



A BEGINNER'S GUIDE

Personalized product recommendations

How (and why) to add personalized product recommendations to your ecommerce storefront.





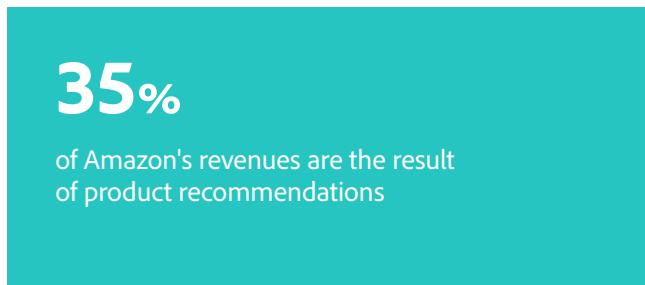
We're all familiar with product recommendations. Many of us see them every day on Amazon—a household name synonymous with the early adoption of AI and machine learning, whose power the company has harnessed to deliver billions of personalized product recommendations to millions of customers. According to estimates by McKinsey, product recommendations are now responsible for 35% of Amazon's revenue.

In our experience, adding personalized product recommendations to your website is one of the fastest ways you can increase revenue. This is true across industries and for both B2B and B2C online sellers. When used correctly, personalized product recommendations can increase the average number of items in the cart by 68%—and conversion rates by an incredible 320%.

However, while personalized product recommendations are proven to drive success, a large number of websites don't use them at all. Moreover, many of the websites that do use recommendations manage them manually, hand-coding lists of top sellers on the home page and in other key locations. These recommendation lists have to be updated throughout the year as customer needs change, making the process extraordinarily time-consuming.

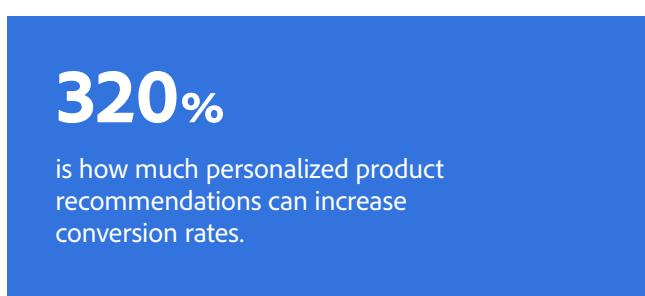
But it doesn't have to be this way. Off-the-shelf AI and machine learning technology has advanced. You no longer need an Amazon-sized IT budget and a team of data scientists and developers to deliver personalized product recommendations. Instead, all you need to begin your journey is the right software or extension and some basic knowledge.

This eBook explains how to get started with personalized product recommendations and use them to grow sales, no matter where you are today.



35%

of Amazon's revenues are the result of product recommendations



320%

is how much personalized product recommendations can increase conversion rates.

Make the business case for personalized product recommendations

The business case for personalized product recommendations is both clear and powerful. First, they drive customer loyalty and conversions. According to a survey by Segment, fully 60% of consumers now say they will likely become repeat buyers after a personalized shopping experience with a retailer, up from 44% in 2017. And over one-third of consumers say they'll return to shop with a brand that offers a personalized experience, even if cheaper or more convenient options are available elsewhere.

At the same time, businesses report that personalized product recommendations have a direct and measurable impact on their bottom line. In a survey of 200 marketing leaders by Forbes Insights and Arm Treasure Data, 40% of executives said their customer personalization efforts had directly affected cart size and profits in direct-to-consumer channels such as ecommerce. Other research from Barilliance suggests that product recommendations account for up to 31% of ecommerce revenues.

How Adobe customers win with product recommendations

At Adobe, we've seen companies that adopt personalized product recommendations grow their revenue dramatically within weeks. For example, when 35-year-old industrial distributor Marshall Wolf Automotive activated Product Recommendations powered by Adobe Sensei in Adobe Commerce, their [average order value \(AOV\) increased by 20%](#). Costs—and returns were also reduced.

"Product recommendations are often overlooked in the B2B space," says Tyler Jensen, web developer and architect at Marshall Wolf Automation. "Yet they provide tremendous value. Making it easy to purchase exactly what they need improves the customer experience and reduces returns, saving money on our end."

