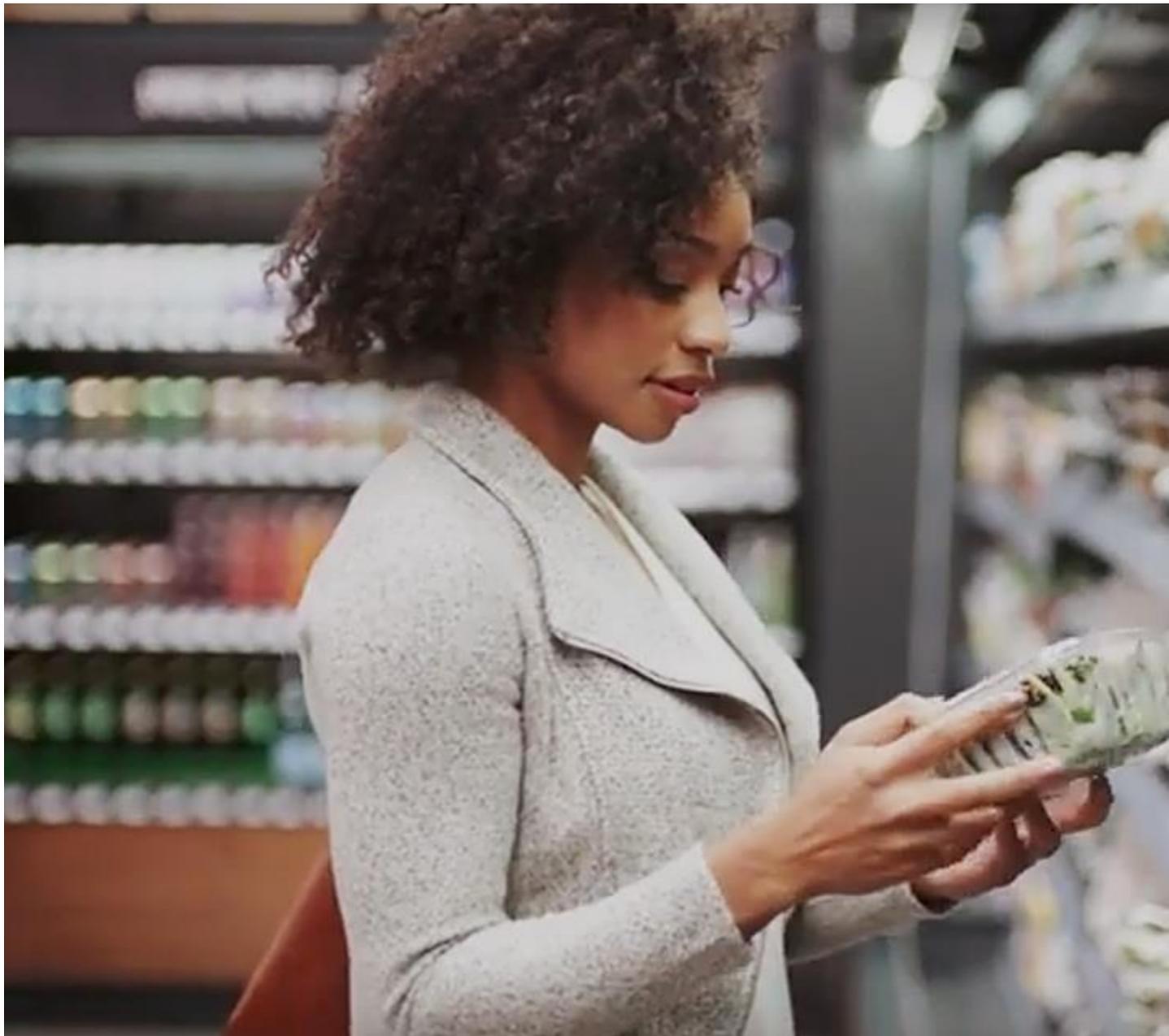


Inside Amazon's Battle to Break Into the \$800 Billion Grocery Market

After almost a decade of food retail experiments with little success online, the e-commerce giant is embracing the physical stores it once shunned.



The new Amazon Go grocery store in Seattle is adjacent to Amazon's headquarters.

Photographer: David Ryder/Bloomberg

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“Very wasteful” isn’t a phrase usually associated with [Amazon.com Inc.](#), which is so cost-conscious it once removed the light bulbs from its cafeteria’s vending machines. But after spending several months analyzing the online retailer’s grocery-shipping hubs back in 2014, that’s exactly how a mechanical engineering student described its approach to selling bananas.

Workers at Amazon Fresh, the company’s grocery-delivery business, threw away about a third of the bananas it purchased because the service only sold the fruit in bunches of five, the student concluded. Employees trimmed each bunch down to size and chucked the excess.

The [research paper](#) by Vrajesh Modi, who now works for Boston Consulting Group, highlighted other problems: Poorly trained employees often stood around with nothing to do. Moldy strawberries were frequently returned by disappointed customers. Amazon’s inspectors believed their corporate bosses didn’t care much about the quality of the food.

