

AI to the future:

Using artificial intelligence to advance retail and consumer products to truly personalized service



Two generations ago, retail customers relied on the corner store for personal attention. Today, AI is beginning to enable such personalized service at mass-market scale.

Remember when you patronized your neighborhood store for the personal attention and knowledgeable recommendations from a shop owner who actually knew you? Probably not. But your grandparents certainly do.

It has been that long since retailers and consumer goods makers knew individual customers well enough to understand and deliver exactly what each desired. The hyper-local, super-attentive corner store is long gone. It was replaced by mass-produced consumer products and chain stores that took a scattershot approach to sales and service. Along the way, these companies repeatedly tried and failed to achieve true mass customization for a market of one.

But all that is changing, thanks to artificial intelligence (AI) technologies, especially machine learning (ML). It's ironic that an approach that turns individual customers into data points can then leverage those data points

to serve each customer as an individual. But that's the power of AI.

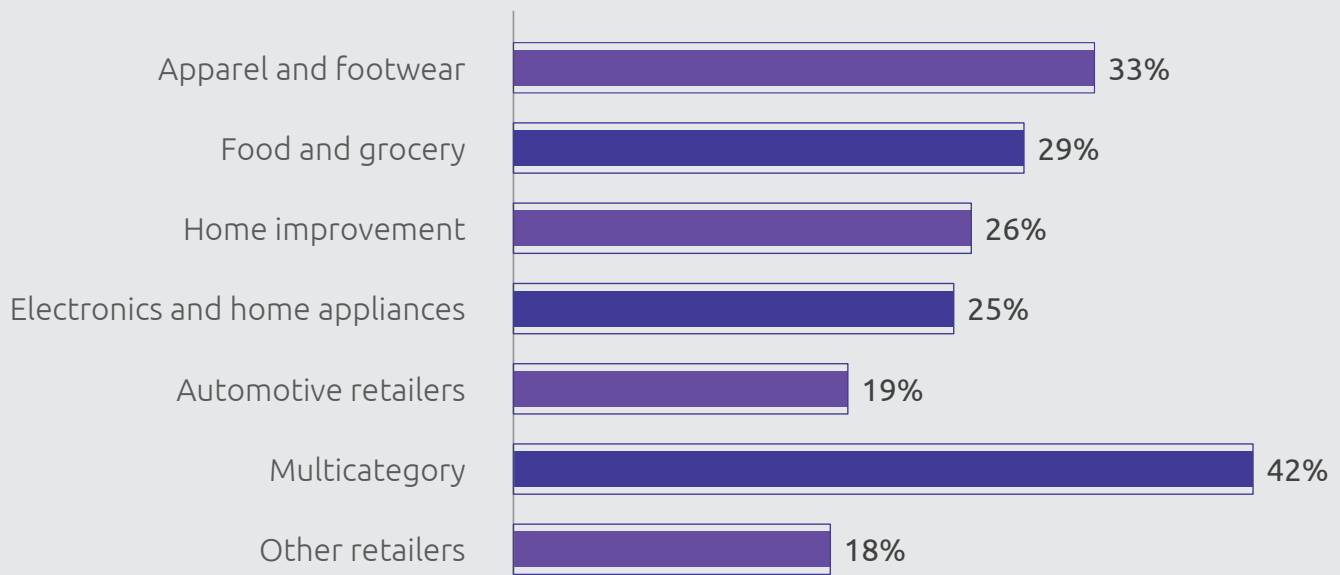
To be successful in your retail or consumer products business, however, you need to understand AI drivers and use cases, focus on customer experience, and follow AI best practices.

Growing fast with AI

AI promises to transform markets, a fact increasingly recognized by retail and consumer products companies. Nearly 30% of the top 250 global retailers are already integrating AI into their operations. (See Figure 1.)

That's according to a recent Capgemini report, "**Building the Retail Superstar: How Unleashing AI Across Functions Offers a Multibillion-Dollar Opportunity.**" The study canvassed 400 retailers representing 23% of global retail revenues.

Figure 1: Retail AI Penetration by Retail Sector



Nearly 30% of the top 250 global retailers are already investing in AI deployments.