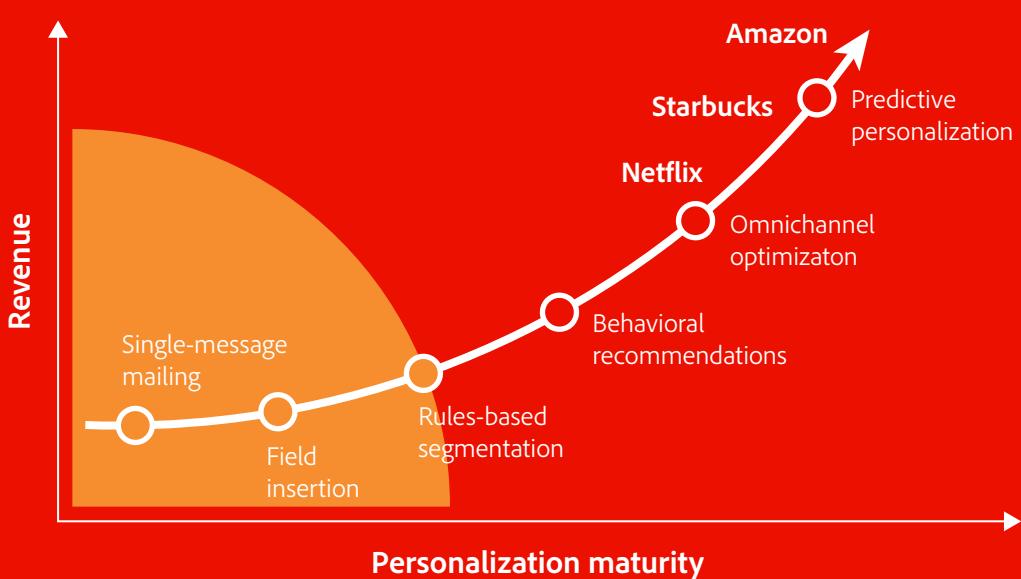
[Catbird, a Brooklyn-based jewelry retailer](#), also experienced major success with Product Recommendations in Adobe Commerce. Currently, they feature popularity-based and shopper-based product recommendations on their home page and product detail pages—and the results have been nothing short of spectacular. Since deploying Product Recommendations in Adobe Commerce, Catbird has seen an increase of 1,500% in product recommendations-based revenue.

Why product recommendations should be a top priority

If your leadership team doesn't already buy into the need for product recommendations on your website, now is the time to make the case. This is especially true if your business relies more heavily on Amazon or Amazon Business than on your own website for sales. Amazon is launching new brands and often gives them top billing when recommending products, leaving other vendors' products behind. This trend is likely to accelerate as Amazon continues to invest in its own brands.

Product recommendations on your own website, however, guide customers only to your products. And they give your customers the same curated experience they've become used to on Amazon and other big marketplaces.

Personalization maturity curve



Source: [Yieldify](#)

Amazon—the giant that personalized product recommendations built

Personalized product recommendations are a core part of Amazon's success. They invested heavily in building a proprietary machine learning algorithm that could analyze customer data—browsing behavior, purchase history, etc.—and make product recommendations in real time.

Today, personalized product recommendations take center stage in all of Amazon's sales channels, including emails, web pages, and the mobile app. According to the paper *The Chronicles of a Personalization Giant* by Dynamic Yields, 45 different recommendations widgets appear on the mobile home page alone.

These recommendation widgets populate results based on a number of variables, including (among others):

- Location
- Recent purchases
- Trending near you / on Amazon, by category, shopping trends, seasonal trends
- Saved items or lists
- Deals, bargains, or discounts
- Purchases other customers have completed after viewing similar products
- User reviews
- Curated top picks for customers

