

# How Retailers Use Artificial Intelligence to Know What You Want to Buy Before You Do

By [Teresa Rivas](#) Oct. 20, 2020 8:00 am ET



MIAMI, FLORIDA - AUGUST 19: A sign is seen outside of a Target store on August 19, 2020 in Miami, Florida.

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The Terminator, a symbol of artificial intelligence run amok, famously declared that he would be back. Three and a half decades later, it turns out repeat business is at the heart of AI.

AI and machine learning have long been a part of retail—nearly a decade ago, [Target \(TGT\)](#) could [infamously predict when a woman was pregnant](#).

In the years since, consumers have

grown more comfortable sharing their data, especially as they crave more personalization. Now, with Covid-19 propelling shopping online—replete with tracking cookies and apps—we've reached a key moment. There's more information, and more computing power than ever before to parse it for patterns that keep customers loyal.

"An AI system needs data in order to become smart. And the more data it has, the smarter it gets," says Gaylene Meyer, Vice President Global Marketing & Communications at RFID company [Impinj \(PI\)](#), whose products allow retailers to track trillions of items of inventory in real time and respond quickly to changes in demand.

"When you can see everything moving through a system, you gain a new view of the system as a whole. So you can find the pain points and eliminate them."

That's crucial, as [inconvenience is the enemy of sales](#); the easier the transaction, the more likely people are to complete it. The pandemic played havoc with supply chains throughout the industry, causing products to be out of stock or delayed in delivery. That, coupled with consumers' reluctance to buy nondiscretionary items, actually drove data down earlier this year.

Yet the strongest retailers, who have seen revenues climb in 2020 and have the money to invest in technology, may be able to sidestep this problem—especially as they use data not directly tied to sales.

"Mobile is the new mall," says Cowen & Co. analyst Oliver Chen, who notes that machine learning allows brands to build one-on-one relationships with consumers at scale. "It's how you interact with a retailer online; that's the secret sauce behind a lot of social media data. It comes back to [retailers] knowing what you want before you know you want it, to keeping you interested, buying, and satisfied."

That's part of the rationale behind [Walmart's \(WMT\) bid for TikTok](#): The app provides valuable information about how shoppers are engaging with brands via social media, while also reaching a younger demographic. And just like Target years ago, "Walmart knows that the most valuable customer is in the early stages of household formation," says Chen. From drapes to diapers, they're on the cusp of prime spending years, making their loyalty still more prized.

Walmart and Target shares have been on a tear in 2020—Target stock has gained 28%, while Walmart has risen 20.3%—but Barron's has argued before that [both can keep winning](#), as they gobble up market share amid consumers' tendency to do all their shopping in one place.

At roughly 26 and 21 times forward earnings, respectively, Walmart and Target's valuations are above five-year averages of 19 and 15 times, but have forward price-to-earnings growth ratios below historical levels, at 3.1 and 2.1 times, compared with 4.1 and 3.4. That suggests the stocks' now-brighter outlooks leave them more room to run. Returns on equity of 25% and 29% put Walmart and Target ahead of many peers, with that metric expanding for both in recent years.

It's not just the giants benefiting from these tools. At a time when in-person makeovers aren't appealing, beauty brands are using them to attract and retain consumers for items that have traditionally been difficult to sell online.

[Estee Lauder's \(EL\) Virtual Try-On \(VTO\)](#) gives consumers the ability to see how makeup and hair care products "look on them in real time, virtually," says Marki Zabar, Director of Global Communications at the firm. "We leverage AI and machine learning to provide personalized skin care and foundation recommendations." She says that VTO users' average time spent on site is 2.6 times higher compared with total site visits, and the tool has a 67% rate of converting users to buyers.

Barron's [recommend Estee Lauder](#) in August, with the shares outperforming the market since. While the stock's valuation, at 43 times forward earnings, doesn't look cheap, analysts expect earnings per share to grow nearly 17% in the fiscal year ending in June, to \$4.84, and jump to a record \$6.09 the year after.

Far beyond makeup, [personalization has been a buzzword](#) across retail in recent years, as tailored suggestions and offers help increase loyalty. AI enhances this effort in everything from redirecting ad dollars to more receptive audiences to providing better product recommendations and even bespoke promotions.

"This is not just innovation for innovation's sake, it really does drive a better consumer experience and generate sales," says Stephane Wyper, senior vice president of Retail Innovation at [Mastercard \(MA\)](#), which provides AI Powered Drive Through solutions at restaurants like Sonic and [Dunkin' Brands Group \(DNKN\)](#).

Machine learning allows menus to change based on diners' past preferences, or, for new customers, hone them for weather or historical purchasing patterns. "We're leveraging AI as a way to drive a more personalized experience [with] frictionless retail solutions," says Wyper.

McDonald's (MCD), the Walmart of fast food, is another behemoth that's been investing in technology for several years, while also seeing growing sales after an initial Covid crash. At 29 times forward earnings, it is a bit pricier than average, but trades more cheaply than peers like Wendy's (WEN), Starbucks (SBUX), and Domino's Pizza (DPZ). Analysts expect record 2021 EPS of \$8.31, easily eclipsing 2019 levels, and McDonald's just increased its dividend, and yields 2.2%.

Looking ahead, holiday sales are still expected to grow between 1% and 1.5% this year, but e-commerce sales could increase as much as 35%, as shoppers look to minimize exposure risks.

That could be an opportunity for consumer companies of all stripes to capture more data at a time when shopping habits are rapidly shifting. It's also a chance for the biggest players to use this technology to drive sales, either via a well-timed ad or a spot on product suggestion.

"Despite a weak labor market, consumers afford themselves small luxuries in every crisis," notes Aaron Terrazas, director of research at truck brokerage and technology start-up Convoy, which uses machine learning to cheaply and efficiently match trucks with cargo. "With fewer Americans able to travel to see family this holiday season, I expect they will seek psychological solace in retail therapy."

Shopping may provide comfort, but our psychology remains a hotly contested commodity.

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