Source: "Building the Retail Superstar: How Unleashing AI Across Functions Offers a Multibillion-Dollar Opportunity," Capgemini, December 2018

In fact, retail is the sector spending the most on AI, with \$5.9 billion in retail AI investments expected this year, according to IDC. "AI is the game changer ... especially across customer-facing industries such as retail and finance, where AI has the power to push customer experience to the next level," IDC says.¹

AI is emerging in numerous customer-facing applications. For instance, French athletic-wear chain Decathlon has added AI to its website to help customers home in on the products they want. The company reports that it has improved search conversion rates by 175%, reduced site exit after search by 63%, and decreased time from session start to sale by 48%.²

Similarly, Chinese ecommerce heavyweight Alibaba has introduced FashionAI, an AI-powered shopping experience. The concept combines intelligent garment tags, smart mirrors, and omnichannel integration to enable customers to mix and match clothing items and help the retailer understand customer preferences.³

User-centric AI is already familiar to Chinese people, one billion of whom have embraced WeChat, an AI-powered messaging system. WeChat has largely replaced email, even for business communication. But the platform offers much more than messaging. Its apps-within-an-app “mini-programs” allow users to handle everything from shopping online to making payments to hailing rides – increasingly through voice recognition. The platform also leverages AI for face recognition, language translation, and interactive bot conversations.

What’s driving the rush to AI? Consumer demand. Consumers are no longer satisfied with the impersonal service and segment-based offers retailers have relied on. (See Figure 2.)

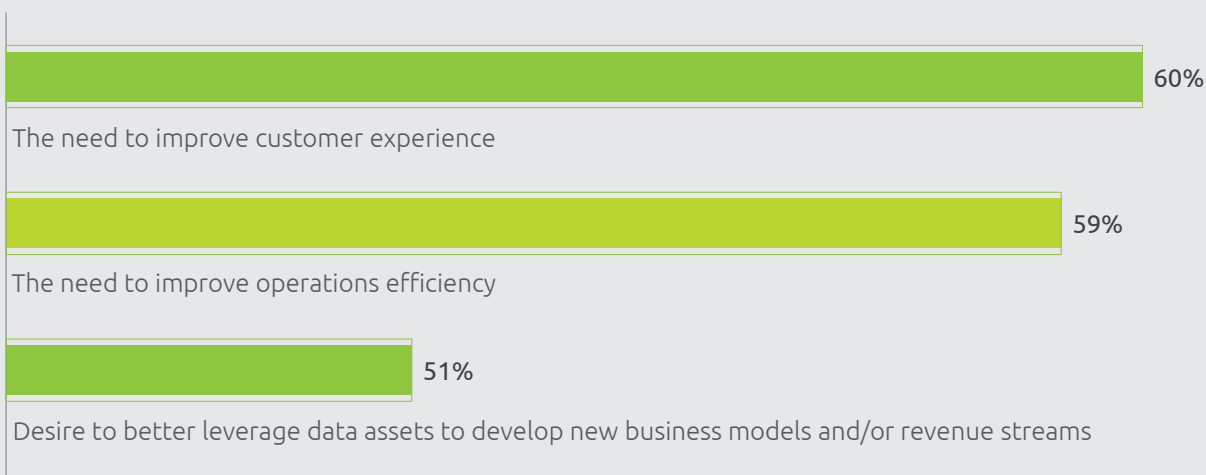
In fact, retailers scored only 77 points out of 100 in the 2019 American Customer Satisfaction Index, down one point since last year. The survey of 62,000 shoppers blamed “less-than-stellar customer service” for the low score and decline.⁴

What consumers want is contextually relevant and personalized experiences. In part, that’s because they’ve had their expectations raised by the digital devices they use every day. They expect to be able to do anything they want, in any way they want, and at any time they want.

That means you need to serve the entire customer journey in a consistent way across every touch point. You need to allow consumers to start in one channel and finish in another – recognizing their behaviors and preferences along the way – to deliver the right offer in the right place at the right time. Even more, you need to make customers feel understood and appreciated – all while ensuring privacy, efficiency, and convenience.

Figure 2: Top 3 AI Drivers

What is driving demand for predictive analytics and machine learning technology and solutions?



Customer experience tops the list of AI drivers.

Source: “Powering the Intelligent Enterprise with AI, Machine Learning, and Predictive Analytics,” Forrester, August 2018

1 “Worldwide Semiannual Artificial Intelligent Systems Spending Guide,” IDC, August 2018.
 2 “French Sporting Goods Giant Bolsters Search with Machine Learning,” Chain Store Age, May 2018.
 3 “Alibaba Is Piloting Fashion AI Technology,” Business Insider, July 2018.
 4 “ACSI Retail and Consumer Shipping Report 2018 – 2019,” American Customer Satisfaction Index,” February 2019.
 5 “Powering the Intelligent Enterprise with AI, Machine Learning, and Predictive Analytics,” Forrester, August 2018.