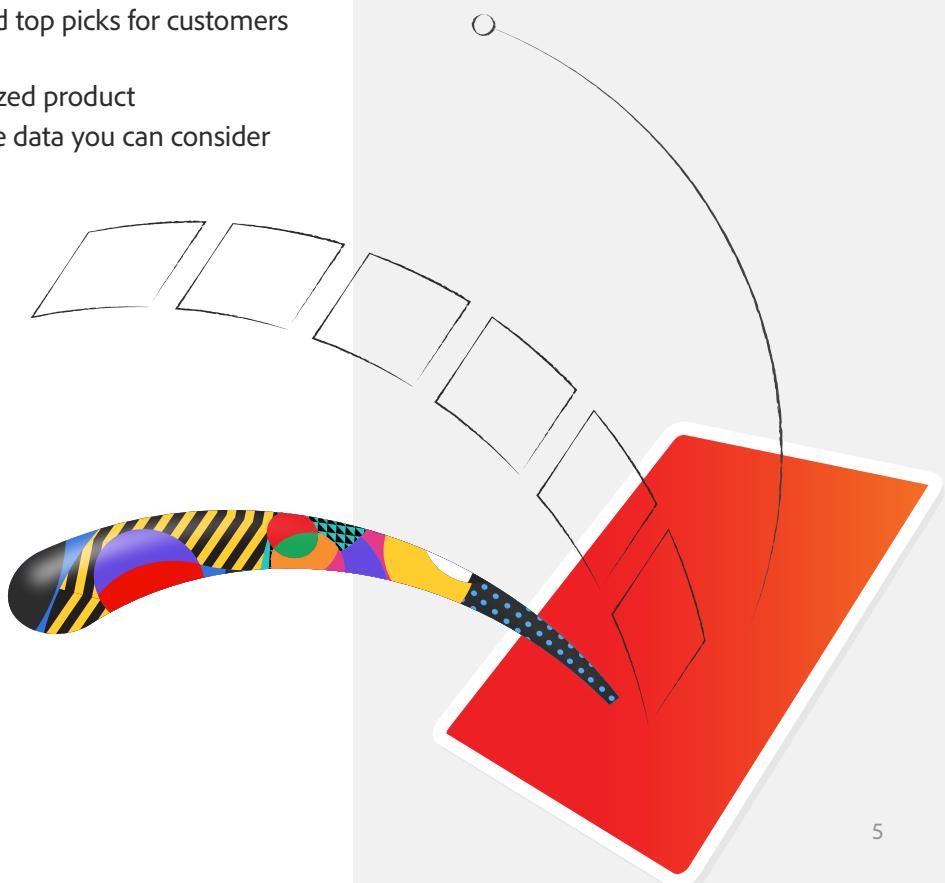
If Amazon is any indication, the more personalized product recommendations you can offer—and the more data you can consider when building them—the better.

Time Capsule: a Personalization Prediction from 1997

“ Today, online commerce saves customers money and precious time. Tomorrow, through personalization, online commerce will accelerate the very process of discovery.

Jeffrey Bezos

1997 letter to shareholders



How Amazon Business is changing how B2Bs buy

Amazon isn't only a B2C powerhouse, but is also transforming how businesses buy. Amazon Business has actually grown faster than Amazon retail and now serves more than 5 million business customers—including 80 of the Fortune 100. In fact, the success of Amazon Business is one reason digital B2B marketplace payments are expected to increase threefold over the next four years, reaching \$87 trillion by 2025.

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\$87 trillion by 2025.

The reason Amazon Business is so successful isn't a mystery. It provides a simple and straightforward purchase process grounded in highly accurate, personalized product recommendations. This kind of simplicity is especially attractive in today's B2B market environment, in which 77% of B2B buyers say their latest purchase was very complex or difficult.

To keep their business buyers from defecting to Amazon Business and other, similarly large marketplaces, B2B sellers need to deliver a less complex digital shopping experience—one that includes personalized product recommendations.

The cold start problem

Amazon has massive quantities of data from millions of customers to draw on. But that isn't necessarily true for your site. You may need to gather some data in order for all of your AI-powered product recommendations to work.

How long it takes to gather this data depends on how much traffic your website gets and the types of events you're looking at. If you have a fairly low-traffic site, for instance, and you're capturing a less common event such as an expensive purchase, it could take days or weeks to collect enough data.

This issue is known as the "cold start problem," and it sounds a lot more daunting than it really is. No matter what you're selling or how much web traffic you get, you can usually launch some kind of recommendations on your site immediately. Then you can add more data-intensive recommendations in phases as your algorithm is trained.

A simple plan for getting started with product recommendations

As we've already noted, product recommendations aren't just for giants like Amazon. They are a powerful strategy that any ecommerce company can use to get their products in front of the right customers. They can also reduce your dependence on Amazon's marketplace and often costly ads.

Moreover, if you're manually building product recommendations—such as defining related product rules and cross-sell/up-sell journeys—across your site, automated product recommendations can help you save time while getting better results. With AI-powered recommendations, setup takes minutes or hours, depending on the size, scale, and complexity of your web store.