Such challenges linger for Amazon. Despite several attempts to break into the \$800 billion grocery industry and almost a decade in the business, the company has struggled to entice shoppers en masse to buy eggs, steaks and berries online the same way they’ve flocked to buy books, tablets and toys.

“Online grocery is failing,” said Kurt Jetta, chief executive officer of [TABS Analytics](#), a consumer products research firm. Only 4.5 percent of shoppers made frequent online grocery purchases in 2016, up just slightly from 4.2 percent four years earlier despite big investments from companies such as Amazon, according to the firm’s annual surveys. “There’s just not a lot of demand there. The whole premise is that you’re saving people a trip to the store, but people actually like going to the store to buy groceries.”

Amazon CEO Jeff Bezos now seems to understand that he can’t win the grocery game with websites, warehouses and trucks alone. The world’s [biggest online retailer](#) sees brick-and-mortar stores playing a key role in a renewed grocery push, documents reviewed by Bloomberg show. And like it did with Amazon Fresh, the company is launching its newest projects in Seattle, its home town.

Last Tuesday, men in cherry pickers worked through driving rain to affix “Amazon Fresh” signs to a drive-in grocery location in Seattle’s Ballard neighborhood, where shoppers can stop and have online orders loaded into their cars. Crews were busy on a similar site south of downtown, readying canopies over parking spaces to protect customers from the elements as they pick up their shopping bags. The [secretive company](#) has yet to announce the projects, and crews have covered the Amazon signs in black fabric and paper.

Late last year, Amazon purchased supply-chain software from [LLamasoft Inc.](#) – a major departure for a company known for its [logistics prowess](#), and defying an internal mantra of “we don’t buy, we build.” And it more recently restructured how various grocery teams were managed to narrow their focus and set clear priorities, according to people familiar with the company’s business.

These changes come as Amazon breaks from its standard formula of shipping products in boxes out of [jam-packed warehouses](#). Instead, it will invite shoppers inside its own grocery stores to smell the oranges, see the tomatoes and tap the watermelons. Ahead of a national rollout next year, Amazon is testing three brick-and-mortar grocery formats in Seattle — convenience stores called Amazon Go, the drive-in grocery kiosks, and a hybrid supermarket that mixes the best of online and in-store shopping. The company may open as many as 2,000 stores, according to internal documents.



Workers clean up at one of Amazon’s new drive-through grocery pick-up locations.
Photographer: David Ryder/Bloomberg

The company has said little about its grocery-store plans, aside from a [video](#) about Amazon Go’s no-checkout format that has racked up more than 8.7 million views on YouTube. An Amazon spokeswoman declined to comment for this story. Reports on its moves have dribbled out over the past several months, prompting occasional denials and retorts from the company. Seattle

technology site *Geekwire* in August uncovered Amazon's [mysterious drive-in grocery kiosk](#) in Ballard. The *New York Post* in February said Amazon aimed to create "[robot-run supermarkets](#)" that would operate with only a few people. Bezos responded by tweeting to the *Post*: "Whoever your anonymous sources are on this story — they've mixed up their meds!"

Amazon's goal is to become a Top 5 grocery retailer by 2025, according to a person familiar with the matter. That would require more than \$30 billion in annual food and beverage spending through its sites, up from \$8.7 billion — including Amazon Fresh and all other food and drink sales — in 2016, according to [Cowen & Co.](#)

Reaching that milestone would require a new wave of store and warehouse investments around the country, costing billions of dollars. That's an existential change for Amazon, which initially stayed away from perishable goods and has mostly avoided the overhead of physical stores since it started in 1994.



Photographer: David Ryder/Bloomberg

"A bunch of smart people at Amazon have been thinking about re-imagining the next phase of physical retail," said Scott Jacobson, a former Amazon executive who is now a managing director at [Madrona Venture Group](#). "They want more share of the wallet, and habitual, frequent use of Amazon for groceries is the ultimate goal."

For Amazon shoppers interested in buying groceries online, the company's current offerings can be confusing. [Amazon Fresh](#) is available in about 20 U.S. cities for those paying \$14.99 a month. [Amazon Pantry](#) lets shoppers buy crackers, cookies, chips, coffee and other non-perishables for a delivery fee of \$5.99 per box. Amazon's speedy drop-off service, [Prime Now](#), offers items from local grocers in some cities, but no major chains. Its stick-on [Dash Buttons](#) let people order many household products — including some groceries, but not fresh food — with a finger tap. And [Subscribe & Save](#) offers discounts to Amazon customers who sign up for periodic delivery of

laundry detergent, toothpaste, diapers, paper towels and other items frequently purchased in grocery stores.

The various initiatives have been a source of increasing internal tension as employees on different projects compete to sell the same things, according to a person familiar with the matter.

