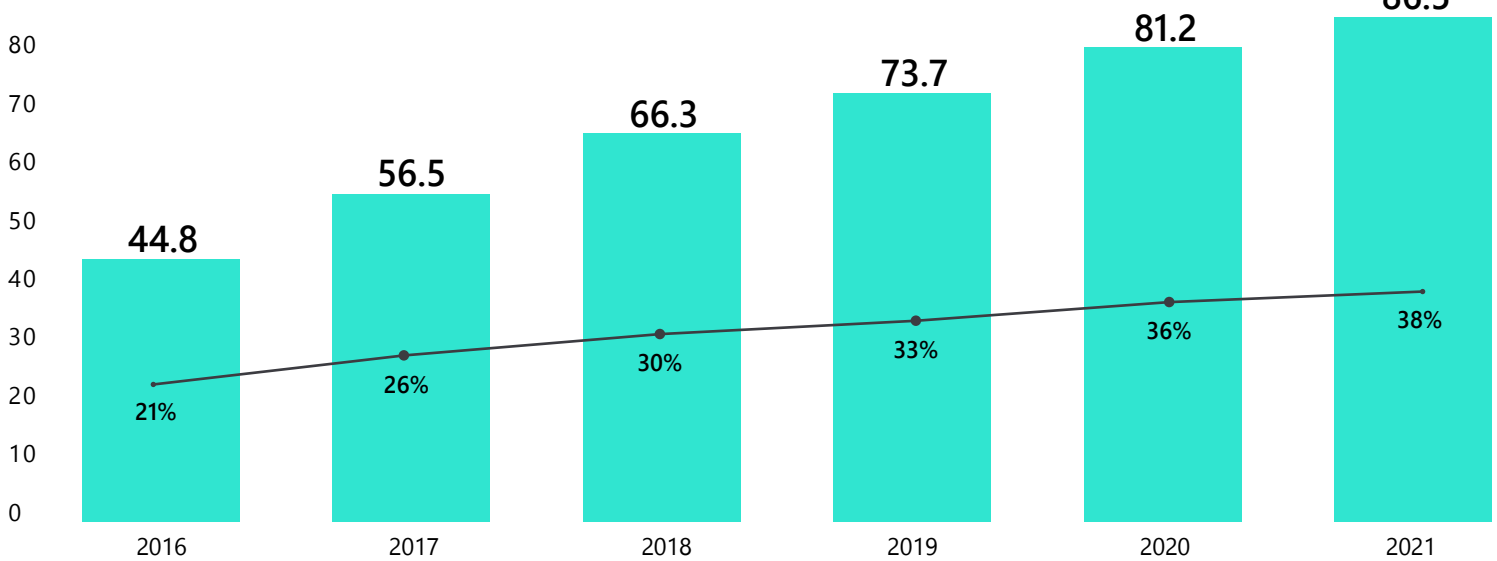
projects. This resulted in 60% cost savings and reduced administrative time by 64%.⁷¹ Despite this, most companies still are not fully embracing freelance workers, with a recent EY study finding that only 17% of global corporations' workforce was contingent.⁷²

3.9 million people regularly worked in the gig economy in 2017, and by 2021, they project that number will reach 9.2 million.

In its Global Corporate Sustainability Report, Nielsen found that 66% of consumers are willing to spend more for a product if it comes from a sustainable brand.⁷³ It is perhaps no surprise, then, to see the rise of the so-called sharing economy, with companies such as Zipcar, WeWork, Rent the Runway, and more facilitating the reselling, renting, or sharing of items and spaces. This is not necessarily a rejection of consumerism but rather a trend toward minimalism supported by the digital revolution. Mobile technology, big data, and ad-

Sharing Economy Users and Penetration, 2016-2020

■ Adult sharing economy users ■ % of adult internet users (millions and % of adult internet users)

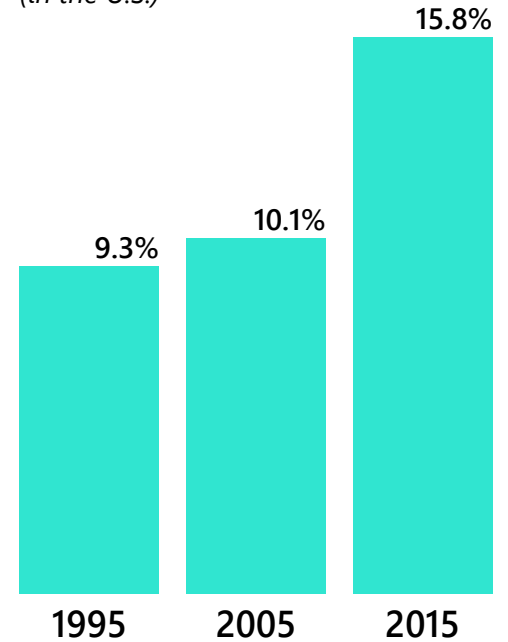


vanced algorithms make it possible to facilitate the sharing economy in a simple, user-friendly manner.

As the gig and sharing economies continue to grow, customers are purchasing fewer new goods. In response, many businesses are choosing to adopt service-based business models. Almost all vehicle manufacturers saw decreased sales in December 2017, and some were down year-over-year as well. Ford posted a 0.9% full-year decline,⁷⁴ and General Motors decreased 1.3% year-over-year.⁷⁵ As more and more people move to dense urban centers, the need—and desire—to own a car dissipates. In light of these trends, and the success of such services as Uber and Car2Go, BMW introduced ReachNow, a car-sharing service that launched in

2016 in Seattle, Portland, and Brooklyn. Consumers can choose between the BMW 3 Series or Mini Coopers—a competitive advantage over Car2Go's Smart Car fleet.⁷⁶ In an additional twist on the usual business model, the entire ReachNow fleet can switch between car-sharing and ridesharing depending on current demands.⁷⁷ This approach allows BMW to participate in the sharing economy and to be responsive to consumers' changing needs. In March 2018, BMW and Car2Go's parent company, Daimler, reached an agreement to merge their services, indicating the success of this strategy.⁷⁸

The gig economy's size of employed (in the U.S.)



Brands engage online influencers

Storefronts are not the only facet of retail undergoing a transformation. Over the past five years, influence has shifted away from traditional celebrities like actors and athletes to “cewebrities,” online/web influencers who have a significant and engaged following on topic-specific blogs or social media sites like Facebook, YouTube, and Instagram. In fact, MuseFind’s data shows that 92% of consumers trust an online influencer over a celebrity endorsement or advertisement—and with nearly half of all customers using ad-blocking technology, the reach of those channels is limited.⁷⁹

Followers view these influencers as credible, unbiased experts in their niche areas, such as fitness, beauty, and fashion. A Twitter and Annalect study found that nearly 40% of respondents have purchased an item online after seeing it used or reviewed by an influencer on social media.⁸⁰ Some brands pursue influencers with a large reach; so-called “macro-influencers” have an audience of millions. BareMinerals has partnered with influencer Ingrid Nilsen

(also known by her YouTube personality, Missglamorazzi) to promote two of their foundation lines. For approximately \$500,000, BareMinerals will have the attention of Nilsen’s 4 million YouTube subscribers and 1.7 million Instagram followers.⁸¹

Ultimately, influencers’ power is in their perceived authenticity and actual engagement with customers. Markery data shows that micro-influencers, or influencers with between 1,000 and 10,000 followers, have a much higher activity level than those with more than 100,000 followers.⁸² The cost of micro-influencers is also much lower; for the same price as one or two celebrity endorsements, brands can reach a more engaged, targeted audience with 30 to 40 micro-influencers. These partnerships lead to measurable conversions. Based on a Tomoson study, the average influencer marketing campaign generates a return of \$6.50 for every \$1 invested and is tied with email marketing for the most cost-effective customer acquisition method.⁸³ Retailers can directly reach their customers by employing online influencers whose followers match their target audience.



Transform for the future

As today’s customers evolve, so does the retail landscape. Modern retailers must remain agile, exploring new opportunities and business models to build relationships with their customers and drive growth. At Microsoft, we’re empowering retailers with flexible, scalable solutions that enable them to transform their business.

Evolve your business

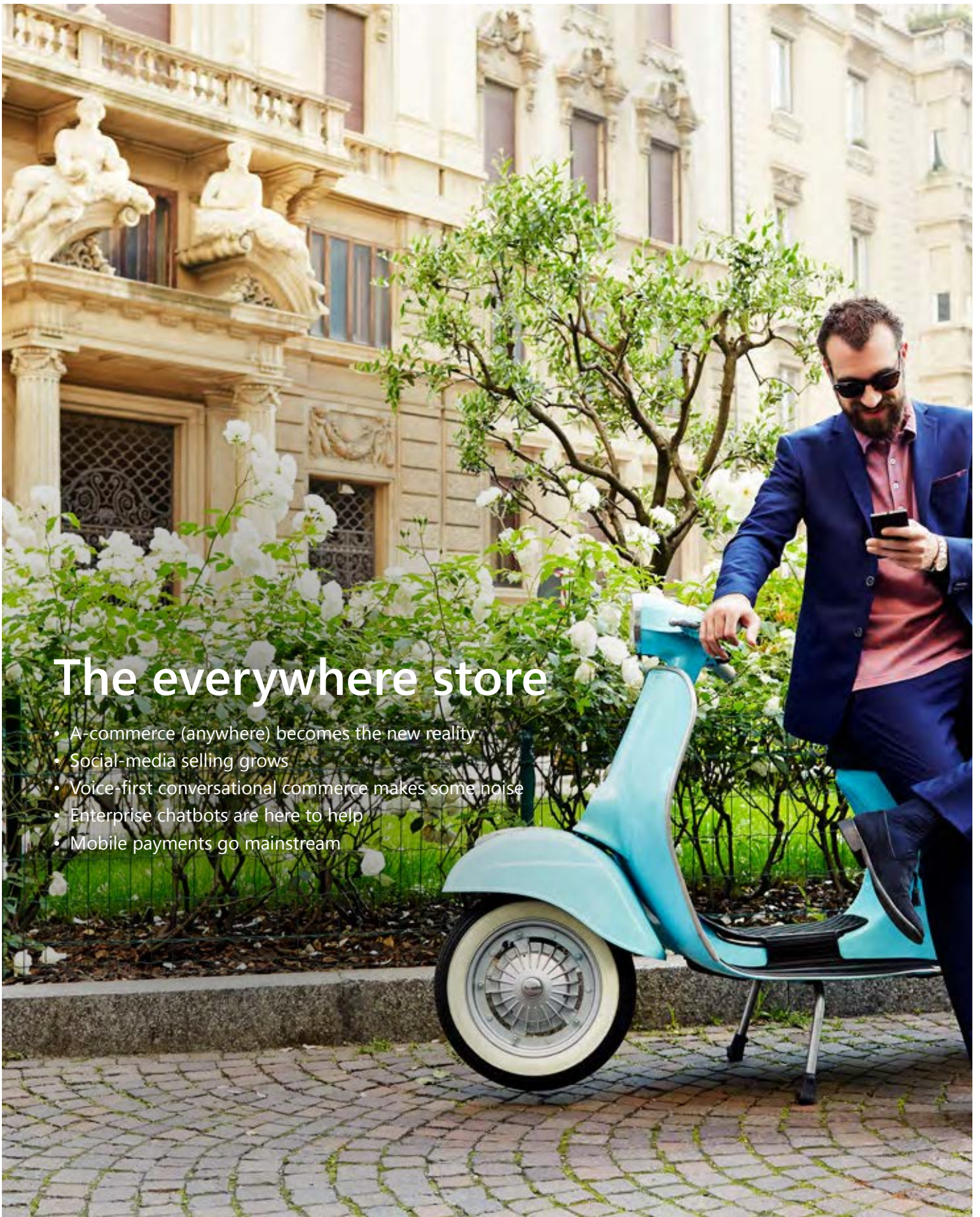
To meet the needs of today’s customers, modern retailers must evolve beyond their existing business and operating models. From analytics solutions to collaboration tools to development platforms, Microsoft provides resources with the technology and support they need to redefine retail and their business.

Meet changing needs

Modern retailers require technology that provides the power, scalability, and flexibility they need to grow at their own pace. Microsoft’s flexible deployment options and adaptive solutions make it easy for retailers to expand their operations, whether entering new global markets, launching new brands, or spinning off a new company.

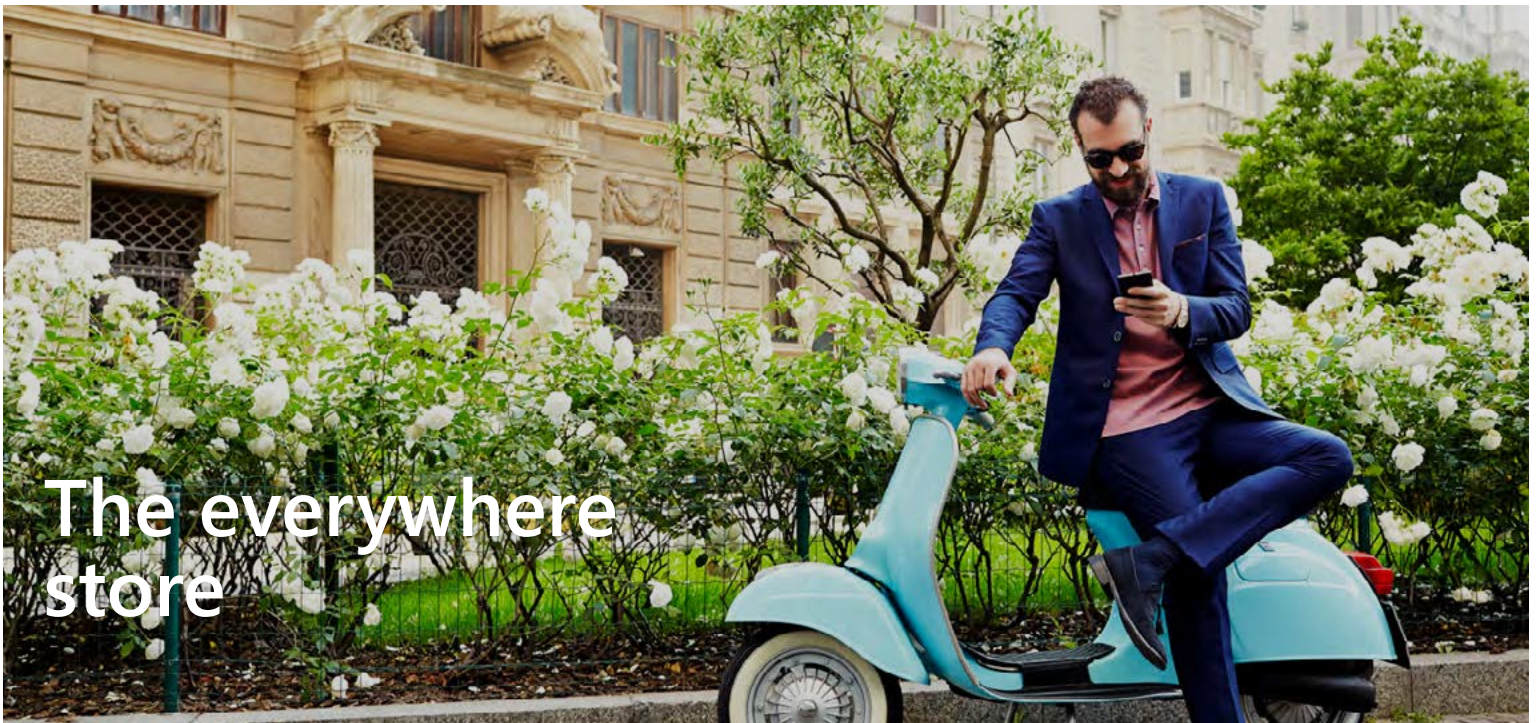
Transform culture

As our world faces new challenges, retailers must transform their cultures to posture their workforce to solve today’s most pressing problems. From tools that improve communication across an organization to the platform on which a retailer will build the app that will disrupt an industry, Microsoft is empowering businesses to redefine their culture.