In fact, getting started with personalized product recommendations is probably easier than you think. This section outlines some simple steps you can take now, even if you don't have an ecommerce platform or don't know where to begin.

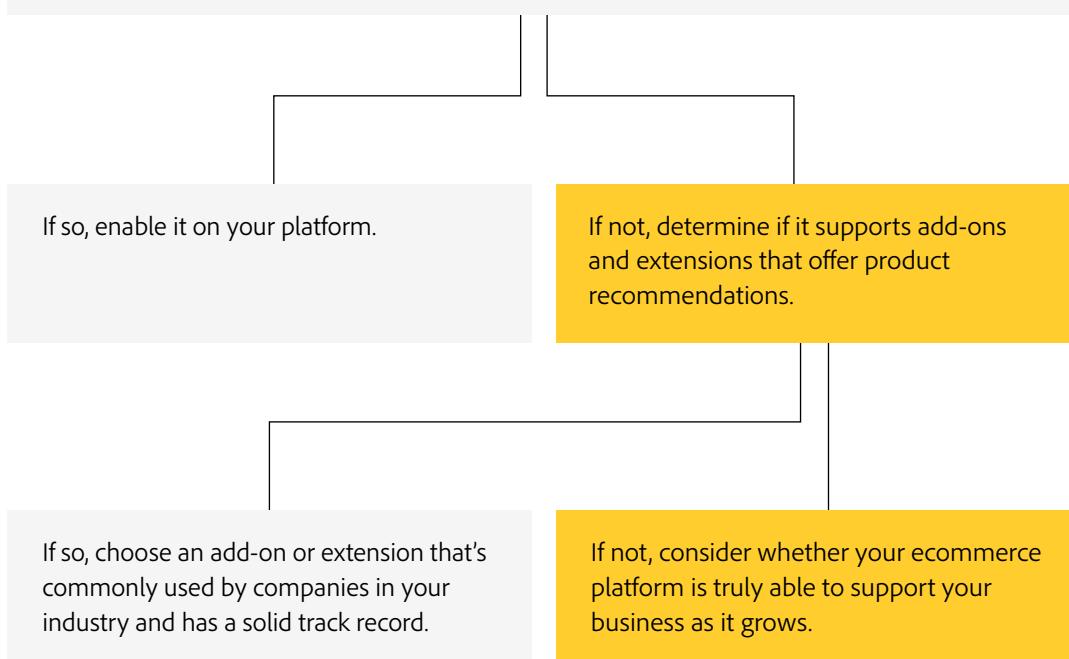
Step 1: Choose a platform or an extension.

Several years ago, any business that wanted to harness AI to power product recommendations online had two choices: build their product recommendation algorithms from scratch with a big team of developers, or pay huge fees to third-party vendors and solution providers. Fortunately, this is no longer the case.

Most ecommerce platforms now offer product recommendations out of the box. There are also a wide variety of extensions and add-ons to choose from. If you already have an ecommerce platform, you'll want to take a closer look at its support for product recommendations. If you haven't chosen one yet, you'll want to include personalized product recommendations—and/or compatibility with third-party recommendation engines—on your list of requirements.

What to do next

Determine if your ecommerce platform has a native product recommendations feature that meets your requirements. Analyze your business goals and identify requirements for product recommendations.



Why You Need Catalog Sync

There are many different solutions for AI-powered product recommendations. A critical consideration is how your product recommendation engine will process changes or additions to your product catalog.

Ideally, the new product information should be automatically passed to your recommendation engine—a process sometimes known as “catalog sync.” If it’s not, you could end up recommending discontinued products or not recommending your most exciting new items. And you could end up having to make manual updates to your recommendation engine every time a product or related information changes.

This is why we suggest adding catalog sync to your list of must-haves for your product recommendation engine.

Step 2: Familiarize yourself with common types of recommendations.

Before adding product recommendations to your website, it's important to understand your options. AI-powered product recommendation engines can provide a wide range of recommendation types, which can help customers discover products in different places on your site. When used correctly, product recommendations can accelerate the customer journey and encourage customers to buy more every time they check out.

Commonly used types of product recommendations include:

- [Behavior-based recommendations](#)
- [Popularity-based recommendations](#)
- [Shopper-based recommendations](#)
- [Item-based recommendations](#)

Product Recommendations powered by Adobe Sensei

Adobe Commerce, like other leading ecommerce platforms, comes with AI-powered product recommendations built in. Powered by Adobe Sensei, a framework that applies AI and machine learning to predictive challenges, our product recommendations feature automatically suggests relevant products based on shopper behavior as well as specific product attributes, popularity, trends, and more.