Few if any retail or consumer products companies can claim this level of service today. Some are coming close. For example, one Capgemini client, a global maker of laundry products, delivers highly targeted offers through its mobile app. During winter holidays, for instance, when consumers are more likely to wear delicate sweaters and drink red wine, it offers detergent discounts and fast shipping – along with instructions for removing wine stains.

But to deliver truly personalized service and build true customer loyalty, you need to both understand customer desires and automate customization. That means capturing, harmonizing, and analyzing data to gain new insights. And it means consistently, efficiently, and profitably providing differentiating experiences.

From viability to business velocity

The good news is that AI can now deliver on these promises. In part that’s because of the maturity of the technologies surrounding AI. Ubiquitous cloud computing offers flexibility and scalability with low capex costs. Hardware breakthroughs like in-memory processing can handle vast data stores in real time. And increasingly mature ML algorithms can be more easily leveraged for more applications.

In fact, while AI involves a range of approaches, for retail and consumer products, most AI applications are primarily ML. (See Figure 3.) ML is a good fit for these industries, because it allows you to leverage your existing data sets.

ML is essentially pattern recognition – at a massive scale and in near real time. It overcomes the limitations of imprecise market research, out-of-date historical trends, and unreliable gut instinct. Instead, it manipulates vast amounts of data, from consumer behavior to voice interaction to face recognition, to actually understand what customers desire and predict what they’ll want next.

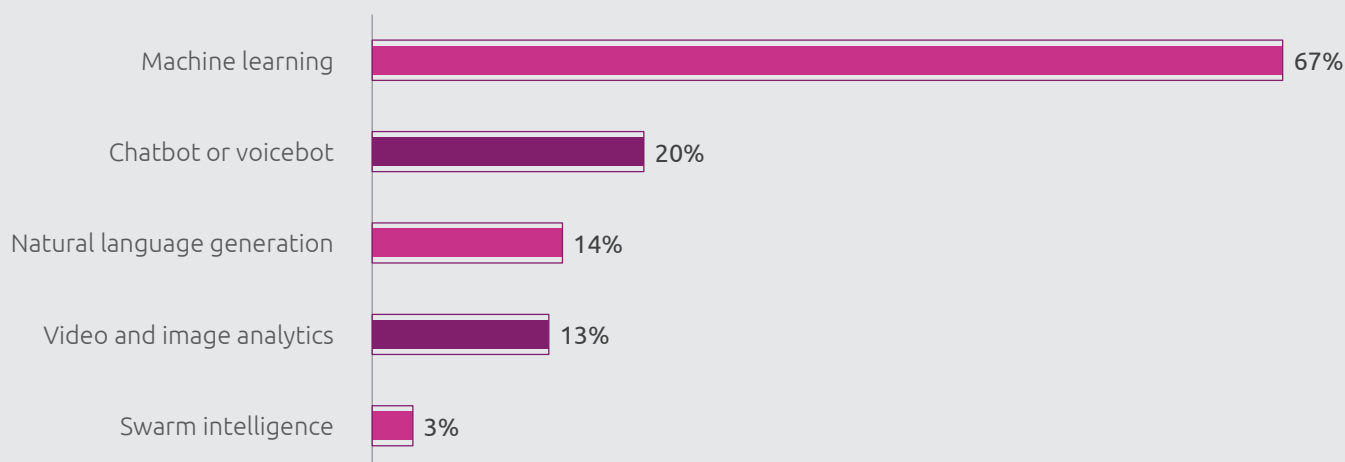
Fully 80% of companies see a growing demand for ML models, and 80% expected their investments in predictive analytics and machine learning (PAML) to grow in 2019, Forrester reports. More than 90% say PAML models are integral to their business success.⁵

That should be no surprise, as AI promises tangible advantages, especially for retail and consumer products companies. AI can enable you to achieve a single version of the truth, automate processes, digitize touchpoints, and improve customer service.

That begins with transforming raw data into useful information and insights. Those insights can hold value for both your company and your customers. By uncovering patterns in consumer behavior, you can offer the right product or combination of products for a specific customer at the moment in time when they want it.