The everywhere store

- A-commerce (anywhere) becomes the new reality
- Social-media selling grows
- Voice-first conversational commerce makes some noise
- Enterprise chatbots are here to help
- Mobile payments go mainstream



The everywhere store

A-commerce (anywhere) becomes the new reality

Technology has granted customers access to a dizzying array of products, and customers expect to be able to purchase on their terms, whenever and wherever they want. From social buying on Instagram to v-commerce with Alexa, businesses are no longer forcing customers to their websites to make a purchase; instead, they are turning every platform into a purchase platform.

Social media selling grows

Social media continues to grow in popularity; globally, 482 million people became new active users in 2016. Today, a total of 2.789 billion social media users are spending an average of 40 minutes to four hours on social media sites each day.⁸⁴ While customers have consulted social media sites for purchase inspiration or research for years, we are only now seeing the potential of these channels to translate into direct sales.

Today, idea-collection site Pinterest has 175 million users, and 93% of them use the site to plan purchases. More than half of them also use the site to shop for products.⁸⁵ Pinterest's "Shop the Look" feature employs computer vision and human curation to allow users to shop Pinned products on the web and their mobile devices. Early tests showed that users visit a company's website two to three times more frequently when "Shop the Look" Pins are deployed.⁸⁶ Additionally, Pinterest for Business offers a "Buyable Pins" option, which allows customers to purchase a company's products directly on Pinterest with a credit card or Apple Pay.

Instagram continues to explore ways to turn its 700 million users into regular consumers of its business partners.⁸⁷ In 2016, Instagram piloted its Shopping Tags program, allowing companies to upload a product catalog and tag specific products on their posts. When clicked, a tagged product takes the user directly to the product page. The program has since expanded to thousands

Executive summary

An overcrowded marketplace is pushing retailers to diversify their points of sale by using social media platforms, chatbots, and virtual personal assistants, connecting with customers wherever they are at any given moment.

Highlights

- Eighty-seven percent of Pinners purchased something because of Pinterest, and 93% of users say they use the site to plan their purchases.
- Eighty percent of all smartphone users are expected to use mobile messaging apps by 2018.
- By the end of 2017, 33 million voice-first devices will be in circulation.

Businesses are no longer forcing customers to their websites to make a purchase; instead, they are turning every platform into a purchase platform.



of businesses, and the results have been promising.⁸⁸ Industry leader Nike has announced that it will sell certain products via Instagram in what they describe as a “seamless” experience for customers.⁸⁹

One issue brands face in expanding social media sales is that many customers are not aware that they can shop directly via social media sites; in a recent survey, 26.4% of respondents said they had never heard of social commerce.⁹⁰ However, if social media platforms and retailers can generate better awareness—and remove barriers to purchasing with a smoother transition from browsing to buying—social media users will readily become in-app consumers.

Voice-first conversational commerce makes some noise

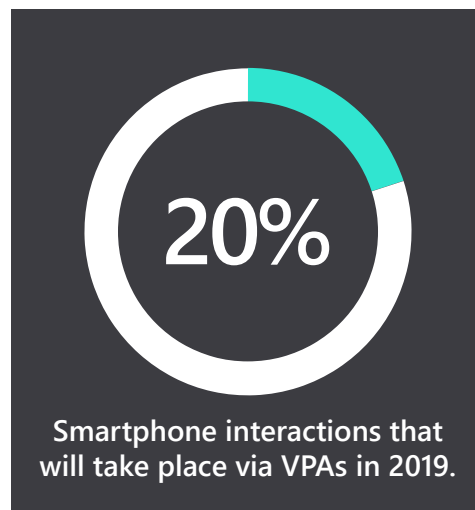
In 2016, nearly half of U.S. smartphone users consulted virtual personal assistants (VPAs)—such as Microsoft’s Cortana, Apple’s Siri, Amazon’s Alexa, and Google Assistant—and Gartner predicts that by 2019, 20% of all smartphone interactions will take place via VPAs.⁹¹ While the shopping capabilities of voice-enabled VPAs are still nascent, as they evolve, they will offer a powerful new platform through which businesses

can reach customers directly.

In addition to living on mobile devices and computers, VPAs now exist on household devices like the Harman Kardon Invoke, Apple HomePod Amazon Echo and Google Home. A VoiceLabs report estimated that by the end of last year, 33 million voice-first devices would be in circulation,⁹² and these devices are beginning to drive sales: Amazon Echo owners make 6% more purchases on Amazon than they did prior to owning the device.⁹³ Shopping capability on Google Home launched in February 2016 and 18 months later, predicting the growth of voice shopping, Walmart partnered with Google to offer hundreds of thousands of products for sale via Google Assistant, with a vision that customers will use Google Home devices to reorder frequently purchased items.⁹⁴

Microsoft’s Cortana, Amazon Alexa, and Google Assistant are working toward developing better user experiences for their voice-first merchant ecosystems, adding skills and features that make the checkout process easier and more accessible. In early 2017, only 28% of U.S. residents indicated that they would use a VPA to buy goods and that they were more likely to use their VPAs to play music, give weather information, or provide search results.⁹⁵ As users increasingly rely on their VPAs, the trend toward voice interactions will continue alongside the development of other artificially intelligent systems—based on gestures, biometrics, and more—that will make these types of interactions easier and more natural for users.

Amazon Echo owners make 6% more purchases on Amazon than they did prior to owning the device.

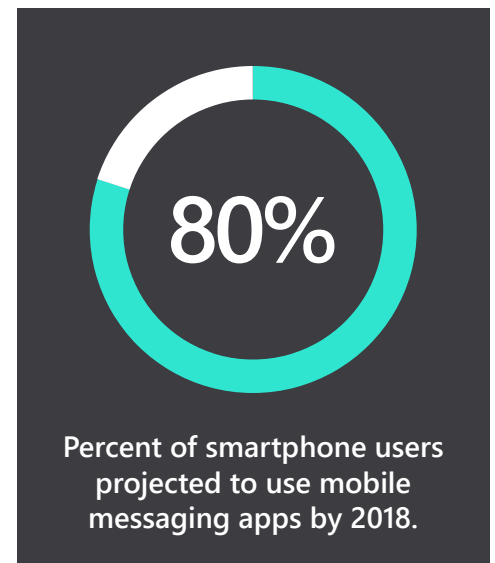


Enterprise chatbots are here to help

Pioneered by China's WeChat app in 2013, enterprise chatbots are still in their infancy globally. Brands began using chatbots—computer programs designed to simulate conversations with humans—as customer-care representatives as part of their omnichannel strategy, with the goal of reducing the number of queries handled by live agents. Prior to deploying its 24/7 virtual agent, Ana, Latin America's Copa Airlines handled only 10% of inquiries online (via search and frequently asked questions). Ana now handles 50% of all queries, and 40% of all interactions with "Ask Ana" require no live-agent phone or chat support. Early in-app chatbot adopters American Express and Intercontinental Hotel Group utilized bots to notify customers of recent transactions and to confirm upcoming stays.⁹⁶

Development rapidly accelerated following Microsoft's release of the Bot Framework in March 2016 and Facebook's F8 2016 conference, during which CEO Mark Zuckerberg encouraged developers to take advantage of open access to API to create bots for Facebook Messenger.⁹⁷ Within a year, developers had created 100,000 bots.⁹⁸ As mobile users begin to tire of installing and tracking numerous apps, companies should look to text (SMS) and messaging apps for application-to-person (A2P) communication. Half of American mobile users have not installed a new app in the last year—but combined, messaging apps Facebook Messenger, WhatsApp, and Kik have more than one billion users, and 80% of all smartphone users are expected to use mobile messaging apps by 2018.⁹⁹

Companies quickly recognized the potential in-messaging chatbots have to engage customers and turn content into commerce. As of June 2016, Apple iOS 10 supported an app extension for iMessage that enables customers to send payments. Skype allows customers to make payments with their Microsoft payment account directly through bots.¹⁰⁰ Early enterprise bot-adopter, 1-800-Flowers, relies on their bot to help customers select and purchase flower arrangements, process orders, and send shipping updates. The chatbot platform offers a multitude of innovative opportunities for product marketing. Cosmetic company Sephora's Color Match bot helps customers match the hue in an uploaded photo to a Sephora lipstick shade. H&M's bot makes clothing recommendations based on customers' answers to style quizzes. Users can also upload a photo of an article of clothing they like, and the bot will suggest a complete outfit from H&M's catalog.¹⁰¹



Chatbot technology may be relatively new, but these pioneers demonstrate its vast potential. The opportunities to create personalized customer experiences expand as bot technology develops and becomes more advanced.

Mobile payments go mainstream

Apple Pay launched to great fanfare in October 2014, but the public has been slow to adopt this technology. In 2016, a study by Auriemma Consulting Group reported that only 27% of users with an eligible device had used contactless payments.¹⁰² At the time, 39% said they would use mobile payments more if stores accepted it, but the study found that even when a store did accept mobile payments, less than a third (31%) of users consistently used mobile pay, most frequently citing that they simply forgot.¹⁰³

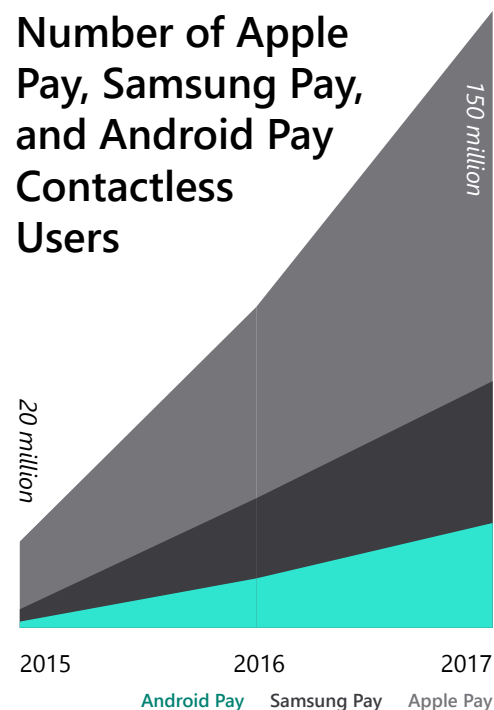
Despite its slow start, mobile payments may finally be reaching a tipping point. Apple Pay is now available in 20 markets around the world, works with 4,000 card issuers, and is available at 50% of U.S. retailers.¹⁰⁴ This increased availability has driven growth in the market; Apple Pay, Samsung Pay, and Google Pay currently have a user base of roughly 150 million and are expected to exceed 500 million users by 2021.¹⁰⁵ And these numbers don't even account for China's leading mobile payment provider,

Alipay, which boasts 520 million users.¹⁰⁶ Globally, \$590 billion was spent using contactless payments in 2017, and purchases via contactless payments are projected to increase to \$1.3 trillion in 2019 and over \$2 trillion globally by 2021.¹⁰⁷

As mobile wallets become more broadly adopted, businesses are looking to capture a piece of the mobile payment market, which is projected to grow to \$112.29 billion by 2021.¹⁰⁸ The list of mobile payment providers is growing and now includes PayPal, Intuit GoPayment, Barclaycard bPay, Chase Pay, Visa Checkout, Walmart Pay, CVS Pay, Target Wallet, Starbucks, Kohl's Pay, Square, Stripe, Venmo, LevelUp, PayAnywhere, and more.

Further pushing mobile payments into the mainstream is the broader adoption of mobile wallets as a whole. An increasing number of businesses, from stadiums to airlines, are leveraging mobile wallets for paperless ticket distribution. As adoption increases around the world, it seems clear that mobile wallets are the way of the future.

Number of Apple Pay, Samsung Pay, and Android Pay Contactless Users



Redefine shopping

Technology is redefining the shopping experience by making it possible for any platform—from social media to smart speakers—to be platforms for making purchases. At Microsoft, we're empowering retailers with the tools they need to embrace these new channels and allow their customers to shop on their terms, wherever they are.

Shop seamlessly

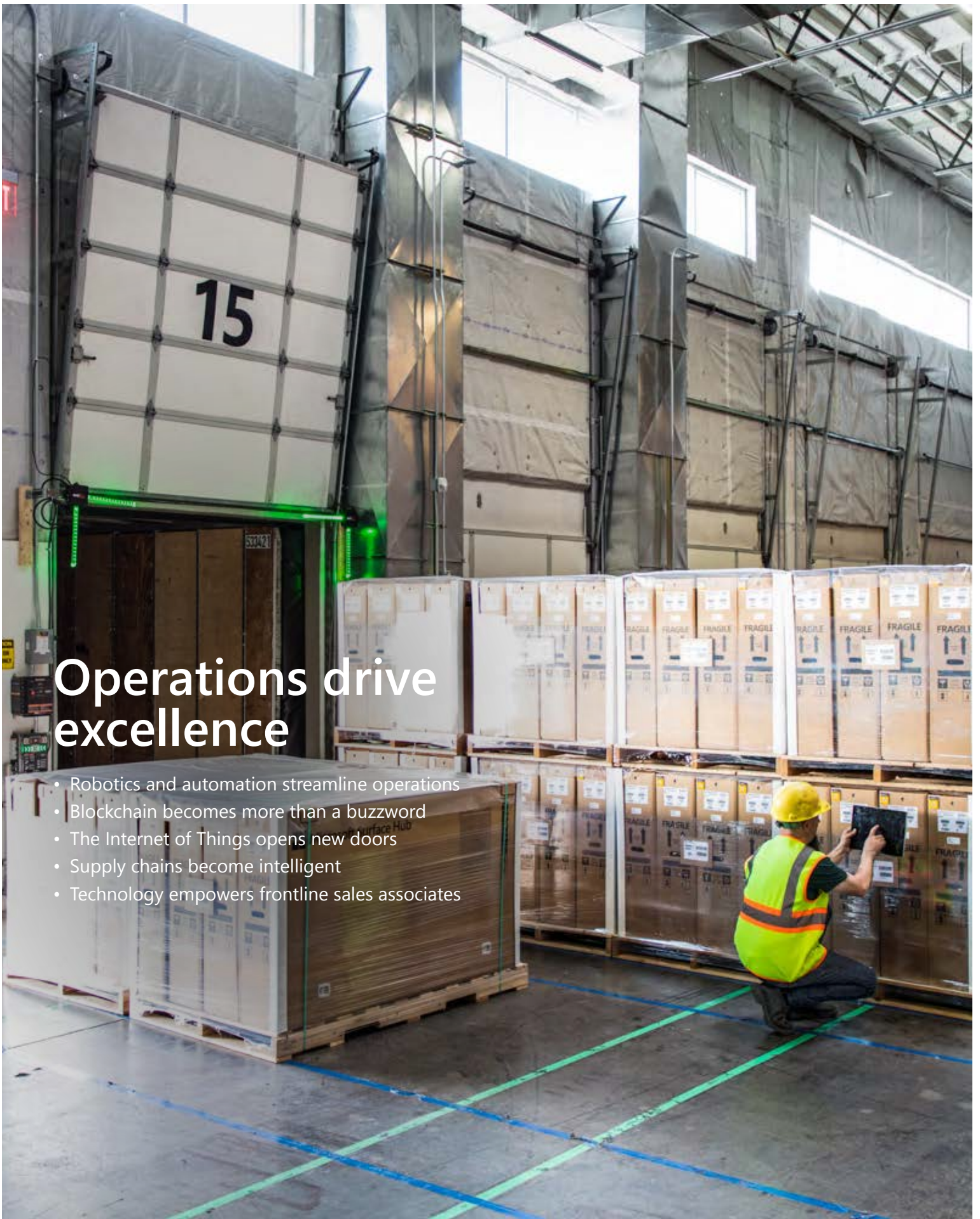
Today's customers expect a seamless shopping experience across channels and the flexibility to buy in-store, pick up in other locations, or to receive home delivery. Dynamics 365 enables retailers to provide a consistent shopping experience across nearly every channel and offers flexible fulfillment options, increasing customer satisfaction and brand loyalty.

