

H&M Pivots to Big Data to Spot Next Big Fast-Fashion Trends

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May 7, 2018

ET



H&M is starting to use AI and big data to make better sales predictions and customize merchandise for each of its 4,200 stores, including an H&M branch seen in Berlin in 2017. Felipe Trueba/EPA/Shutterstock

STOCKHOLM—The world's largest clothing brand is turning to artificial intelligence to win back shoppers, as it works to reverse one of the worst sales slumps in its history.

Hennes & Mauritz AB's [H&M HM.B -0.68%decrease; red down pointing triangle](#) retail chain is ramping up its use of data to customize what it sells in individual stores, breaking with its longstanding practice of stocking stores around the globe with similar merchandise.

The 71-year-old fast-fashion chain is aiming to arrest a [slump in same-store sales](#) that has lasted 10 straight quarters as it faces problems bedeviling the industry: A spike in online shopping has led to fewer customers visiting stores, and digital startups are putting up fierce competition. H&M has repeatedly slashed prices to clear out \$4 billion of unsold goods, and its shares are down 56% in the past three years.

H&M, like most retailers, relies on a team of designers to figure out what shoppers want to buy. Now, it's using algorithms to analyze store receipts, returns and loyalty-card data to better align supply and demand, with the goal of reducing markdowns. As a result, some stores have started carrying more fashion and fewer basics such as T-shirts and leggings.

"You are much more vulnerable today if you don't have the right product at the right price because I can search the world for the right product," says Erik Sjöström a portfolio manager at Skandia Investment Management AB, a longtime investor that has slashed its H&M position to 2% of its equity portfolio, down from 10% at its peak.

Analysts remain skeptical that the new strategy will pull H&M out of its slump. Almost half of analysts who cover the stock have a "sell" recommendation on it compared with 36% a year ago, according to data provider FactSet.

"It will likely be a long road to recovery for the main H&M brand," said RBC analyst Richard Chamberlain, pointing to intense competition in the sector.

H&M is the latest retailer to turn to technology to win customers. [Inditex](#) SA's Zara chain is using robots to make it easier for shoppers to pick up online orders in stores; Gap Inc. is [relying on Google analytics and market-research data](#) to monitor consumer preferences.

But H&M's strategy of using granular data to tailor merchandise in each store to local tastes, rather than take a cookie-cutter approach that groups stores by location or size, is largely untested in the retail industry, consultants say.

"Most companies are still used to taking decisions not driven by analytics at all, only based on the experience of the manager," says Ludovica Doderò, a former retail executive who is now a principal at the Boston Consulting Group.

Getting every store right is a mammoth task given H&M's size. The brand has 4,288 stores, compared with Zara's 2,127 and Gap's 1,301.

The H&M store in Stockholm's swanky residential Östermalm neighborhood hints at how data can help. The store used to focus on basics for men, women and children, with managers assuming that was what local customers wanted. But by analyzing purchases and returns in a more granular way, H&M found most of the store's customers were women, and fashion-focused items like floral skirts in pastel colors for spring, along with higher-priced items, sold unexpectedly well.

Late last year, H&M cut the number of items sold in the store by 40%. One of the biggest casualties was menswear. The store added crockery, a coffee shop and a kiosk selling flowers, and it now stocks \$118 leather bags and \$107 cashmere sweaters alongside the usual \$6 T-shirts and \$12 shorts.

“They’ve nailed it,” says Dina Mystris, a 35-year-old music manager who lives nearby. “It’s a very upper middle class area, and H&M might not have been the go-to store before, but they’ve selected the more high-end look and have just scaled back, which is very appealing.”

The company says sales at the store—an early adopter of the technology it has begun rolling out globally—have improved significantly but declined to provide figures.

Daniel Claesson, head of business development, told H&M’s first-ever investor day in February that “a relevant offer is about being local and personalized. In the physical world this means that we need to curate our assortment to every single location.”

To detect trends three-to-eight months in advance, H&M is analyzing data on a large scale from blog posts, search engines and other sources rather than relying mainly on staff.

With the help of about 200 data scientists, analysts and engineers—internal staff and external contractors—H&M also is using analytics to look back on purchasing patterns for every item in each of its stores. The data pool includes information collected from five billion visits last year to its stores and websites, along with what it buys or scrapes from external sources.

The chain uses algorithms to take into account factors such as currency fluctuations and the cost of raw materials, to ensure goods are priced right when they arrive in stores.

“The algorithms work around the clock and adjust continuously to the customers’ ever-changing behavior and expectations,” said H&M’s investor relations head Nils Vinge.

In some cases, staff have to be convinced to rely on the numbers rather than gut instincts. “There’s an overestimation of one’s personal capabilities and taste which is very, very human but can be very, very bad,” says Michael Feindt, founder of Blue Yonder, a consultancy that helps retailers use data. “Artificial intelligence is way more unemotional and that’s good.”

H&M says it isn’t trying to replace merchandising heads, who have customarily made such decisions, but rather is offering tools to better inform their decisions.

The data doesn’t always lead to sensible conclusions. Algorithms late last year suggested that H&M promote reindeer-printed sweaters in January. Executives adjusted the algorithm to account for Christmas.

“It’s about empowering that gut feeling,” says Arti Zeighami, H&M’s head of advanced analytics and artificial intelligence. “We can now be sharper, more accurate and hyper-relevant, not have one solution that fits all.”