This capability can drive a new level of customer loyalty. This isn’t the frequent-shopper discount-driven loyalty programs of the past, which didn’t result in actual brand commitment. Instead, it’s personalized interactions

Figure 3: Retail AI Use by Technology



Machine learning is the AI deployment of choice for retailers.

Source: “Building the Retail Superstar: How Unleashing AI Across Functions Offers a Multibillion-Dollar Opportunity,” Capgemini, December 2018

across touch points and over time to deliver customer value and engender trust that creates brand loyalists.

Stitch Fix is a good example of a retailer that's applying AI to cement customer relationships. The online personal-shopper subscription service uses AI to identify trends, understand preferences, develop new clothing styles, and personalize service⁶

Keeping the customer at the center

When deploying AI, it's imperative to view your efforts through the eyes of the consumer. And that's where many companies have fallen short.

For example, 64% of consumers want AI to be more human-like, and 55% prefer interactions to be enabled by a mix of humans and AI. Yet few companies consider customer preferences when implementing AI.

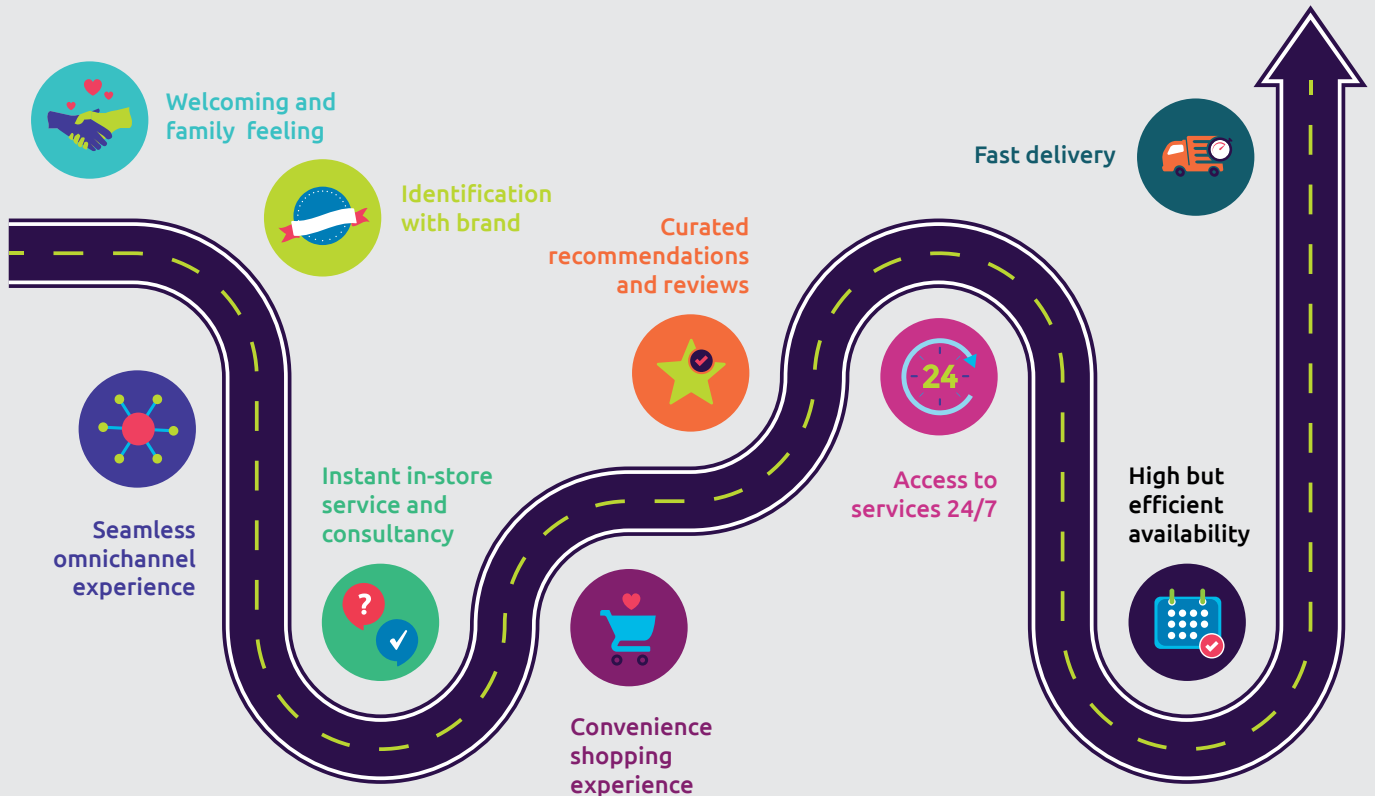
That's according to a recent Capgemini study, "**The Secret to Winning Customers' Hearts With Artificial Intelligence**," which surveyed 10,000 consumers and more than 500 executives whose companies have deployed AI around the world. Most companies prioritize cost of implementation (62%) and ROI (59%)