Make tech accessible

Successful retail leaders are seeking diverse perspectives and new ideas to challenge their most ingrained assumptions. With intuitive, familiar tools that are easy to learn and cloud-based applications that allow individuals to access information from anywhere, Microsoft is making technology more accessible to more people, opening up untapped markets for talent and innovation.

Empower employees

Employees are a business's most valuable asset; today's retailers must empower their employees to do more. From tools such as Office 365 that help teams get more done to role-based workspaces in Dynamics 365 that deliver the right information, Microsoft is helping retailers empower their employees to deliver better experiences for their customers.



Operations drive excellence

- Robotics and automation streamline operations
- Blockchain becomes more than a buzzword
- The Internet of Things opens new doors
- Supply chains become intelligent
- Technology empowers frontline sales associates



Operations drive excellence

Robotics and automation streamline operations

Retailers are looking to leverage robotics and automation technologies to offset mounting healthcare costs and rising labor costs due to minimum-wage legislation, as well as to streamline warehouse and fulfillment processes. A Research and Market study predicts that the retail automation market will grow at a CAGR of 10.96% between 2017 and 2023 and be valued at almost \$19 billion by 2023 as companies look to reduce operational costs and enhance the customer experience.¹⁰⁹

Target's California distribution center utilizes a robotics warehouse system, in which incoming pallets are automatically separated into product cases and sorted into a high-density storage container. As orders come through, robots travel up to 25 mph and can retrieve one product per minute—approximately five times faster than a human can pick products on foot. The robot then creates "perfect pallets" according to store layout, and another robot wraps the pallet. This system has a significant overhead but ultimately can save retailers as much as 80% on distribution-center labor costs, allowing them to operate warehouses that are 25% to 40% smaller than traditional buildings.¹¹⁰

In 2019, large stores will add more self-scan and self-checkout options. These have already been successfully implemented by Rebecca Minkoff and Macy's, who tag their inventory with radio-frequency identification (RFID) sensors.¹¹¹ Electronic shelf-label technology automates retailers' price-changing systems, eliminating the need for employees to change them by hand and allowing companies to run and display special offers in real-time.¹¹² Amazon has paved the way for full automation with its staff-less, checkout-less Amazon Go location, which utilizes multiple technologies to detect which items customers leave the store with and to charge their accounts accordingly. These trends don't only provide cost savings: by streamlining operations, retailers help provide faster checkout times and quicker delivery windows to customers, ultimately building brand loyalty.

Executive summary

Driven by connected customers who are demanding quicker delivery and more transparent processes, companies employing digital technology will see numerous benefits in inventory management, fulfillment, data analysis, and employee management.

Highlights

- Tracking a product via blockchain takes 2.2 seconds, versus seven days via paper.
- 8.4 billion IoT devices were in use by the end of 2017, a number expected to double by 2020.
- Seventy-two percent of customers who dealt with a store associate using a mobile device to provide product info, credit-card checkout, or inventory look-up said it resulted in a better shopping experience.

Retailers are looking to leverage robotics and automation technologies.

Blockchain becomes more than a buzzword

First described in 1991 by Stuart Haber and W. Scott Stornetta,¹¹³ blockchains are decentralized, shared ledgers where all transactions are recorded securely by encryption in near real-time and are immutable (incapable of being altered or deleted). Blockchain technology sparked a revolution in 2009 when Satoshi Nakamoto leveraged blockchain to provide the data structure for a novel peer-to-peer electronic cash system, Bitcoin.¹¹⁴

Despite blockchain being nearly three decades old, we are still in the early adoption phase, but blockchain technology is expected to grow rapidly over the next six years,¹¹⁵ with the global blockchain market projected to reach a value of \$20 billion by 2024.¹¹⁶ A World Economic Forum survey reported that 10% of global GDP will be stored on blockchain by 2027.¹¹⁷

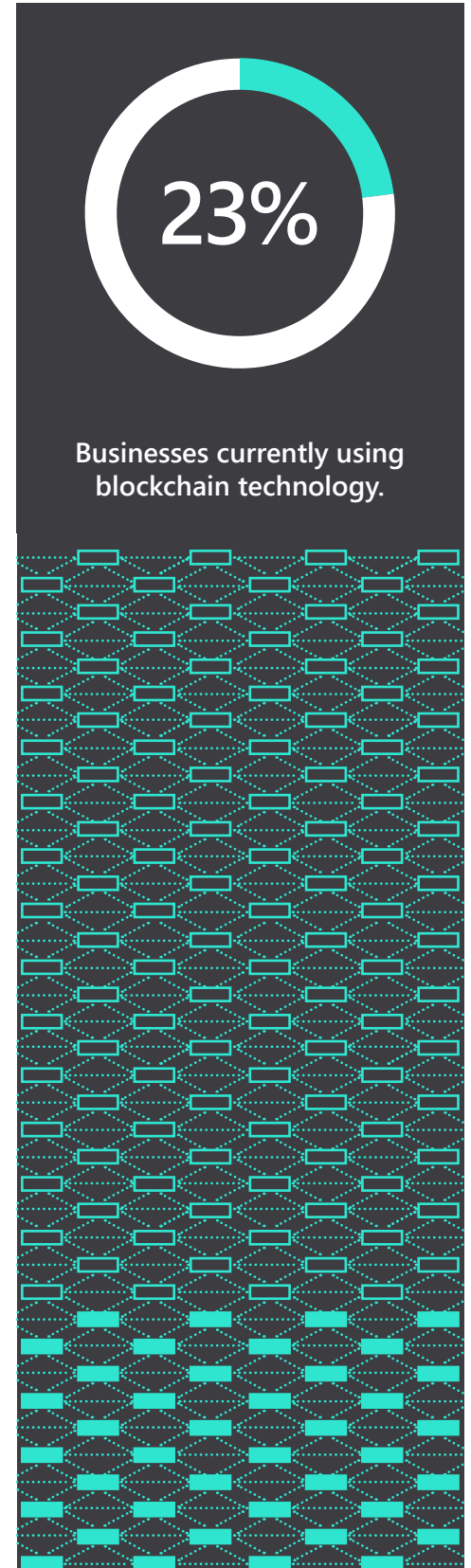
Even today, attitudes are changing fast. In AFP's 2017 MindShift Survey, only 1% of organizations had implemented blockchain, while 51% reported no plans to do so.¹¹⁸ By their 2018 report, 23% said they were currently using blockchain technology,¹¹⁹ a huge year-over-year leap.

The global blockchain market is projected to reach a value of \$20 billion by 2024.

While blockchain has become popular due to its efficiency in processing financial transactions, companies are already looking to blockchain to solve other business problems, including a number of areas impacting manufacturing. For example, a blockchain can connect ledgers from across an organization's supply chain (supplier, manufacturer, distributor, shipper, retailer, and end consumer) to improve the accuracy and efficiency of tracking a product's journey.

Tracking a product's journey via blockchain can turn a manual process that once took days into an automated process that takes only seconds,¹²⁰ and the immutable record keeping in blockchain makes it a great tool for tracking temperatures across a cold chain, quality assurance, warranty remediation, and fraud. And this is just the beginning.

A number of blockchain solutions now enable companies to build anti-counterfeit databases, track stolen products, or track items with specific qualities, such as diamonds from conflict zones or luxury products that rely on product authenticity.¹²¹ One promising application of blockchain is with contract and document management—digitizing and moving the governance of paper certificates, warranties, and contracts into a blockchain—which can automatically update the documents when a



Other potential benefits of employing blockchain technology include reduced risk of fraud, reduced time to complete transactions, better networked loyalty programs, and increased customer trust.



triggering event occurs. And testing has already been implemented in the food safety industry, where blockchain allows food to be granularly tracked, so when a producer identifies an issue—like a tainted batch of spinach—they can contain the problem by isolating the source and issuing a recall for only the affected products.

Businesses are poised to see significant returns from blockchain. A recent study from Accenture reported that blockchain could help cut costs and deliver savings of more than 30% across the middle and back office. This includes an estimated 70% savings on central finance reporting and 50% savings on compliance, centralized operations, and business operations.¹²² Many of these savings are due to streamlined processes, optimized data quality, improved transparency, and better internal controls.

Other potential benefits of employing blockchain technology include reduced risk of fraud, reduced time to complete transactions, better-networked loyalty programs, and increased customer trust. Today's finance leaders must understand blockchain and the possibilities offered by this disruptive technology.

The Internet of Things opens new doors

A term coined by British tech trailblazer Kevin Ashton in 1999, Internet of Things (IoT) refers to internet-connected devices that can network with other devices and people, as well as the global transfer of data without human intervention.¹²³ Data collected from today's 8.4 billion IoT devices—a number expected to double by 2020—can inform a number of business decisions.¹²⁴ According to a Verizon Enterprise study, 89% of IoT adopters gain increased insight into customer preferences and behaviors.¹²⁵

Retailers such as Whirlpool are connecting their appliances to gain valuable insights into consumer usage and product performance, allowing the company to tailor future products based on those findings.¹²⁶ Wearables like Apple Watch and fitness-tracker Fitbit capitalize on the customer's desire to be connected. While many retailers collect data from IoT devices, the majority are not utilizing the information for predictive or prescriptive analytics. By utilizing collected information, companies can predict certain outcomes, both negative and positive. For example, connected cars can send insurance companies information about low-risk driving behaviors to predict appropriate discounts.

Analytical models can also optimize or score data and make recommendations based on the findings. This could include maximizing profit by charging a certain price, shutting down a machine at a sensor's direction, or suggesting that a user speed up to reach a set goal on a fitness tracker.¹²⁷

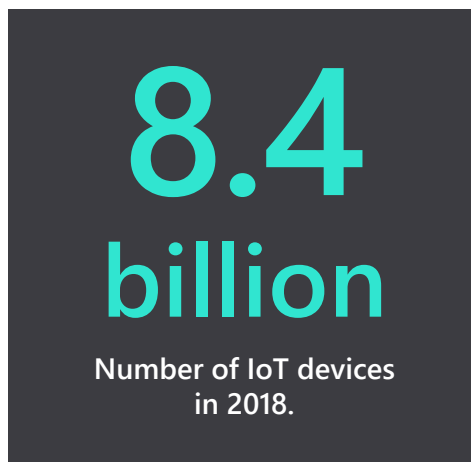
Supply chains become intelligent

In conjunction with intelligent manufacturing, these advancements—from AI to ubiquitous computing to blockchain—are enabling intelligent supply chains. AI and machine learning are powering intelligent, autonomous systems that can streamline processes at or in-between any stage of the supply chain.

Ubiquitous connectivity and computing are improving communication across the supply chain, and blockchain will provide greater transparency and trust.

Intelligent supply chains enable seamless synchronization between supply, demand, and fulfillment. It provides real-time visibility across the supply chain and manufacturing operations, while facilitating collaboration, and in doing so, it can improve forecasting, optimize inventory levels, and make operations more efficient, saving time and money.

Intelligent supply chains enable seamless synchronization between supply, demand, and fulfillment.



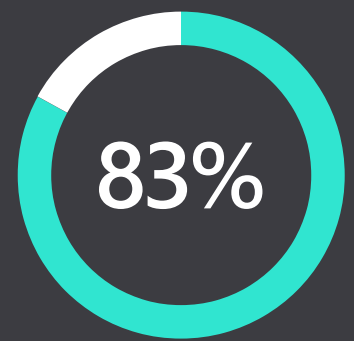
Technology empowers frontline sales associates

Increased device connectivity and internet usage have resulted in more knowledgeable consumers; 83% of customers think they are more knowledgeable than store associates.¹²⁸ Digital tools can enable frontline sales associates to have better access to product information and inventory, complete transactions via mobile POS devices, and develop their skills through software training. Apple was one of the first retailers to equip employees with mobile devices, allowing any associate to schedule Genius Bar appointments or checkout a customer. This practice is becoming the norm; Warby Parker and Bonobos employees have mobile POS devices and can assist customers at each integral shopping moment.¹²⁹ 72% of customers who dealt with a store associate using a mobile device to provide product info, credit card checkout, or inventory look-up said it resulted in a better shopping experience.¹³⁰

Empowering employees with more control in the shift and scheduling

process is mutually beneficial for managers and can result in time and monetary savings. According to a Hay Group report, the turnover rate for hourly store employees—65%— is the highest it's been since the Great Recession.¹³¹ Mobile scheduling apps such as When I Work, schedulehead, and Branch Messenger provide a platform for workers to coordinate and exchange shifts; managers can see employee shift preferences, schedule shifts, notify employees to take breaks, and send out announcements, training, and more. According to Branch Messenger, the app reduces employee absenteeism by 43% and saves store managers four hours per week.¹³² Engaged and invested employees are more likely to improve customer relationships, resulting in a 20% leap in sales.¹³³

72% of customers who dealt with a store associate using a mobile device to provide product info, credit card checkout, or inventory look-up said it resulted in a better shopping experience.



Percent of shoppers believe they're more knowledgeable than retail store associates.

Get more done

To compete in today's fast-paced environment, retailers must optimize operations to get more done. At Microsoft, we are empowering retailers to do more with tools that streamline processes, provide greater visibility into operations, and deliver actionable insights.