One problem saddling Amazon Fresh is the high cost of losses caused by food going bad, an issue it's never faced with books and toys. For conventional grocery sellers, browning bananas can be sold at a discount to smoothie-makers and bread bakers. Chicken breasts nearing their expiration dates can be marked down. With Amazon Fresh, such items must be discarded or are returned by frustrated customers, according to a person familiar with the matter. That has meant Amazon Fresh has lost money from spoilage at more than double the rate for a typical supermarket, said the person, who asked not to be identified discussing internal operations. The main reason Amazon began delivering groceries through Prime Now was to hand that risk back to the local grocers to lower Amazon's costs. The company didn't originally anticipate the scope or difficulty of these problems because so few people working on its grocery push have experience in the industry.

"Grocery is the most alluring and treacherous category," said Nadia Shouraboura, a former Amazon executive whose company, [Hointer](#), has been working on redefining in-store grocery shopping for the past 18 months. "It lures inventors and retailers with shopping volume and frequency, and then sinks them with low margin."

Beyond grocery, Amazon executives have also discussed opening consumer electronics stores to showcase its gadgets and better compete with Best Buy Co., according to three people familiar with the plan. For years, Amazon executives have discussed the downside of an online-only strategy, mostly with regard to a lack of places for shoppers to try out Kindle electronic readers, the voice-activated Echo speaker and its defunct Fire smartphone. Amazon considered holding events similar to Tupperware parties when it introduced its first Kindle in 2007, fearing the products would languish unseen, Jacobson said. The handful of [bookstores](#) Amazon has opened around the country double as gadget showrooms, similar to the Apple Store.

Long term, a stronger grocery business could position Amazon to become a wholesale food-distribution business serving supermarkets, convenience stores, restaurants, hotels, hospitals and schools. But first the company has to find a way to get more people to think of Amazon when stocking their refrigerators and pantries.

Photographer: David Ryder/Bloomberg

A group of Amazon executives met late last year to discuss the disadvantage Amazon faced compared with grocery competitors such as Wal-Mart and Kroger because of its lack of physical stores and customer apprehension about buying fresh foods online. They decided they needed something more to jump-start Amazon's grocery push beyond plans already under way for the Amazon Go convenience store, modeled for urban areas, and drive-in grocery pick-up stations suited for the suburbs.

They worked out plans for a third approach: grocery stores closer in size to a Trader Joe's than a Wal-Mart to offer easy access to milk, eggs and produce. Other items like paper towels, cereal, canned goods and dish detergent would be stocked on-site in a warehouse where they could be easily packed and delivered to shoppers at the location, according to documents reviewed by Bloomberg. It would also serve as a delivery hub for online orders.

Brittain Ladd, a supply chain consultant who joined Amazon in 2015 and most recently worked on its Amazon Fresh and Pantry expansions, wrote about such a store prior to joining Amazon in an academic [paper](#) called "A Beautiful Way to Save Woolworths."

Ladd envisioned two-story buildings where shoppers browse produce, bread and other fresh items on the ground level while their orders for paper towels, canned goods and cereal are packed in a warehouse above. "The stores will have the capability to fulfill online orders placed by customers within a specific radius of the store," he wrote. "Amazon drivers and/or contractors will be assigned to deliver groceries."

The executives decided such a store would be worth pursuing for Amazon Fresh and ordered further research about ideal locations, how to integrate the stores with grocery delivery, and the use of automation to reduce overhead. Site selection for this store's first model is happening now in Seattle, according to a person familiar with the plan.

Meanwhile, the first wave of its new grocery experiment, Amazon Go, was unveiled in December and for now is only open to employees while the systems are tested. Cameras and sensors monitor shoppers who scan their smartphones upon entering, allowing them to grab items like sandwiches, yogurt, drinks and snacks and automatically pay for them without a checkout kiosk. Products are embedded with tracking devices that pair with customers' phones to charge their accounts. Weight-sensitive shelves tell Amazon when to restock. A patent filed by Amazon in 2014 suggests it could use facial-recognition technology to identify and then automatically charge in-store shoppers.

In its video touting Amazon Go, the company said it was aiming to open the site to the public in "early 2017," and it hasn't provided an update to that timing. But the technology has been crashing in tests when the store gets too crowded and requires human quality control, people watching video images to make sure customers are charged for the right things, according to a person familiar with the plan.

Beyond letting customers skip lines, the technology gives Amazon valuable data, said Guru Hariharan, founder of Boomerang Commerce Inc., which designs software for large retailers. Even if customers don't purchase everything they touch, there's value in understanding what shoppers consider but don't ultimately buy, he said. That makes it worthwhile for Amazon to work through the kinks in the technology.

"It takes a lot of time and experimentation to work through unpredictable scenarios like a child picking up an item or a person wearing sunglasses or a face muffler," he said.

At the same time, recent work and construction permits indicate the new drive-in grocery kiosk in Ballard could open any day.

“Amazon wants to be the first thing any consumer thinks of when they need to buy anything,” said Jim Hertel, a senior vice president at marketing technology company [Inmar Inc.](#) “Food is the largest retail category. They can’t do what they want to do without grocery and they’re definitely not going to give up.”

Photographer: David Ryder/Bloomberg