when making AI investments. Ranking far lower were customer-facing factors such as customer experience (10%), customer preferences (9%), and addressing customer pain points (7%).

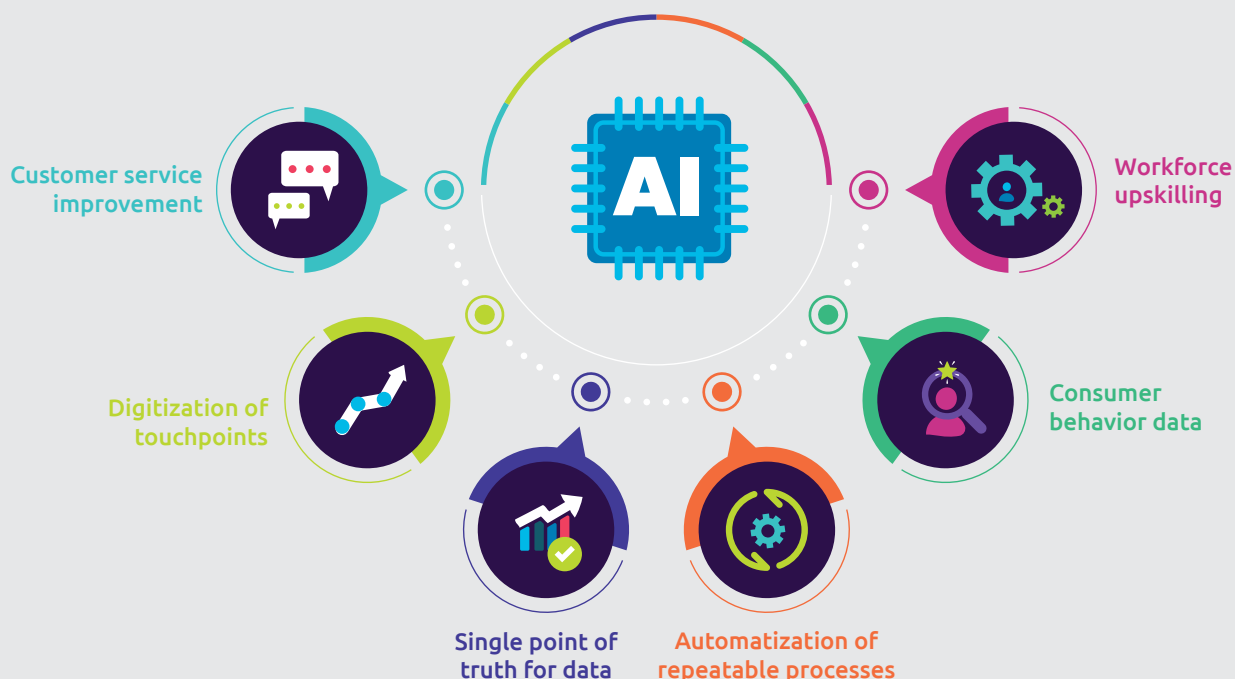
That's too bad, because AI can transform customer experiences – especially in retail stores. Ecommerce has enabled merchants to capture detailed data on customer behavior. Stores have had a more limited view. But if retailers can combine sales data and basket analysis with data from other channels, they can create an in-store "cookie" of consumer behavior. They can then leverage AI to analyze that data in real time and automatically target offers and interactions at the individual level.

Numerous retailers are already using AI to achieve customer-focused capabilities. Macy's, for example, offers an app tailored to each store. Customers chat with an AI bot while in the store to check if items are in stock and get directions to the shelf or rack. The bot can even alert a sales associate if the customer shows signs of frustration.⁷

Consumer expect seamless and frictionless experiences ...