Automate workflows

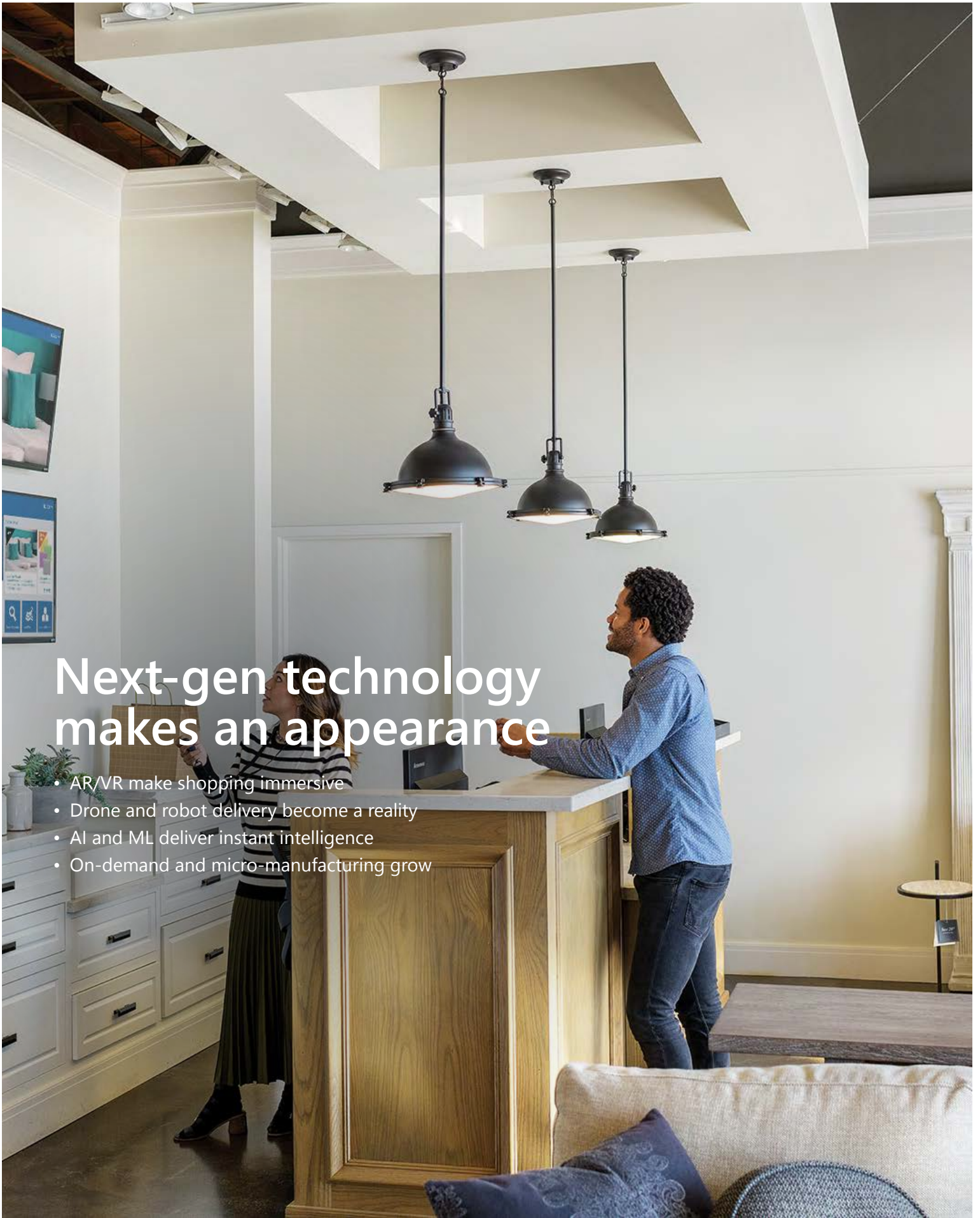
As the pace of modern business accelerates, retailers are looking to streamline processes and get more done. With Azure, Dynamics 365, and Microsoft 365, we're providing retailers with tools to automate workflows and simplify communication so they can improve efficiency, productivity, and growth.

Improve visibility

To effectively guide their organizations, retail leaders require visibility into all areas of their business. By combining unified data in the cloud with powerful data visualization tools, like Power BI, Microsoft provides retail leaders with a single source of visibility into their organization—from a high level down to a transactional level—so they can make more informed decisions.

Be more proactive

To grow their businesses, retailers must look beyond the past and into the future. Microsoft empowers retailers with tools to help them identify emerging trends, predict outcomes, and automatically optimize workflows so that their organizations can become less reactive and more proactive with their business strategies and operations.



Next-gen technology makes an appearance

- AR/VR make shopping immersive
- Drone and robot delivery become a reality
- AI and ML deliver instant intelligence
- On-demand and micro-manufacturing grow



Next-gen technology makes an appearance

AR/VR make shopping immersive

While many initially wrote them off as just a gimmick, augmented reality (AR) and virtual reality (VR) are proving to vastly increase productivity and efficiency in retail, and more and more businesses are seeing the potential benefits of incorporating them into their customer experience and products. Gartner predicts that by 2019, 20% of large businesses will use AR, VR, or mixed reality in some way.¹³⁴

Pokemon Go, an augmented reality (AR) smartphone app that allows users to “catch” Pokemon as users physically travel in the real world, brought AR entertainment to more than 20 million users, piquing mainstream interest.¹³⁵ AR utilizes technology that overlays the appearance of the outside world with computer-generated graphics. It’s easier to adopt than virtual reality (VR), due to the additional hardware requirements of VR. In-store AR technology includes smart mirrors, like those in the upscale apparel stores of Rebecca Minkoff and Ralph Lauren that allow customers to choose a language, change the lighting, and request other sizes or colors right from the dressing room, triggering an alert on a sales associate’s mobile device.¹³⁶

Home-furnishing companies such as IKEA and Lowe’s have launched AR apps that allow customers to use unique room specifications to “see” how certain furniture or appliances would look in their spaces, which can reduce return rates. IKEA’s Kitchen Planner lets users “place” cabinets and other items in their rooms, customize materials and colors, and generate a complete shopping list. Sephora and Vogue use facial-mapping technology in their apps that enables customers to “try on” certain products. By incorporating AR technologies into online and mobile presences, retailers can satisfy customers’ desire to visualize their options pre-purchase.

In 2016, a number of virtual reality devices hit the market: HTC’s Vive, Samsung’s Gear VR, Facebook’s Oculus Rift, Sony’s PSVR, and of course, Microsoft’s HoloLens, the first self-contained, holographic computer. AR/VR is ex-

Executive summary

Emerging technologies, such as augmented reality, virtual reality, drones, and deep learning, have the potential to revolutionize the retail industry at every step of the customer journey, from product selection to fulfillment.

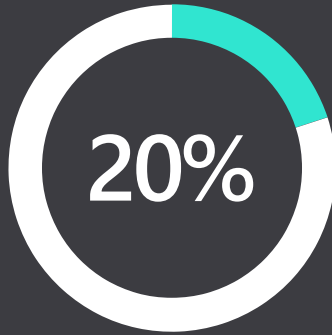
Highlights

- AR/VR is expected to generate \$150 billion in revenue by 2020 in content, hardware and distribution, and software platforms and delivery services.
- Sixty percent of consumers are either in favor of or indifferent to drone delivery.
- Fifty-four percent of retailers already use or plan to implement artificial intelligence technology.

AR/VR is expected to generate \$150 billion in revenue by 2020.



As both AR and VR technologies advance, there will be more opportunities to enhance the customer experience.



Percent of large businesses will use AR, VR, or mixed reality in some way by 2019.



pected to generate \$150 billion in revenue by 2020 in content, hardware and distribution, and software platforms and delivery services.¹³⁷ To date, companies have seen value in VR as either a training or visualization tool. L’Oreal launched a virtual-reality training program, Matrix Academy, that immerses a stylist in a 360° salon, complete with a client. Lowe’s has announced an update to its three-year-old Innovation Labs’ Holoroom. Customers at the Framingham, Massachusetts store will be able to experience a DIY project with realistic sounds and responses, like the vibration of a drill.¹³⁸ To date, the virtual online shopping experience has been limited to Alibaba’s Buy+, which only requires a VR cardboard set and a smartphone for users to immerse themselves in a virtual shopping mall. Purchases can be made with just a nod.¹³⁹

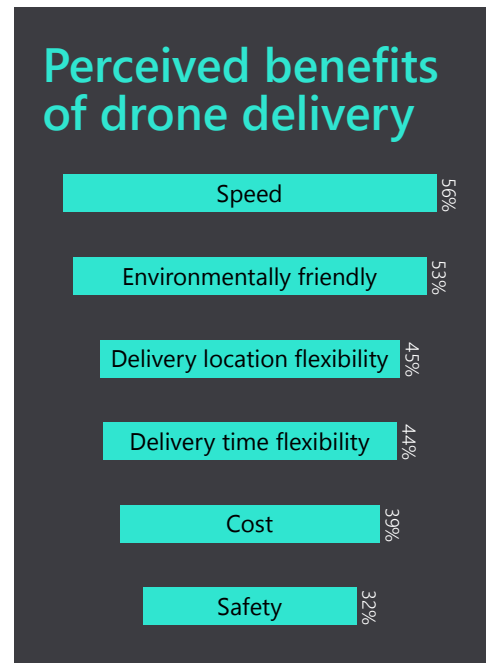
Augmented reality may have greater immediate utility in the retail space because, despite the novelty of a virtual experience, the hardware requirement does present a barrier for customers. However, as both AR and VR technologies advance, retailers will discover new ways to enhance the customer experience.

Drone and robot delivery become a reality

Once a regulatory framework is in place, drones have the potential to change the way companies complete fulfillment. The Federal Aviation Administration estimates that 2.3 million drones were shipped for commercial use in 2017, compared to 600,000 in 2016.¹⁴⁰ China has led the way in commercial drone use, particularly for last-mile delivery in rural areas. On “Single’s Day,” the world’s most profitable 24-hour online sales event, Chinese ecommerce company JD.com launched its drone delivery program, fulfilling deliveries on ten routes.¹⁴¹ Today, JD.com has a fleet of drones that can fly up to 60 mph, carry packages weighing up to 30 kg, and deliver in four provinces.¹⁴² Reports have indicated that JD.com’s drones have lowered delivery costs by as much as 50%, to under \$0.08 per package.³⁵ Last-mile delivery can account for up to 50% of all shipping expenses, making drone delivery an effective solution for reducing those costs.¹⁴³

Ground-based drones have also started to complete last-mile deliveries. Starship Technologies has tested semi-autonomous six-wheeled drones in Washington D.C., partnering with DoorDash and Postmates to make deliveries within a four-mile radius. The robots can carry up to 20 pounds at 4 mph and require minimal human oversight. Customers are texted a custom link that will unlock and open the robot’s hatch. In March 2017, Ford unveiled the Autolivery, an autonomous ground vehicle that drives to a central location and then deploys drones for last-mile delivery from its landing platform. These technologies will prove especially beneficial to companies in areas with high labor costs.

Besides waiting for regulations to comprehensively address drone/autonomous vehicle delivery, companies will likely need to educate customers on the benefits of drone delivery. A USPS study found that customers’ perception of drones is mixed: 44% like the idea of drone delivery, 23% are indifferent, and 34% dislike the idea, with attitudes varying among generations, gender, and regions.



AI and ML deliver instant intelligence

Not long ago, artificially intelligent machines seemed like a thing of science fiction; even today, when people think of artificial intelligence (AI), many still envision human-like robots. But in practice, artificially intelligent machines have been around for decades, making our lives better, safer, and more efficient. So why all the buzz now?

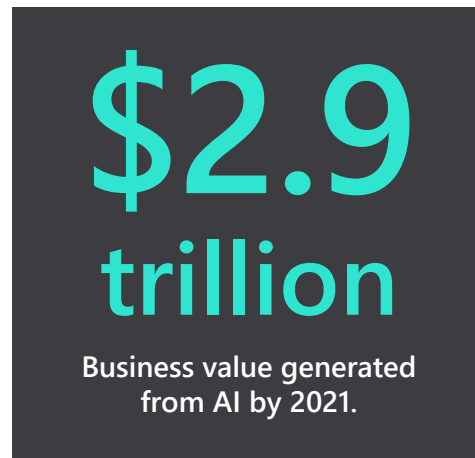
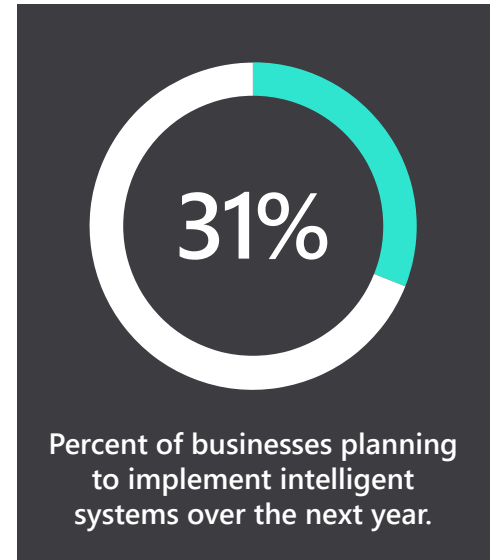
In short, it's because these systems are only now getting really good. Correction: really, really good. In 2016, Microsoft's Artificial Intelligent and Research team reported that their conversational speech recognition system had reached human parity, i.e., their system made the same or fewer errors converting speech to text as a professional transcriptionist.¹⁴⁴ This system, which boasted a word error rate (WER) of 5.9% in 2016, has since improved to a WER of 5.1%.¹⁴⁵ As the processing power and accuracy of these intelligent systems improve—with advances in technologies ranging from neural networks to natural language processing—the opportunities to leverage these technologies increase as well.

Deep learning, the cutting-edge arm of artificial intelligence that focuses on a subset of machine learning and applies it to any problem that requires "thought," has become more efficient due to an increase in global daily internet traffic, faster graphics processing unit speed, and investment in AI technology. Deep learning is behind natural language processing (NLP) and image recognition, seeing implementation in devices, applications, and customer-service tools.

Artificial intelligence that continually compounds upon its knowledge and learns from its mistakes—like that used to navigate self-driving cars—improves the probability of a correct outcome each time. However, this can

be a long process; for example, for a deep-learning algorithm to correctly identify dresses, it needs to learn from 3,000 and 5,000 dress images. This isn't discouraging retailers; according to a report from SLI Systems, around 54% of retailers already use or plan to add AI technology. AI and deep-learning tools drive improvements across a number of areas, including better personalization, customer service, inventory management, and data analysis.

Despite its many benefits, just 15% of businesses are currently leveraging AI, but 31% are planning to implement intelligent systems over the next year.¹⁴⁶ Eighty-three percent of companies said that AI is a strategic priority for them.¹⁴⁷ As organizations reap the efficiencies and insights of AI, Gartner predicts that businesses will generate \$2.9 trillion in business value from AI by 2021.¹⁴⁸



The merging of big data with new technology has made processing large data sets easier than ever, and from mining big data to predictive analytics, manufacturing leaders are increasingly relying on these new, intelligent tools to help them succeed. AI gives manufacturing leaders an incredible degree of insight into operations and the market, allowing them to assess consumer data to forecast purchase and usage behavior, to review economic indicators to predict market trends, and to evaluate operations metrics to help streamline processes and cut costs.

On-demand and micro-manufacturing grow

The growth in on-demand and micro-manufacturing has been driven by decreases in the cost of 3D printing, increased demand for personalization, and a growing demand for artisan goods in a world of mass-produced products.

The advent of ecommerce redefined the customer experience, allowing consumers to view and compare a wider variety of products than ever before. Today, consumers expect products that are not only customized to their market and culture but actually personalized to them as an individual.¹⁴⁹

This is where micro-manufacturing comes in handy. Smaller, nimbler factories are able to more easily customize their products to client specifications. Local Motors is doing just this. A small U.S. startup, Local Motors operates five global micro-factories, where it produces items like Strati, the world's first 3D-printed car. Local Motors frequently crowdsources

production designs from participants around the world, with the winner receiving a cash prize and royalties on sales of the resulting product. This process resulted in the design of Olli, a self-driving shuttle bus powered by artificial intelligence. Local Motors' groundbreaking production model allows the company to tap into a global talent pool for new product ideas while gaining insight into region-specific needs and preferences.