It's an easy way to add many different types of product recommendations to your entire website—and it eliminates the manual effort of identifying relevant and timely product affinities.

[Learn more](#)



Behavior-based recommendations

Behavior-based recommendations are grounded in data on how shoppers behave. Specifically, they require data on which products customers view and buy in which combinations and sequences. When shoppers take action—like visiting a product page or buying an item—these behavior-based recommendations may be triggered.

These are examples of behavior-based recommendations:

- **Viewed this, viewed that** recommends items most often viewed by shoppers who viewed the specified item.
- **Viewed this, bought that** recommends items most often purchased by shoppers who viewed the specified item.
- **Bought this, bought that** recommends items most often purchased by shoppers who purchased the specified item.

Where to place these recommendations on your site

Behavior-based recommendations most often appear on the **product detail page, shopping cart, and confirmation pages**. In these locations, they can improve product discovery as well as increase average order value.

Here are some ways that behavior-based product recommendations improve the shopping experience:

- **Viewed this, viewed that** helps shoppers find alternative products that other shoppers also liked.
- **Viewed this, bought that** helps shoppers expand their view and discover products that they otherwise might not have noticed.
- **Bought this, bought that** displays highly relevant products that shoppers can add to their cart, increasing AOV.



How to label them on your storefront

The right labels can help shoppers understand exactly what your product recommendations are telling them. You might use any of these labels for the behavior-based recommendations on your site:

- **Viewed this, viewed that** might be labeled "Customers who viewed this item also viewed," "Customers also viewed," "Related items," or "You may also like."
- **Viewed this, bought that** might be labeled "Customers who viewed this ultimately bought," "Customers ultimately purchased," or "What do others buy after viewing this item?"
- **Bought this, bought that** might be labeled "Get everything you need," "Don't forget these," or "Frequently bought together."

Time to launch

How quickly you can launch these recommendations depends on how much traffic you get and whether you need data on views, purchases, or both. Because views are more common than purchases, so you will likely be able to launch "viewed this, viewed that" recommendations before the other two types of behavior-based recommendations.

How they're used

These view-based "You may also like" recommendations appeared on a product detail page:

The screenshot shows a product detail page for a ring. At the top, there's a navigation bar with the brand name 'Catbird' and links for JEWELRY, WEDDING & ENGAGEMENT, BEAUTY, HOME & GIFTS, COLLECTIONS, GET ZAPPED!, GUIDES & MUSINGS, MY ACCOUNT, and a shopping cart icon. Below the navigation, a section titled 'YOU MAY ALSO LIKE' is displayed. It features five product cards with images, names, and prices:

Product	Description	Price
CLASSIC HAMMERED RING, YELLOW GOLD	Hammered yellow gold ring	\$70.00
CLASSIC HAMMERED RING, SILVER	Hammered silver ring	\$28.00
EAR CUFF, YELLOW GOLD	Yellow gold ear cuff	\$78.00
FOREVER TINSEL BRACELET	Tinsel bracelet	\$128.00
TOMBOY FIRST KNUC RING, SILVER	Silver knuckle ring	\$48.00

Popularity-based recommendations

Popularity-based recommendations are fairly self-explanatory—they're designed to surface your most broadly popular products. They have fairly simple data requirements—basic totals of views, cart additions, and completed sales.

These are examples of popularity-based recommendations:

- **Conversion (view to cart)** recommends items that, when viewed, are most likely to be placed in a shopping cart.
- **Conversion (view to purchase)** recommends items that, when viewed, are most likely to be purchased.
- **Most purchased** recommends items most purchased by shoppers within a given time period.
- **Most viewed** recommends items most viewed by shoppers within a given time period.
- **Most added to cart** recommends items most frequently added to carts by shoppers within a given time period.
- **Trending** recommends items based on recent momentum of products' popularity.

Where to place these recommendations on your site

Popularity-based recommendations most often appear on the home page, search page, category pages, product detail pages, shopping cart, and confirmation pages. They can add a human touch to your online store, filling the role of a sales associate who might chat with customers about what items have been selling lately.