...which can be achieved with Artificial Intelligence



French supermarket chain Auchan is using AI to gamify personalization. Customers select customized “challenges” based on their buying history. When they complete the challenge, they’re rewarded with a relevant offer. The retailer uses the resulting data to build a better picture of the customer and present increasingly personalized offers.⁸

Such personalization is where AI really shines – a fact increasingly evident to retail and consumer products companies. In fact, 93% of companies say predictive analytics and ML models are important for building more personalized customer experiences.⁹

One way in which AI can drive personalization is through conversational commerce. At a time when customers are reluctant to share data and cautious

about interacting with automated services, many are comfortable with voice-enabled interactions.

More than one-half of consumers already use voice assistants, and 35% have used them to buy clothes or groceries. That’s according to a recent Capgemini study, “**Conversational Commerce: Why Consumers Are Embracing Voice Assistants in Their Lives**,” which surveyed 5,000 consumers around the world.

Use of conversational commerce will grow six-fold by 2020, when 40% of consumers will favor a voice assistant over a mobile app or website, and 31% will prefer one to visiting a store. (See Figure 4.) That same year, active users expect 18% of their spending to take place through the channel.

1 “Powering the Intelligent Enterprise with AI, Machine Learning, and Predictive Analytics,” Forrester, August 2018.

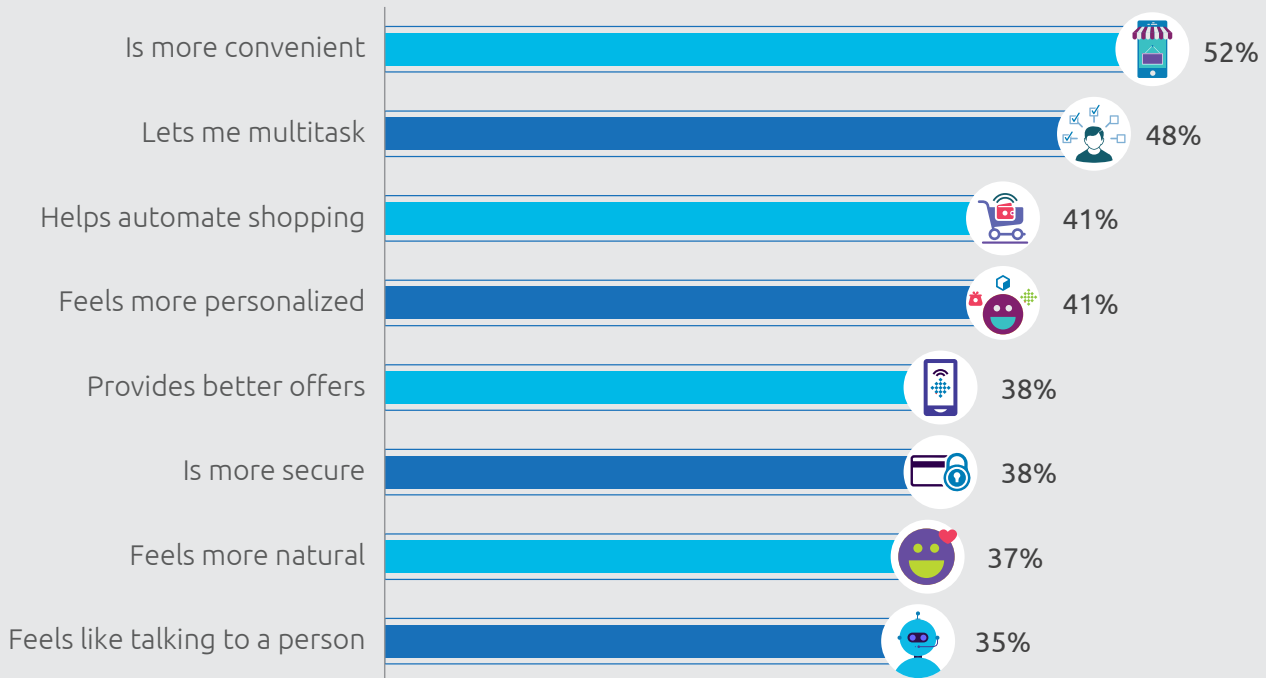
2 “How Stitch Fix Uses Machine Learning to Master the Science of Styling,” ZDNet, May 2018.

3 “The 20 Best Examples of Using Artificial Intelligence for Retail Experiences,” Forbes, March 2019.

4 “Auchan Launches AI-Driven Promotion,” IDG Retail Analysis, March 2018.