Increasingly, consumers aren't just expecting customized products—they're expecting customized products nearly instantly. Candylicious, a store in the Dubai Mall, is one such company meeting this demand with custom candies that can be created in just five minutes. German candy manufacturer Katjes developed the technology, and the in-store application is so simple that children can easily operate it.¹⁵⁰ Another example is Ministry of Supply, a menswear store founded by MIT graduates. The company developed a machine in its Boston location that can create a custom garment on-demand in 90 minutes.

On-demand production is not only enticing for customers; it virtually eliminates inventory issues and dramatically reduces production waste.¹⁵¹ Rather than guessing what the demand for a product will be, factories are able to meet the point of demand directly, producing appropriate volumes as needs arise.¹⁵² However, despite the many benefits, micro-manufacturing has yet to be widely adopted. But that could soon change. In early 2018, Amazon received a patent for a new retailing system that would enable the company to accept online orders for custom 3D-printed items.¹⁵³ The resulting products would then be available either for pickup or delivery. As the demand for faster, more personalized products grows, so will the need for on-demand production and micro-manufacturing.

On-demand production is not only enticing for customers; it virtually eliminates inventory issues and dramatically reduces production waste.

Innovate and evolve

New technology is changing the way customers shop and the way retailers do business. From AR/VR to autonomous vehicles to artificial intelligence, modern retailers must leverage the latest technology to provide innovative experiences and evolve their businesses. At Microsoft, we're empowering retailers with the innovation and tools they need to build the future of retail.

Leverage new tech

To meet the demands of today's customers, modern retailers must work smarter. Microsoft provides retailers with the latest technology, enabling them to empower their workforce with the tools they need to innovate, create change, and get more.

Work smarter

To meet the demands of today's customers, modern retailers must work smarter. With Dynamics 365, retailers can gain better visibility into their operations and streamline processes across the customer life-cycle, from marketing and sales to fulfillment and support.

Drive innovation

Innovation is the lifeblood of the modern retail business. To innovate, retailers must build on an adaptable platform that provides flexibility, agility, and scalability. Dynamics 365 enables retailers to drive innovation with an intelligent application that is easy to tailor, scale, extend, and connect to other applications and services.



Companies face new risks and challenges

- Living in the age of uncertainty
- Regulation changes create uncertainty
- Shareholders demand greater transparency and better stewardship
- GDPR is here
- Businesses brace for Brexit
- More data, more problems
- The workforce evolves
- Diversity and inclusion are at the forefront
- The rise of the socially conscious consumer
- Industries converge
- Leaders try to navigate a highly politicized environment
- Uncertainty takes a toll



Companies face new risks and challenges

Living in the age of uncertainty

From Brexit negotiations and trade tariffs to immigration reform and environmental policies, the unpredictability of today's political and social landscape reigns supreme among the factors concerning retail leaders.¹⁵⁴

As the future of various regulations around the globe remains unclear in a highly politicized environment, uncertainty is placing a great amount of pressure on businesses; forty-nine percent of businesses feel that they are exposed to more uncertainty today than they were three years ago.¹⁵⁵ This uncertainty can be seen in the amount of cash U.S. businesses are accumulating, an amount that continued to climb through 2017¹⁵⁶ despite projections of steady U.S. GDP growth in 2018,¹⁵⁷ signaling that business leaders remain cautious about the economy.

Unfortunately, the waters on the horizon appear no calmer than those of the past year, so business leaders need to prepare their businesses for more uncertainty ahead.

Regulation changes create uncertainty

Over the last 18 months, a string of major regulatory changes has been initiated and enacted. From GDPR to tariffs, these regulations span across a wide range of disciplines and touch nearly every business. As business leaders adapt to comply with the latest regulations, they remain concerned over the impact of additional pending regulations that could upend their operations. In 2018, 42% of CEOs globally and 50% of CEOs in North America reported over-regulation as a top concern,¹⁵⁸ with 54% citing rising risk levels due to industry-specific regulation.¹⁵⁹

Retail regulations

From rollbacks in worker safety rules and emissions policies to net neutrality, tariffs, and subsidies, brands across all industries are facing a great deal of reg-

Executive summary

Business challenges are a moving target. With each new year comes a new list of risks and obstacles that business leaders will be forced to confront.

Highlights

- Forty-nine percent of business leaders feel that they are exposed to more uncertainty today than they were three years ago.
- Forty-two percent of CEOs globally reported over-regulation as a top concern.
- Sixty-six percent of consumers felt it was important for brands to take a public stand on social and political issues.

Forty-nine percent of business feel that they are exposed to more uncertainty today than they were three years ago.



ulatory uncertainty and flux. While we are currently in a period of regulatory ease, longer-term macro-trends suggest movement towards higher labor and environmental standards.

As such, retailers must not only grapple with the operational and financial impact of these changing regulations; they must also weigh the impact of changes on other areas of their business as they develop both their short- and long-term strategies. These include the effects of lower worker safety standards on talent retention and healthcare costs and customer perception of products that are environmentally damaging.

Data protection

Data protection and data privacy compliance are huge concerns for today's business leaders, with 78% expressing increasing concerns in a recent study by EY.¹⁶⁰ As many companies struggle with managing and securing their customers' data, regulators are now making moves to empower consumers and ensure the privacy of said data.

As GDPR rolls out in the European Union (E.U.), it's impacting businesses worldwide, affecting any business

who has customers in the E.U., and many companies remain unprepared. In an early 2018 study, only 33% of companies reported having a plan while 39% said they were not familiar with GDPR at all.¹⁶¹

As businesses prepare for GDPR, many are also facing the prospect of new regulations as the U.S. grapples with several large data breach cases, each with far-reaching consequences, and weighs options for better managing data privacy and consumer protections.

Trade policy

With newly imposed tariffs on imported steel (25%), aluminum (10%) and solar panels (30%), many business leaders and financial experts fear that new trade tariffs could negatively affect domestic economic growth and accordingly, hurt job growth.¹⁶² There is also increasing concern regarding the potential for future tariffs. Sparked by these new tariffs, and the list of 1,300 additional tariffs that have been proposed by the U.S., nearly three-quarters of finance leaders are now worried about a trade war, which could have an extremely negative impact on businesses in the U.S. and abroad.



Other policies

Beyond industry, data, and trade, there is a long list of policy areas currently being upended that are of great interest and concern to business leaders. From immigration to labor policy, new legislation is impacting how businesses source and manage talent. Many industries are also being impacted by rollbacks in environmental policies, which can affect sourcing and operations. Some industries—like the technology industry—have been relatively unified in their objection to these environmental policy changes,¹⁶³ while others—like utilities—remain divided.¹⁶⁴

Beyond regulatory policy, many other policy uncertainties exist on the horizon, including international policy in regions like North Korea, Syria, Yemen, and Iran, each of which could have a substantial impact on businesses and the world.

Legal note: The material contained within this document is for informational purposes only and is not meant to be a substitute for professional advice. Please consult an accounting or legal professional for advice on the new rules and guidelines.

Shareholders demand greater transparency and better stewardship

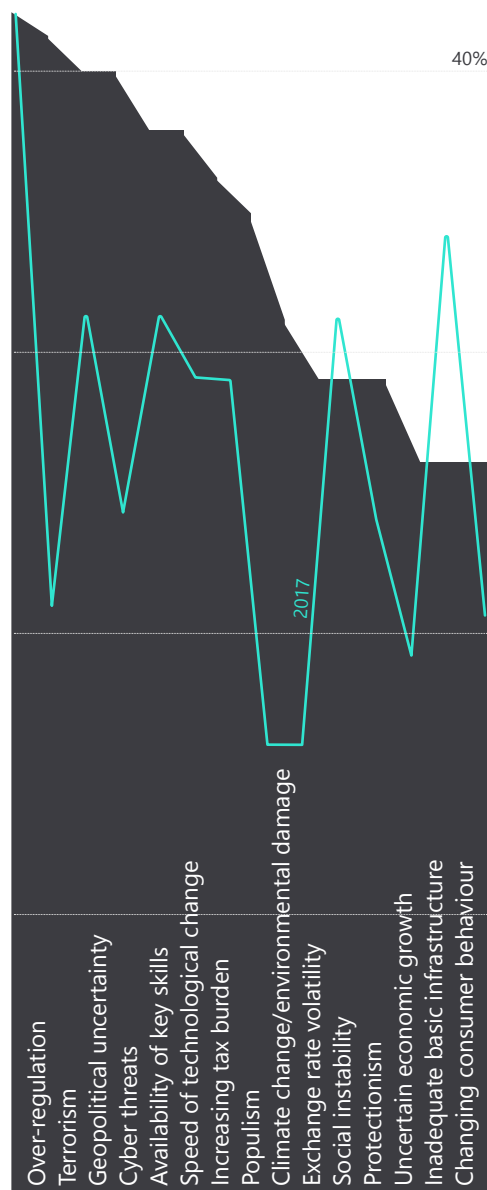
In recent years, shareholders have become more vocal about what they expect from a company—beyond profits. In 2017, the majority of shareholders at four major energy companies voted in favor of greater disclosure on climate change.¹⁶⁵ This was the first time shareholders had approved climate-change resolutions at U.S. companies in opposition to board recommendations, and their move is indicative of the growing demand for transparency and stewardship at every level of corporate entities.

In 2017, 62% of Exxon shareholders voted for a non-binding resolution that would require the company to increase transparency as well as reduce CO2 emissions.¹⁶⁶ In 2016, AT&T shareholders forced a discussion about the company's Hemisphere program, which facilitates police access to phone records.¹⁶⁷ Shareholders have also pushed companies to be more transparent about their gender pay gap statistics—and were successful in the cases of Arjuna Capital and Pax World Management.¹⁶⁸

Transparency about a company's influence on politics is also a top demand of shareholders. In March 2017, investors at the Walt Disney Co. submitted a resolution asking the company to disclose its lobbying efforts. Investors had similar requests of Zevin Asset Management, where shareholders have been asking for clarification on political spending for ten years. This movement is not limited to the States; in Canada, shareholders demanded an update on how the Royal Bank of Canada addresses public policy issues in both Canada and the U.S.¹⁶⁹ In Australia, shareholders of BHP Billiton Limited (a multinational mining and petroleum company) demanded complete disclosure of the company's lobbying spending on climate and energy.¹⁷⁰

Perhaps not coincidentally, shareholders' rising demands correspond with consumers' demand for corporate responsibility. Eighty-six percent of consumers believe that companies should help address social issues¹⁷¹—and this affects their spending, particularly for Millennials and Gen Z. As consumers increasingly choose companies that offer better transparency and stewardship, shareholders will likely push for the same, as the companies' long-term economic interests realign with the social interests of the communities they serve.

Top CEO concerns in 2018



GDPR is here

On May 25, 2018, a European privacy law took effect and set a new global bar for privacy rights, security, and compliance. The General Data Protection Regulation (GDPR) is fundamentally about protecting and enabling the privacy rights of individuals. The GDPR establishes strict global privacy requirements governing how businesses manage and protect personal data while respecting individual choice—no matter where data is sent, processed, or stored.

The GDPR imposes new rules on organizations that offer goods and services to people in the E.U., or that collect and analyze data tied to E.U. residents, regardless of where the business is located. Among the key elements of the GDPR are:

Enhanced personal privacy rights

Strengthening data protection for individuals within the E.U. by ensuring they have the right to access their data, to correct inaccuracies, to erase data, to object to the processing of their information, and to move their data;

Increased duty for protecting data

Reinforcing accountability of companies and public organizations that process personal data, providing increased clarity of responsibility in ensuring compliance;

Mandatory data breach reporting

Requiring companies to report data breaches to their supervisory authorities without undue delay, and generally no later than 72 hours; and

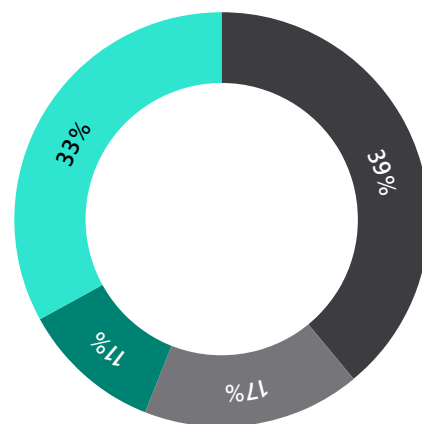
Significant penalties for non-compliance

Imposing steep sanctions, including substantial fines, that are applicable whether an organization has intentionally or inadvertently failed to comply.

As of mid-2017, only 28% of E.U. businesses and 5% of U.S. businesses reported that they had already started preparations to comply with the new laws. Even with the law now in effect, there are still many questions surrounding the GDPR, and many businesses are still under-informed about the new regulation. Only 36% of IT professionals in the E.U. and 9% in the U.S. said they felt well informed about the GDPR and its impact on their business.¹⁷² And as companies roll out plans, many concerns remain about ambiguity in the requirements, which could cost businesses millions if they fail to comply.

Legal note: *The material contained within this document is for informational purposes only and is not meant to be a substitute for professional advice. Please consult an accounting or legal professional for advice on the new rules and guidelines.*

GDPR compliance readiness



- I'm not familiar with the GDPR
- We have heard of the GDP but have not yet taken any action
- We are studying the GDPR and its scope
- We have a plan for the GDPR



Businesses brace for Brexit

On June 23, 2016, Britain shocked the world when they passed a referendum to leave the European Union (E.U.). This decision sent a shockwave through global markets as the implications of Britain's departure from the European Union moved from theory to reality.

The initial vote was met with severe backlash from the business world. The British Pound plunged and has remained roughly 15% lower compared to the dollar than before the referendum.¹⁷³ While the FTSE 100 has recovered from its initial fall,¹⁷⁴ a long list of outstanding Brexit unknowns has resulted in a choppy start to 2018,¹⁷⁵ and the uncertainty has pushed U.K. government bonds to record lows as investors seek safer assets.

Many U.S. businesses are now having to make difficult decisions about how to proceed with business in the U.K. For many, the U.K. was a link into the E.U., but with the U.K. now leaving the E.U., many are reconsidering their U.K. operations. In one study by Gowling WLG, two-thirds of U.S. businesses polled said that the Brexit decision was already impacting investment choices in the country.¹⁷⁶

Half of the businesses polled cited plans to bypass the U.K. in order to do business directly with the E.U.

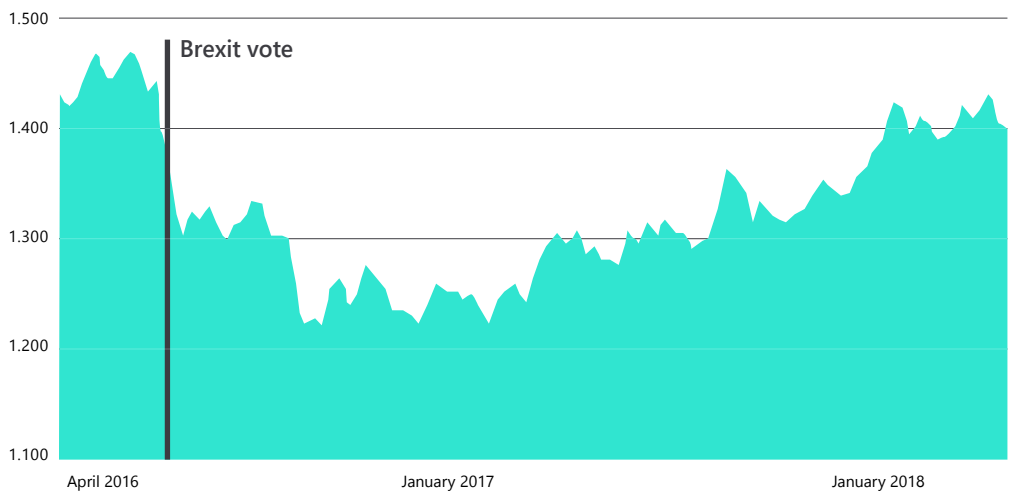
The sheer uncertainty surrounding Brexit is also having an impact on the job market in the U.K., with companies, job seekers, and employees all showing signs of cold feet. In the year following the Brexit vote, fewer foreigners applied for work in the U.K., uncertain about their ability to stay and work, and fewer British companies sent offers to job seekers located outside the U.K. This has caused the representation of foreign candidates in the U.K. talent pool to decrease by 50%.¹⁷⁷ In addition, 41% of U.K. tech workers surveyed said they were less likely to start their business in the U.K. due to Brexit.

As the Brexit date approaches, businesses are still seeking clarity from the U.K. government on future trade arrangements with the E.U. and the world. This ambiguity has created a great deal of frustration for business leaders, who are struggling to set long-term strategies as a result of the uncertainty.

The U.K. is scheduled to leave the E.U. on March 29, 2019.

The U.K. is scheduled to leave the E.U. on March 29, 2019.

British Pound/U.S. Dollar



Legal note: The material contained within this document is for informational purposes only and is not meant to be a substitute for professional advice. Please consult an accounting or legal professional for advice on any new rules and guidelines.

By 2021, the annual damage caused by cyber-crimes is expected to reach \$6 trillion, up from \$3 trillion in 2015.



More data, more problems

As businesses aggregate an increasing amount of data, the risks of having that data compromised also increases. By 2021, the annual damage caused by cyber-crimes is expected to reach \$6 trillion,¹⁷⁸ up from \$3 trillion in 2015.¹⁷⁹ This is the greatest transfer of wealth in history¹⁸⁰ and is more profitable than the global trade of all major illegal drugs combined.¹⁸¹ In 2017, there were roughly 1,300 U.S. data breaches, exposing 175 million records. This represents a 19% increase over 2016.¹⁸²

This fact is not lost on business leaders, 48% of whom classified cyber risk as one of the biggest trends transforming businesses today.¹⁸³ In 2017, the average cost of a data breach was \$3.62 million; with an average cost per lost or stolen record of \$141, this number adds up quickly for large businesses.¹⁸⁴ As a result, retail leaders are taking on greater responsibility in helping their companies manage this growing risk.

Legal note: *The material contained within this document is for informational purposes only and is not meant to be a substitute for professional advice. Please consult an accounting or legal professional for advice on the new rules and guidelines.*

The workforce evolves

Not too long ago, the business world was all aflutter about how to deal with Millennials in the workplace, trying to predict what to expect from this new and seemingly exotic generation. Fast forward to 2018, and the oldest Millennials are already approaching mid-career, with many assuming management roles. And with Millennials taking on higher levels of responsibility earlier in their careers than was common in the past, they are increasingly in the position of managing employees older than themselves.¹⁸⁵

As a group, Millennials are typically characterized as tech-savvy, entrepreneurial, collaborative, and valuing of work-life balance, and this is impacting their approach to management. In practice, it means that they are likely to embrace the use of workplace communication and collaboration technologies to foster conversation and teamwork and that they promote a flatter hierarchy in the office, embracing good ideas from wherever they originate. And because the current IT environment makes it easier than ever for employees to work whenever and wherever they want, Millennial managers are often more flexible about letting employees take care of personal matters as needed, so long as they stay on top of their work.¹⁸⁶

Looking to the next generation, the leading edge of Gen Z (also known as iGen) has just begun to enter the workforce. As they do, their beliefs, attitudes, and habits will shape how businesses operate and redefine how managers must lead in order to be successful.

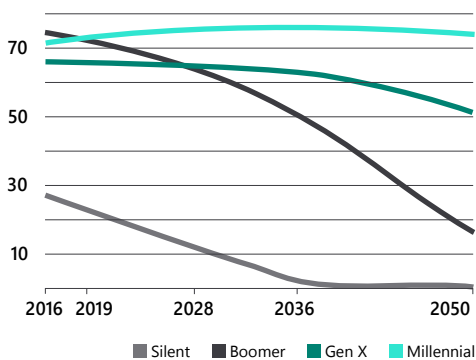
In her book, *iGen: Why Today's Super-Connected Kids are Growing Up Less Rebellious, More Tolerant, Less Happy—and Completely Unprepared for Adulthood*, Professor Jean M. Twenge of San Diego State University analyzes the impact that this generation will have on society as they come of age. Twenge's research revealed that members of Gen Z are both more focused on work compared to Millennials at the same age and more likely to seek stable employment than to be self-employed.¹⁸⁷

Authors David and Jonah Stillman offer a counterpoint to this perspective in *Gen Z @ Work: How the Next Generation Is Transforming the Workplace*, arguing that this maturing generation's entrepreneurial impulses are simply expressed in a different way. Increasingly, Gen Zers are pursuing interests outside of their full-time employment that also generates income—in today's parlance: everybody's got a side hustle.¹⁸⁸

Now in their late teens and early twenties, the oldest members of Gen Z grew up during a recession, making them far more risk-averse than Millennials.¹⁸⁹ On average, these digital natives are coming of age later than previous generations, waiting longer to hit seminal milestones like dating, driving, and holding a job. As a consequence, they arrive in the workforce with less life experience under their belts and may require a high degree of oversight and guidance as they adjust to the rhythms and responsibilities of adult careers.¹⁹⁰

These findings present both opportunities and challenges for companies. From a financial perspective,

Projected population by generation in millions



Gen Z's desire to seek stable, long-term employment could spell higher employee retention rates—and thus lower costs for recruiting and training new employees over time. In exchange, employers must be willing to invest in training and guiding Gen Zers as they adjust to corporate life and as they find ways to direct their entrepreneurial inclinations into their work with the company.

With both generations, companies would be wise to institute formal programs that allow employees to harness their entrepreneurial tendencies for the good of the company—a concept known as intrapreneurship. Companies with intrapreneurial cultures enjoy higher levels of purpose-led management and employee engagement,¹⁹¹ traits that ultimately lead to creativity, employee loyalty, and innovation.

Diversity and inclusion are at the forefront

Two new generations are poised to take over the workforce; they are both more diverse than previous generations, and they place a higher value on diversity, inclusion, and accessibility than their predecessors. These generations are, of course, Millennials and Gen Z. When compared with Baby Boomers and Gen X, more Millennials and Gen Zers cited diversity and inclusion of a prospective employer as an important factor in their job search.¹⁹²

Research by Nielsen indicates that Gen Z and Millennials, who make up roughly 48% of the U.S. population, are more racially diverse than preceding generations.¹⁹³ By the year 2065, there will be no racial majority in the U.S.¹⁹⁴ The face of the American population is changing, and with it, our expectations of who

should be represented in the workplace are changing, as well.

Employees, investors, and the public have begun to demand increased transparency and accountability from companies regarding social issues. In turn, businesses are acknowledging their shortcomings and making commitments and investments to change. Last year was a particularly hard year for the tech industry, with a number of high-profile companies facing intense criticism over missteps and failures with regard to implicit and explicit bias in the workplace.¹⁹⁵

In response to the growing national conversation around representation and equality, a coalition of corporate executives has banded together to create CEO Action for Diversity & Inclusion, a group dedicated to fostering frank and open discourse about issues like race, gender, and sexual orientation in the workplace. On its website, ceoaction.com, the group has created a repository of best practices for discussing and fostering a more diverse and inclusive workplace.

Public scrutiny aside, there are many reasons companies might seek to have a more diverse workforce—a sense of equity, a desire for a company's employees to more closely resemble the populations they serve,¹⁹⁶ and even profitability. Research by McKinsey shows that companies in the top quartile of gender and racial diversity were more likely to deliver financial returns that were above their national industry median than those less diverse.¹⁹⁷

As companies embrace gender and racial diversity, they open themselves up to a diversity of ideas that can uncover new opportunities, challenge long-held assumptions, and help unlock new communities of talented individuals.



The rise of the socially conscious consumer

Over the last decade, there has been substantial buzz about Corporate Social Responsibility (CSR), yet for many companies, the financial costs of change initially outweighed the benefits. But as Millennials and Gen Z become more influential, both as employees and consumers, they are pushing businesses to behave more responsibly.

While 86% of general consumers feel that companies should help address social issues, 94% of Gen Z believe that companies have a responsibility to do so.¹⁹⁸ When compared to members of other generations, members of Gen Z are more likely to share positive opinions about companies doing good (87%), are more likely to protest to support a cause they care about (58%) and are more likely to buy from a company which addresses social or environmental issues (90%).¹⁹⁹

In response, businesses are investing more resources in corporate responsibility initiatives. According to PwC's Global CEO survey, 64% of CEOs now feel that CSR is central to their business, rather than a standalone program.²⁰⁰ Even institutional investors are getting on board, pushing firms to make more responsible decisions.²⁰¹ And as Millennials and Gen Z assume roles of power in the corporate world, the impacts of CSR will only become more pronounced.

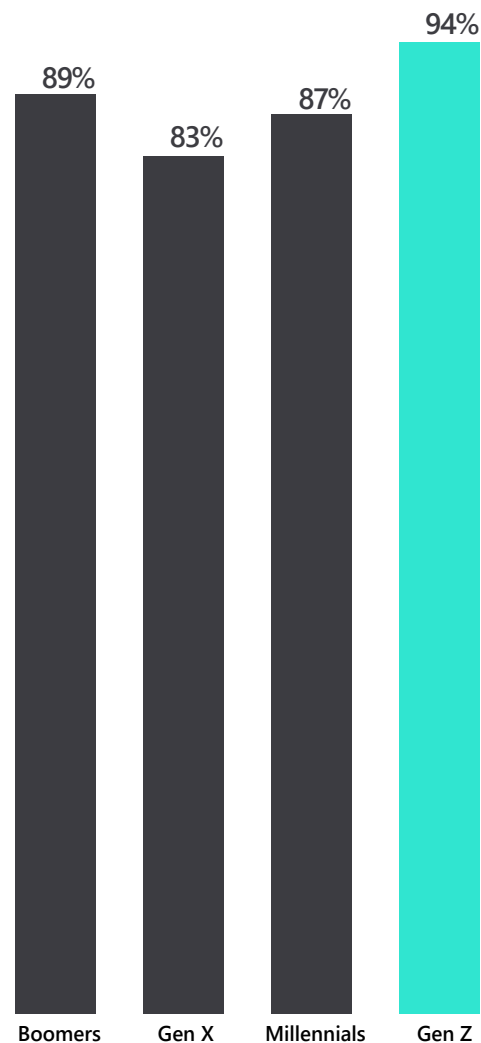
Hyper-attention to the political environment has spilled over into the consumer world, with Millennials leading the charge to hold businesses to a higher standard of corporate social responsibility (CSR). Customers want their brands to have a positive

social impact through giving back to their communities, sourcing sustainable materials, and maintaining ethical manufacturing and business practices. Nielsen's Global Corporate Sustainability Report found that 73% of Millennials are willing to spend more on a product if it comes from a sustainable brand, compared to 66% of all consumers' preferences.²⁰²

But it is no longer enough for companies to practice good corporate citizenship silently. Millennials, now America's largest generation and more than half of the workforce, spend \$600 billion each year and are expected to account for 30% of all retail sales by 2020.²⁰³ They want brands to publicly declare their commitment to sustainable and ethical practices—and produce results. Footwear company TOMS' "Buy One, Give One" program and Warby Parker's "Buy a Pair, Give a Pair" concept appeal to Millennials who want to feel they are doing something bigger than buying a product.²⁰⁴

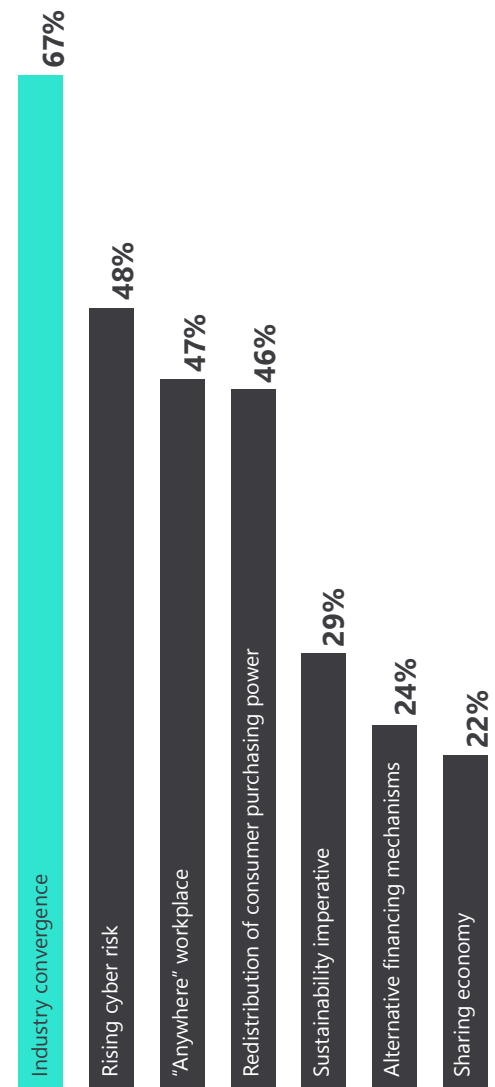
Millennials factor a company's dedication to CSR into their job search and acceptance decisions. Sixty-four percent said they would not work for a company that didn't have strong CSR commitments, according to the 2016 Cone Communications Employee Engagement Study; 75% are willing to take a pay cut in order to work for a socially responsible company.²⁰⁵ Brands will need to make their social, ethical, and environmental values easily accessible and showcase tangible results to gain this generation's trust and spending power.

Should companies help address social issues?



47% of business leaders were preparing their companies for an influx of entrants from other sectors, a 27% increase from 2013.

The single biggest trend business leaders think will transform the business arena



Industries converge

As organizations invest in technology and transform their companies through new business models, the boundaries of how a company may leverage their technology are becoming increasingly blurred. You don't have to look far to find examples of technology companies transcending industries to invest in autonomous vehicles, healthcare technology, brick and mortar retail, and entertainment. In a sense, as all companies become technology companies, the reciprocal also becomes true: a technology company can be any type of company.

In IBM's Global C-suite Study, industry convergence was the biggest trend business leaders saw transforming the business landscape. Accordingly, 47% were preparing their companies for an influx of entrants from other sectors, a 27% increase from 2013.²⁰⁶

In today's fast-moving business world, companies will continue to face more competition and new challenges. And as they do, they will continue to rely on their business leaders to navigate through uncertainty towards growth and progress.