5 “Powering the Intelligent Enterprise with AI, Machine Learning, and Predictive Analytics,” Forrester, August 2018.

Figure 4: Conversational-Commerce Preferences



Consumers prefer conversational commerce to ecommerce websites or mobile apps.

Source: "Conversational Commerce: Why Consumers Are Embracing Voice Assistants in Their Lives," Capgemini, January 2018

AI use cases in retail and consumer products

Retail and consumer products companies should look to customer-centric AI to power several key use cases:

Loyalty platforms – Maria is a retail customer. She’s enrolled in the loyalty program of her favorite grocery chain. The store’s app notifies her of a discount on the brand of juice she buys most often. She visits the store and receives more points, which qualifies her to check out in a priority lane.

Because the store can track Maria across touch points, it can offer a consistent experience. Gamification differentiates the experience and increases her engagement. The relevancy of offers cements her relationship with the brand.

Voice of the customer – Paul is a store manager. On his brand’s social-listening platform, he notices fantasy television among the trending topics. He develops a fantasy theme for his store’s next marketing campaign, which will target customers with matching profiles. His store’s digital signage is connected to the campaign, so visiting customers see relevant images.

Web analytics identify useful trends for improved customer understanding. A single customer view lets

the store target the right customers for increased engagement. In-store analytics, along with integrated hardware and software, enable contextual marketing for better ROI.

In-store digital assistants – Maria shops for health and beauty products at her favorite drugstore chain. Her personal digital assistant – an information kiosk powered by voice-enabled avatar – begins a sales conversation based on her preferences. It also shows a relevant educational video, presents tailored product combinations, and points out relevant discounted items. Maria’s resulting purchase further enriches her profile.

Maria’s detailed customer profile enables relevant offers. A robust knowledge base allows the digital assistant to deliver contextual information. Tagged, localized content drives engagement and action. These capabilities combine to increase satisfaction, loyalty, and sales.

In-store analytics and traffic optimization – Paul needs to understand the impact of a new store layout. In-store analytics reveal how shoppers were attracted to the store and what they shopped for. Paul can see which items were viewed but not engaged, and whether customers interacted with staff. Visual recognition and sentiment analysis create an in-store

customer “cookie.” That lets Paul test various layouts and quickly verify their impact.

Analytics help Paul understand customer preferences and behavior to improve the experience. A centralized analytics platform enables aggregated insights at the regional level to help drive revenues. Awareness of privacy concerns ensures that the store’s programs reflect consumer sentiment to maintain positive relationships.

Never out of stock – Maria sees an ad for a new electronic device and visits the nearest big-box store to buy the product. The ad has driven high demand, which in the past resulted in a bullwhip effect and out-of-stock situations. But a never-out-of-stock solution leverages marketing and consumer-behavior data to predict demand and stock accordingly.

Customer buying data combined with external data streams provides a complete view of market dynamics. Advanced analytics enable accurate forecasts. A single point of truth for customers, marketing, and sales lets the store respond with speed and accuracy – increasing both customer satisfaction and cashflow.

Best practices for AI success

Many retail and consumer products companies have been hesitant to experiment with AI, because they lack internal expertise. In fact, 64% of companies say it’s hard for internal teams to keep up with predictive analytics and ML models.¹⁰

But you can begin your AI journey without fielding a team of data scientists. You probably already have database administrators who know how to work with your data. You might also have data analysts who can translate business needs into technical requirements and turn ML outputs into insights the business can use.

The rest you can outsource – simply and cost-effectively. Look for a provider that offers cloud-based AI solutions that essentially deliver AI as a service (AlaaS). That service should provide you with software interfaces and guidance from experience data scientists. Avoid vendors that immediately try to sell