Sixty-six percent of consumers feel it is important for brands to take a public stand on social and political issues.



Leaders try to navigate a highly politicized environment

While companies have historically taken a highly strategic and tactical approach to public relations, massive social media campaigns and boycotts—like #GrabYourWallet, a movement started by Shannon Coulter in October 2016—have forced many companies to enter the political conversation whether they wanted to or not.

Executive orders directly affecting both customers and employees have prompted companies to take a political position, with CEOs from Microsoft, Apple, Google, Goldman Sachs, Starbucks, Nike, Tesla, and Facebook (among many others) decrying certain policies—including those on immigration and the environment—in public statements and pledging to protect their employees who might be impacted by particular decisions.²⁰⁷ An executive order in April 2017 calling for a review of national monuments prompted outdoor retailers REI, Patagonia, and The North Face to urge customers to contact their legislators and oppose any legislation that threatens federally protected public land.²⁰⁸

In the past, it was rare for large companies to make openly political statements; however, with changing demographics, the rise of social media, and a rapidly shifting political environment, customers are vocal when they believe a business has misstepped and now expect brands to take a stand on issues. In a recent study by Sprout Social, 66% of consumers felt it was important for brands to take a public stand on social and political issues.²⁰⁹

Uncertainty takes a toll

Business leaders are trained to “expect the unexpected,” but living in limbo can take a toll, and long-term uncertainty—whether geopolitical, regulatory, social, or other—has been associated with prolonged declines in economic activity.²¹⁰ More concerning, research also shows no evidence of a rapid rebound when uncertainty declines—known as the “wait-and-see” effect. Instead, the data show that uncertainty exists in a series of feedback loops which signal bad economic times.

In the NBER paper, “Uncertainty and Economic Activity,”²¹¹ researchers Bachmann, Elstner, and Sims show that in an uncertain environment, businesses shift to a defensive posture. Due to uncertainty, businesses reduce overall investment, which leads to a decrease in hiring, work hours, research and development, manufacturing production, and labor productivity. Bachmann, Elstner, and Sims write that, “Business uncertainty [has] effects similar to negative business confidence,” and go

on to detail how during these cycles, hard-earned relationships are damaged and business models fail. All of this, in turn, cuts economic output and drives further uncertainty, which restarts the cycle. “Business and customer relationships have to be re-established and business models altered when the economy is at trough. This generates uncertainty.” Summarized succinctly in their final words, “Uncertainty is a concomitant phenomenon of negative first moments events in the economy. Bad times breed uncertainty.”

Uncertainty is a concomitant phenomenon of negative first moments events in the economy. Bad times breed uncertainty.

Uncertainty makes it difficult for businesses to forecast performance and risk. Seventy-one percent of business leaders said that forecasting risk today is as difficult or even

more difficult than it was three years ago, and 54% believe it will be increasingly difficult in the next three years.²¹²

In spite of the data, the complexity of 2018 only creates greater uncertainty over the effects of this uncertainty. In-line with Bachmann, Elstner, and Sims’s findings, in 2018, Goldman Sachs projects buybacks will jump to \$650 billion, up 23% year-over-year. Driven in large part by savings realized through the recently enacted U.S. tax cuts, this growth in buybacks suggests that businesses are seeking alternative ways to deploy cash instead of re-investing internally. Yet, as businesses increase buybacks, Goldman Sachs is also projecting a 16% growth in mergers and acquisitions (\$360 billion) and an 11% increase in capital expenditures (\$690 billion),²¹³ conflicting narratives to add to the complexity of these modern times.

While the outcome remains to be seen, one thing is certain: as uncertainty looms with no end in sight, retailers will be relying on their most senior leaders to help navigate the choppy waters ahead.

Pivot and adapt

Today’s retail leaders face many difficult decisions as they navigate through a time of considerable ambiguity and uncertainty. At Microsoft, we’re empowering these leaders with greater visibility into their business operations and performance to help them identify emerging hazards, and the flexibility to adapt quickly and scale with ease.

Better manage risk

From cybersecurity to compliance, retailers must address a wide range of threats to their business. With Azure’s security, privacy, transparency, and industry-leading compliance coverage, retail leaders can better manage cyber risks, and with unified data in the cloud, retail teams can improve reporting speed and accuracy.

Scale with ease

Businesses face many challenges as they look to scale at home, abroad, and into new verticals. Dynamics 365’s cloud deployment options make scaling easier than ever, whether a company is looking to scale up or down to better manage seasonal demands or duplicate a Dynamics 365 instance on a server in a new country they’re entering.

Increase agility

To succeed in a world of uncertainty, retailers must be flexible to quickly pivot and adapt as market conditions change. With Azure and Dynamics 365, retailers have the flexibility to deploy how and where they want, leverage extensions to quickly add new capabilities, and easily manage system updates and new features across the organization.

Conclusion

The world is changing and as a result, so is retail. Retailers play an essential role in our lives, giving us access to the goods. In addition to the trends covered in this report, many other issues are evolving in the retail space, including new security challenges, smart sensors, wearables, edge computing, 5G connectivity, increasing interest rates, new tax regulations, and an ever-increasing need for speed.

Retailers are no strangers to change; in fact, from fashion trends to product innovations to seasonable foods, it's an industry that is almost defined by change. Technology has transformed the industry before, as it is now, and in time, new technologies will redefine retail again in the future. What has remained constant is the necessity for customers to access the goods and experiences they need from a place they trust.



How can you get Dynamics 365?

Get started with Dynamics 365 today

Options for one or many products

Choices for any type of user

Editions for businesses of any size

GET STARTED >

Sources

Endnotes

1. "Millennials - Breaking the Myths." The Nielsen Company, 2014.
2. Richard Fry. "Millennials Projected to Overtake Baby Boomers as America's Largest Generation." Pew Research Center, March 1, 2018.
3. Richard Fry, Ruth Igielnik, and Eileen Patten. "How Millennials Today Compare with Their Grandparents 50 Years Ago." Pew Research Center, March 16, 2018.
4. "Young Adults Then and Now." United States Census, 2018.
5. Xianglei Chen, Erich Lauff, Caren A. Arbeit, Robin Henke, Paul Skomsvold, and Justine Hufford. "Early Millennials: The Sophomore Class of 2002 a Decade Later." U.S. Department of Education, June 2017.
6. Robert Farrington. "The Average Net Worth Of Millennials By Age." National Association of Colleges and Employers, April 24, 2018.
7. "Young Adults Then and Now." United States Census, 2018.
8. "2018 Better Money Habits Millennial Report - Winter 2018." Bank of America, 2018.
9. "2018 Better Money Habits Millennial Report - Winter 2018." Bank of America, 2018.
10. "Meta Brown and Sydnee Caldwell. Young Student Loan Borrowers Retreat from Housing and Auto Markets." Federal Reserve Bank of New York, April 17, 2013.
11. Jason Del Rey. "Millennials Buy More Clothes on Amazon than Any Other Website." Recode, March 9, 2017.
12. Deborah Weinswig. "Gen Z: Get Ready For the Most Self-Conscious, Demanding Consumer Segment." Fung Global Retail & Technology, August 29, 2016.
13. "Retail Perceptions: The Next Generation of Retail." Interactions Consumer Experience Marketing, Inc., 2016.
14. Shepherd Laughlin. "Gen Z Goes Beyond Gender Binaries in New Innovation Group Data." JWT, March 11, 2016.
15. "Generation Z: Marketing's Next Big Audience." Marketo, 2014.
16. "Retail Perceptions: The Next Generation of Retail." Interactions Consumer Experience Marketing, Inc., 2016.
17. "Profiting from Personalization," BCG, 2017.
- 18 "2018 CIGI-Ipsos Global Survey on Internet Security and Trust," CIGI, May 2018.
- 19 Elyse Dupre, "6 Personalization Practices from Walgreens' Balance Rewards Program," DMNews, January 20, 2017.
- 20 "Nike Revolutionizes Manufacturing Through Innovation and Automation," FLEX LTC., 2018.
- 21 Barbara Thau, "Make It Yourself: Lowe's Tests Profit Potential Of 3D-Printed, Personalized Products," Forbes, September 8, 2016.
- 22 Marc Bain, "Brands see the future of fashion in customized 3D-knitted garments produced while you wait," Quartz, April 5, 2017.
- 23 "Accenture Technology Vision for Retail," 2015.
- 24 NRF, 2017.
- 25 "2017 UPS Pulse of the Online Shopper," UPS, June 2017.
- 26 Peter Koeppel, "Webrooming vs. Showrooming," Koeppel Direct, November 23, 2016.
- 27 "Gen Z: Get Ready For The Most Self-Conscious, Demanding Consumer Segment," Fung Global Retail & Technology, August 29, 2016.
- 28 "Why Customer Engagement Matters So Much Now," Gallup, July 22, 2014.
- 29 "'Today at Apple' bringing new experiences to every Apple Store," Apple, April 25, 2017.
- 30 "Urban Outfitters Is Implementing Changes To Differentiate Itself," Forbes, August 1, 2016.
- 31 Dhani Mau, "Warby Parker Launches Its Biggest Store Experience Yet," Fashionista, April 24, 2017.
- 32 Jeff Simpson, Lokesh Ohri, Kasey M. Lobaugh, "The new digital divide," Deloitte, September 12, 2016.
- 33 "Crate and Barrel's Digital In-Store Experience Increases Sales," Customer Insights Group, Inc., January 27, 2017.
- 34 "Shopping at IKEA just got easier with our all-new IKEA Store app," IKEA, 2018.
- 35 Sarah Perez, "Target and Cartwheel apps to merge starting this summer, mobile payments and improved maps to follow," TechCrunch, 2017.
- 36 Harris Poll, 2015.
- 37 Rachel Arthur, "The Automated Future Of The Fashion Store: Where Self-Checkouts And Human Touch Collide," Forbes, February 1, 2017.
- 38 "The Automated Future Of The Fashion Store: Where Self-Checkouts And Human Touch Collide," June 3, 2016.
- 39 "Mobile POS Payments," Statista, 2018.
- 40 Starbucks, April 2017.
- 41 "Monthly Retail Trade," U.S. Census Bureau, 2018.
- 42 "United States Retail Sales YoY," U.S. Census Bureau, 2018.
- 43 Derek Thompson, "What in the World Is Causing the Retail Meltdown of 2017?," The Atlantic, April 10, 2017.
- 44 Chris Isidore, "Retail bloodbath: Bankruptcy filings pile up, CNN Business," June 13, 2017.
- 45 "More than 5,000 stores are shutting down — here's the full list," Hayley Peterson, June 4, 2017.
- 46 Yuki Noguchi, "Retailers Scrambling to Adjust to Changing Consumer Habits," NPR, May 2, 2017.
- 47 "Campus Stores," Target, July 2017.
- 48 Saabira Chaudhuri, "IKEA's new strategy includes smaller stores and pickup," The Wall Street Journal, September 13, 2016.
- 49 Marcia Layton Turner, "College Students Can Cart Less To Campus Thanks To Bed Bath And Beyond's Pack And Hold Service," Forbes, July 30, 2017.
- 50 "2017 Retail Industry Trends," PwC, 2017.
- 51 "17 Retail Trends for 2017," Coresight Research, 2017.
- 52 Walter Loeb, "As Gap Inc. Refocuses Its Business, There Is A Retail Industry Ripple Effect," Forbes, September 11, 2017.
- 53 Anna Hensel, "Warby Parker Plans to Open 25 Retail Stores in the U.S. This Year," Inc., January 24, 2017.
- 54 "Shopping Cart Abandonment Index," Listrak, 2017.
55. Mitch Ratcliffe. "Sizing the Local On-Demand Economy: 2016 - 2017." BIA/Kelsey, February 1, 2017.
56. eMarketer, June 17.
- 57 Reuben S. Hendell. "Why Brands Should Sell Direct to Consumer." SDC Executive, July 14, 2015.
- 58 Wall Street Journal; Dow Jones, March 2018.

Sources (continued)

- 59 "NIKE, Inc. Announces New Consumer Direct Offense: A Faster Pipeline to Serve Consumers Personally, At Scale." Nike, Inc., June 15, 2017.
- 60 Shareen Pathak. "Why Big Brands Are Getting into the Subscription-Box Business." Digiday, March 10, 2016.
- 61 "Discovery, Surprise, Inspiration: The Rise of Subscription Box Shopping." Hitwise, April 2018.
- 62 Lucy Handley. "Michael Dubin: Shaving America." CNBC, August 23, 2017.
- 63 Peter Breen. "Gillette Now Sells Razor Blades 'on Demand.'" EnsembleIQ, May 10, 2017.
- 64 My Subscription Addiction, 2018.
- 65 Nicole Fallon. "The Growth of the Gig Economy: A Look at American Freelancers." Business News Daily, November 10, 2017.
- 66 "Despatches from the New Economy: The On-Demand Workforce." Intuit, February 21, 2017.
- 67 "Despatches from the New Economy: The On-Demand Workforce." Intuit, February 21, 2017.
- 68 Nicole Fallon. "The Growth of the Gig Economy: A Look at American Freelancers." Business News Daily, November 10, 2017.
- 69 Wade Burgess. "Three Ways Technology Will Change The Gig Economy In 2018." Forbes, January 24, 2018.
- 70 Mike Slater. "Technology and the Gig Economy: Understanding 'The Human Cloud.'" IT Pro Portal, December 11, 2017.
- 71 Erika Fry. "The Gig Economy Isn't Just For Startups Anymore." Fortune, August 29, 2017.
- 72 "Global Contingent Workforce Study." EY, 2016.
- 73 "The Sustainability Imperative." Nielsen, October 2015.
- 74 Michael Martinez. "FORD: A strong finish, thanks to trucks." Automotive News, January 3, 2018.
- 75 Michael Wayland. "GM: December, annual sales slide on cars." Automotive News, January 3, 2018.
- 76 Dami Lee. "BMW's ReachNow is a good start for car-sharing in congested cities." The Verge, November 29, 2017.
- 77 Matt McFarland. "BMW plans for a future where nobody buys cars." CNN, May 24, 2017.
- 78 "BMW Group and Daimler AG agree to combine mobility services." Daimler, March 28, 2018.
- 79 Deborah Weinswig, "Influencers Are The New Brands," Forbes, October 5, 2016.
- 80 Marty Swant, "Twitter Says Users Now Trust Influencers Nearly as Much as Their Friends," AdWeek, May 10, 2016.
- 81 Rachel Strugatz, "BareMinerals Signs Deal With Influencer Ingrid Nilsen," Expands Range, WWD, February 1, 2017.
- 82 Yuyu Chen, "The rise of 'micro-influencers' on Instagram," Digiday, April 27, 2016.
- 83 "The ROI of Influencer Marketing," Tomoson, 2017.
84. "Digital in 2017: Global Overview." We Are Social and Hootsuite, January 24, 2017.
85. Salman Aslam. "Pinterest by the Numbers." Omnicore, January 1, 2018.
86. Wonjun Jeong. "Engineering Shop the Look on Pinterest." Medium, February 10, 2017.
87. "Q2 2018 Global Digital Statshot." We Are Social, April 2018.
88. Tim Peterson. "Instagram Opens Shoppable Organic Posts to More Businesses in the US." Marketing Land, March 21, 2017.
89. Andrea Felsted. "Instagram and Nike Want to Show Fashionistas How to Shop." Bloomberg, July 3, 2017.
90. "Digital Commerce Survey." eMarketer, June 2016.
91. "Gartner Says by 2019, 20 Percent of User Interactions With Smartphones Will Take Place via VPAs." Gartner, December 21, 2016.
92. Adam Marchick. "The 2017 Voice Report." Alpine, Inc., January 15, 2017.
93. "Checkout Tracking Study." NPD Group, September, 2016.
94. Daisuke Wakabayashi and Michael Corkery. "Google and Walmart Partner With Eye on Amazon." The New York Times, August 23, 2017.
95. "Statista Digital Voice Assistants US Survey 2017." Statista Survey, April 2017.
- 96 Dan Miller, "Enterprise Chatbots: Winning Hearts, Minds and Loyalty in the Digital Age," Opus Research, February 2017.
- 97 Anatoly Khorozov, "Trends Driving the Chatbot Growth, Chatbots Magazine," February 28, 2017.
- 98 Jessica Guynn, "Facebook Messenger takes another swipe at bots," USA Today, April 18, 2017.
- 99 Blake Morgan, "How Chatbots Will Transform Customer Experience: An Infographic," Forbes, March 21, 2017.
- 100 "Skype brings developers and consumers closer together at Build 2017," Microsoft, May 10, 2017.
- 101 "How 5 Innovative Businesses Are Using Chatbots, Square," Inc., 2018.
102. "Mobile Pay Tracker survey." Auriemma Consulting Group, 2016.
103. "Mobile Pay Tracker survey." Auriemma Consulting Group, 2016.
104. Zac Hall. Jennifer Bailey. "Delivers Apple Pay Update: 20 Markets, 4000 Issuers, Cash Coming Soon." 9to5Mac, October 22, 2017.
105. "Contactless Payments: NFC Handsets, Wearables & Payment Cards 2017-2021." Juniper Research, April 11, 2017.
106. Alipay, 2018.
107. "Contactless Retail Payments to Exceed \$1 Trillion in Transaction Value by 2019." Juniper Research, 2017.
108. "Mobile Money Market by Transaction Mode (NFC/Smartcard, SMS, Mobile Apps), Nature of Payment (Person to Person, Person to Business, Business to Person, and Business to Business), Location, Type of Purchase, Industry & Region - Global Forecast to 2021." MarketsandMarkets Research, July 2016.
- 109 "\$18.99 Billion Retail Automation Market 2017 by Type, Implementation, End User and Geography - Global Forecast to 2023," Cision, August 16, 2017.
- 110 "Supply Chain News: Interest in Near Fully Automated Distribution Centers Continues to Grow," Supply Chain Digest, October 4, 2016.
- 111 Edgar Alvarez, "How Rebecca Minkoff uses tech to make her fashion stores stand out," Engadget, December 25, 2016.
- 112 "Electronic Shelf Label Market worth 1,424.8 Million USD by 2023," MarketsandMarkets, 2017.
113. "Blockchain." Wikipedia, 2018.
114. Rob Marvin. "Blockchain: The Invisible Technology That's Changing the World." PCMag, August 29, 2017.
115. "Blockchain Technology: Preparing for Change." Accenture, 2015.

Sources (continued)

116. "Blockchain Technology Market." Transparency Market Research, December 2016.
- 117 World Economic Forum, "Deep shift: Technology tipping points and societal impact." September 2015.
118. "Emerging Technologies And The Finance Function - Prepare for Disruption." AFP Mindshift, 2018.
119. "Blockchain Technology: Preparing for Change." Accenture, 2015.
- 120 Merve Unuvar. "The Food Industry Gets and Update With Blockchain." IBM, June 15, 2017.
- 121 "How Blockchain Can Help Retailers Fight Fraud, Boost Margins and Build Brands." Cognizant, December 2016.
- 122 "Banking on Blockchain: A Value Analysis for Investment Banks." Accenture, 2017.
- 123 NRF, 2017.
- 124 "Gartner Says 8.4 Billion Connected "Things" Will Be in Use in 2017, Up 31 Percent From 2016," Gartner, February 7, 2017.
- 125 "2017 Internet of Things Report," Verizon, 2017.
- 126 Jen Clark, "IBM and Whirlpool: an innovative partnership," IBM, August 31, 2016.
- 127 Tom Davenport, "5 Types of Analytics of Things," The Wall Street Journal, January 5, 2017.
- 128 Tulip Retail Survey, March 16, 2017.
- 129 Michelle da Silva, "How To Empower Retail Employees With Technology," Shopify, June 15, 2017.
- 130 "Gartner Says 8.4 Billion Connected "Things" Will Be in Use in 2017, Up 31 Percent From 2016," Gartner, February 7, 2017.
- 131 "U.S. Retail Turnover Rates Highest Since the Great Recession, WorldatWork, "November 23, 2016.
- 132 "17 Retail Trends for 2017," Coresight Research, 2017.
- 133 Shep Hyken, "How Happy Employees Make Happy Customers," Forbes, May 27, 2017.
- 134 Paul Heltzel, "12 technologies that will disrupt business in 2018," CIO, February 12, 2018.
- 135 "17 Retail Trends for 2017," Coresight Research, 2017.
- 136 Matthew Townsend, "Smart Mirrors' Come to the Fitting Room," Bloomberg, February 16, 2017.
- 137 Daniel Terdiman, "VR and Augmented Reality Will Soon Be Worth \$150 Billion. Here Are The Major Players," Fast Company, October 13, 2015.
- 138 "Virtual Reality is adding a new dimension to retail," The Millennium Alliance, March 9, 2017.
- 139 Michelle Evans, "VR: The Brands That Are Imagining A New Commerce Reality," Forbes, March 7, 2017.
- 140 "17 Retail Trends for 2017," Coresight Research, 2017.
- 141 Tekendra Parmar, "This Tech Giant Has Kicked Off Drone Delivery in Rural China," Fortune, November 14, 2016.
- 142 Saheli Roy Choudhury, Eunice Yoon, "JD.com chief Richard Liu sees drone delivery as the way to reach China's rural consumers," CNBC, June 18, 2017.
- 143 "Parcel delivery: The future of the last mile," McKinsey, September 2016.
- 144 Allison Linn. "Historic Achievement: Microsoft researchers reach human parity in conversational speech recognition." Microsoft, October 18, 2016.
- 145 Wayne Xiong, Jasha Droppo, Xuedong Huang, Andreas Stolcke, L. Wu, and F. Alleva. "The Microsoft 2017 Conversational Speech Recognition System." Microsoft, 2017.
- 146 Giselle Abramovich. "2018 Digital Trends." Adobe, 2018.
- 147 Sam Ransbotham, David Kiron, Philipp Gerbert, and Martin Reeves. "Reshaping Business with Artificial Intelligence." MIT Sloan Management Review, September 6, 2017.
- 148 Angus Loten. "Blockchain, AI to Drive IT Spending." The Wall Street Journal, January 17, 2018.
- 149 Andreas Eggert, Rajiv Jetli, Alexia Spieler, Hans Kuehn. "Manufacturing's new world order: The rise of the point-of-demand model." PwC, September 12, 2017.
- 150 "3D printed candy is here! Dubai store introduces 'Magic Candy Factory.'" 3Ders.org, February 28, 2016.
- 151 Richard Kestenbaum. "3D Printing In-Store Is Very Close And Retailers Need To Address It." Forbes, April 6, 2017.
- 152 Andreas Eggert, Rajiv Jetli, Alexia Spieler, Hans Kuehn. "Manufacturing's new world order: The rise of the point-of-demand model." PwC, September 12, 2017.
- 153 "Amazon awarded patent for innovative new on-demand 3D printing retail service." 3Ders.org, January 3, 2018.
154. Organisation for Economic Co-operation and Development (OECD), February 1, 2018.
155. "Blockchain Technology: Preparing for Change." Accenture, 2015.
156. "AFP Corporate Cash Indicators." Association for Financial Professionals, Inc., October, 2017.
157. Álvaro Pereira. "OECD Interm Economic Outlook. Getting Stronger, But Tensions Are Rising." OECD, March 13, 2018.
158. "21st CEO Survey: The Anxious Optimist in the Corner Office." PwC, 2018.
159. "Global Forensic Data Analytics Survey 2018." EY, 2018.
160. "Global Forensic Data Analytics Survey 2018." EY, 2018.
161. "Global Forensic Data Analytics Survey 2018." EY, 2018.
162. Ann Saphir. "Even Backers of Trump's Economic Policies Pan Tariffs." Reuters, March 14, 2018.
163. Rachel Becker. "Google Joins Apple in Condemning the Repeal of the Clean Power Plan." The Verge, April 27, 2018.
164. Amy Gahran. "2018 State of the Electric Utility Survey." PA Consulting Group, 2017.
165. John Wilson. "Making Their Voices Heard: Shareholders Vote for Greater Transparency on Climate Change." Cornerstone Capital Group, June 8, 2017.
166. Ken Silverstein. "Exxon's Shareholders Want the Oil Giant to be More Transparent and Climate Friendly." Environmental Leader, June 1, 2017.
167. Dave Maass. "Shareholders Demand Transparency for AT&T's Hemisphere Phone Records Spying Program." Electronic Frontier Foundation, December 7, 2016.
168. Jena McGregor. "The Push for Pay Transparency is Only Growing Stronger - Despite Trump's Rollback of Equal Pay Rule." The Washington Post, August 31, 2017.
169. Jan Lee. "Shareholders: Companies Must Be More Transparent When It Comes to Lobbying." Triple Pundit, April 11, 2017.
170. Kathy Mulvey. "In Australia, Too, Shareholders Demand Climate Transparency from Fossil Fuel Companies." Union of Concerned Scientists, November 14, 2017.
171. "2017 Cone Gen Z CSR Study: How to

Sources (continued)

- Speak Z." Cone Communications, 2017.
172. "2017 Cone Gen Z CSR Study: How to Speak Z." Cone Communications, 2017.
- 173 Morningstar, 2018.
- 174 London Stock Exchange, 2018.
- 175 Richard Partington. "How Has the Brexit Vote Affected the Economy? March Verdict." The Guardian, March 27, 2018.
- 176 "Trade Deal or No Deal." Growling WLG, 2018.
- 177 Mehul Patell. "Post-Brexit Britain and the UK's Shrinking Tech Talent Pool." Hired, Inc., May 10, 2017.
178. Steve Morgan. "2017 Cybercrime Report." Cybersecurity Ventures, 2017.
179. Steve Morgan. "2016 Cybercrime Report." IDG Communications, Inc., August 22, 2016.
180. Steve Morgan. "Top 5 Cybersecurity Facts, Figures and Statistics for 2018." IDG Communications, Inc., January 23, 2018.
181. Kami Periman. "How to Prevent the Bank Robbery No One Can See." Cisco, August 29, 2017.
182. "2017 ITRC Data Breach Report." Identity Theft Resource Center, December 27, 2017.
183. "Redefining Performance: Insights from the Global C-suite Study - The CFO Perspective." IBM, 2016.
184. "2017 Cost of Data Breach Study." Ponemon Institute, June 2017.
- 185 Sarah K. White. "5 Tips to Better Understand Millennial Managers." IDG Communications, Inc., September 6, 2016.
- 186 Richard L. Tso. "Management Has Evolved: The Rise of Millennial Managers." Huffington Post, March 28, 2017.
- 187 Jean M. Twenge. "Meet iGen: The New Generation of Workers That is Almost Everything Millennials Aren't." Quartz, January 11, 2018.
- 188 David Stillman and Jonah Stillman. "Move Over, Millennials; Generation Z Is Here." Society for Human Resource Management, April 11, 2017.
- 189 Elizabeth Segran. "Your Guide To Generation Z: The Frugal, Brand-Wary, Determined Anti-Millennials." Fast Company, September 8, 2016.
- 190 Jean M. Twenge. "Meet iGen: The New Generation of Workers That is Almost Everything Millennials Aren't." Quartz, January 11, 2018.
- 191 Erik Jensen. "4 Essential Building Blocks of Intrapreneurship for Corporate Innovation." RocketSpace, Inc., January 26, 2017.
- 192 Sarab Kochhar. "Millennials@Work: Perspectives on Diversity & Inclusion." Institute for Public Relations, December 6, 2016.
- 193 "Youth Movement: Gen Z Boasts the Largest, Most Diverse Media Users Yet." The Nielsen Company, July 12, 2017.
- 194 D'Vera Cohn. "Future Immigration Will Change the Face of America By 2065." Pew Research Center, October 5, 2016.
- 195 "CEO Action for Diversity & Inclusion." PwC, 2018.
- 196 Novid Parsi. "Workplace Diversity and Inclusion Gets Innovative. Society for Human Resource Management." January 16, 2017.
- 197 Vivian Hunt, Dennis Layton, and Sara Prince. "Diversity Matters." McKinsey & Company, February 2, 2015.
198. "2017 Cone Gen Z CSR Study: How to Speak Z." Cone Communications, 2017.
199. "2017 Cone Gen Z CSR Study: How to Speak Z." Cone Communications, 2017.
200. "PwC. 19th Annual Global CEO Survey: Redefining Business Success in a Changing World." PwC, 2016.
201. Larry Fink. "Larry Fink's Annual Letter to CEOs - A Sense of Purpose." Blackrock, 2018.
- 202 Sarah Landrum, "Millennials Driving Brands To Practice Socially Responsible Marketing," Forbes, March 17, 2017.
- 203 "Who Are The Millennial Shoppers? And What Do They Really Want?," Accenture, 2017.
- 204 Larissa Faw, "Millennials Expect More Than Good Products, Services To Win Their Loyalty," Forbes, May 22, 2014.
- 205 "Cone Communications Millennial Employee Engagement Study," Cone Communications, 2016.
206. "Redefining Performance: Insights from the Global C-suite Study - The CFO Perspective." IBM, 2016.
207. Jonathan Berr. "A Who's Who of CEOs Decry Trump's Travel Ban." CBS News, January 30, 2017.
208. Liam McNally. "The North Face, Patagonia, REI Respond to Trump's Executive Order on Public Lands." The Outbound Collective, April 27, 2017.
209. "Championing Change in the Age of Social Media." Sprout Social, 2017.
210. Ruediger Bachmann, Steffen Elstner, and Eric R. Sims. "Uncertainty and Economic Activity: Evidence From Business Survey Data." National Bureau of Economic Research, June 2010.
211. Ruediger Bachmann, Steffen Elstner, and Eric R. Sims. "Uncertainty and Economic Activity: Evidence From Business Survey Data." National Bureau of Economic Research, June 2010.
212. "2018 AFP Risk Survey Report." AFP, 2018..
213. Jeff Cox. "While Everyone Else Was Selling Stocks This Month, Companies Were Buying Heavily." CNBC, February 26, 2018.



Disclaimer

© 2019 Microsoft. All rights reserved.

This document is provided "as-is." Information and views expressed in this document, including URL and other Internet Web site references, may change without notice. You bear the risk of using it. Some examples are for illustration only and are fictitious. No real association is intended or inferred.

This document does not provide you with any legal rights to any intellectual property in any Microsoft product. You may copy and use this document for your internal, reference purposes.