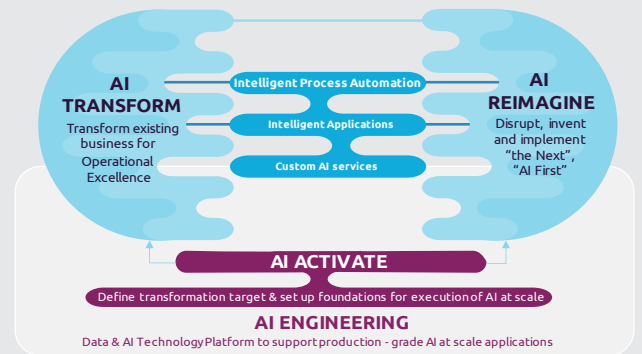
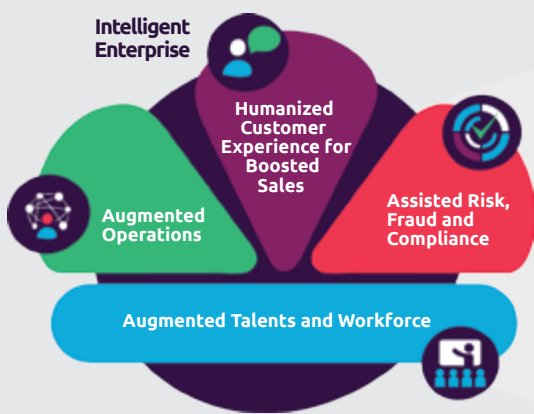
you ERP add-ons or complex, costly software that will take six months to install.

As AI becomes more central to your business, you may face necessary change. You probably capture a lot of data, but if you’re like most retail and consumer products companies, your organization probably isn’t truly data-driven. AI will require you to drive a data-driven mindset throughout your capabilities, your organizational structure, and even your culture.

But getting started should be straightforward. The right tools are easy-to-use. You don’t require complex software packages and time-consuming, costly implementations.

Capgemini research and experience shows that AI innovators take a five-step approach to ensuring the success of their AI initiatives:

1. Start with quick wins. Nearly 90% of retailers experimenting with AI are investing in high-complexity use cases, according to the Capgemini “Retail Superstar” study. That’s a problem, because complex projects are challenging to scale. Simpler solutions have a greater chance of success, and they’ll give you experience for more complex undertakings. Consider layering AI onto existing assets like your ecommerce website.
2. Develop your data maturity. Successful AI solutions require mature data management. Make sure you’re following data best practices, such as integrating datasets across the company and augmenting internal insights with external streams. The “Retail Superstar” study found that for retailers that have scaled AI projects, 89% have the required data ecosystem, while among those that haven’t scaled, only 47% do.
3. See through the eyes of the consumer. Don’t make the common mistake of prioritizing business needs, such as cost and ROI, over customer needs, such as consistency and relevancy. Successful customer-facing AI initiatives solve customer problems and deliver exceptional customer experiences. Consider incentivizing AI interactions. The Capgemini “Secret to Winning Customers’ Hearts” study reports that 90% of AI leaders agree with consumers that they should receive incentives to give up personal data.
4. Treat AI as strategic. Companies that scale AI successfully give it strategic focus. The “Retail Superstar” study shows that 100% of AI leaders make AI a top-three CEO issue, and 96% have implementation budgets. Likewise, the “Secret to Winning Customers’ Hearts” report reveals that 78% of AI leaders consider



AI first when making organizational decisions, and 69% view AI as a business rather than an IT issue.

5. Increase investments for the long run. Over time, AI will require more significant strategic investments. Some 42% of AI leaders have globally scaled AI-enabled interactions, according to the "Secret to Winning Customers' Hearts" study, while only 2% of AI laggards have. One-half of retail leaders invest 5% to 10% of their IT budgets in AI, the "Retail Superstar" report indicates. Only 2% of their middle-of-the-road counterparts invest at a similar level.

Finally, to be successful with AI, start small and scale fast. Identify your biggest business challenges and determine where your data practices are most mature. The nexus of those two factors will point to possible use cases. Select the single use case that makes the

most sense for your business, and focus on that. You can achieve quick wins that demonstrate value and build a business case for a more holistic AI strategy.

AI won't solve every challenge of the highly competitive and fast-changing retail and consumer products industries. But smart companies will leverage AI to achieve unprecedented levels of personalized AI customer interactions – transforming customer engagement, enabling new business models, and driving new revenue streams.

6 "How Stitch Fix Uses Machine Learning to Master the Science of Styling," ZDNet, May 2018.
 7 "The 20 Best Examples of Using Artificial Intelligence for Retail Experiences," Forbes, March 2019.
 8 "Auchan Launches AI-Driven Promotion," IDG Retail Analysis, March 2018.
 9 "Powering the Intelligent Enterprise with AI, Machine Learning, and Predictive Analytics," Forrester, August 2018.
 10 "Powering the Intelligent Enterprise with AI, Machine Learning, and Predictive Analytics," Forrester, August 2018.



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