They can provide this extra context in different places on your site. When used on the home page, popularity-based recommendations can make shoppers aware of what others are buying in different categories. When used on the search page, they allow shoppers to see the most popular products associated with their search parameters.

Of course, these kinds of recommendations can be over-used. Best sellers can be over-exposed and thus become less interesting to shoppers—and you may sell out of them too quickly.



How to label them on your storefront

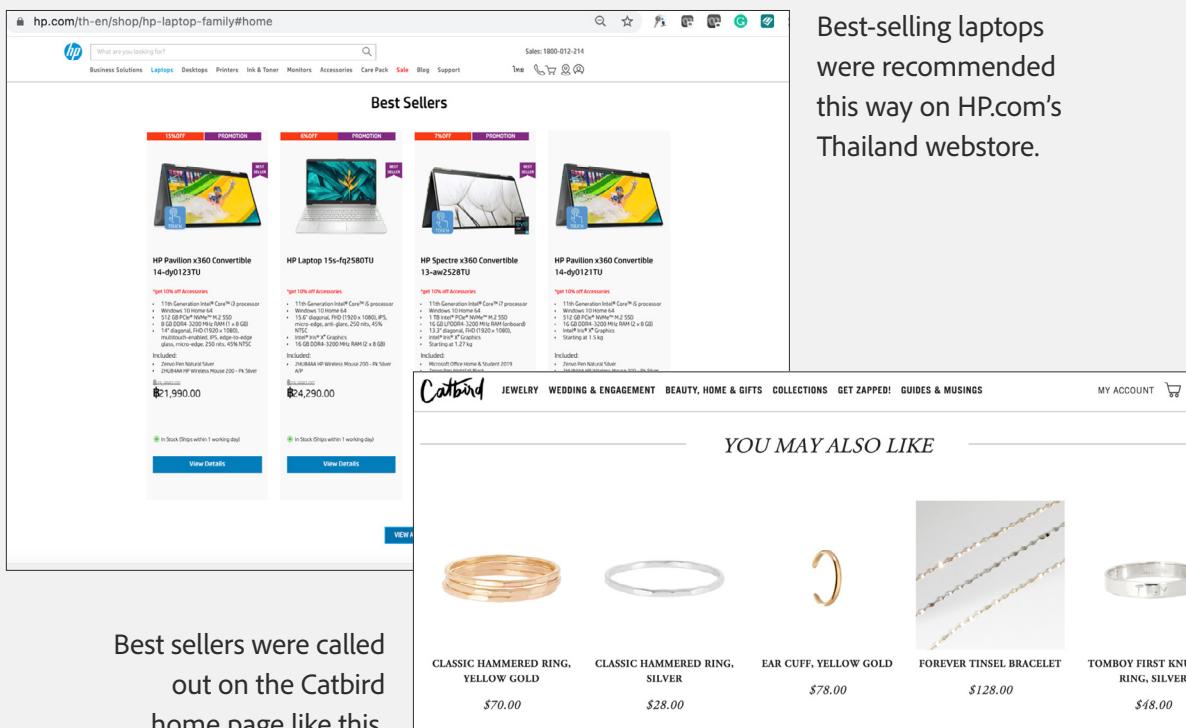
You can be creative when labeling popularity-based recommendations, but you also need to be sure your customers will understand exactly what you mean. Here are some ideas for describing popularity-based recommendations on your site:

- Top sellers
- Best sellers
- Most popular
- Most purchased
- Trending
- Popular right now
- Recently popular
- Popular items inspired by this item (PDP)
- You might be interested in

Time to launch

How quickly you can launch popularity-based recommendations will depend on how quickly you can assemble the necessary data. Generally speaking, you will get enough data for views in the least amount of time, then adds to cart, and finally purchases.

How they're used



The screenshot shows two sections of the HP.com Thailand website. On the left, under the heading 'Best Sellers', four laptops are displayed: HP Pavilion x360 Convertible 14-dy0123TU, HP Laptop 15s-fq2580TU, HP Spectre x360 Convertible 13-aw2528TU, and HP Pavilion x360 Convertible 14-dy0121TU. Each listing includes a small image, the product name, a 'get 10% off Accessories' badge, a detailed description of the laptop's features, and a price of \$2,199.00. Below these, there are buttons for 'View Details' and 'View All'. On the right, under the heading 'YOU MAY ALSO LIKE', five pieces of jewelry are shown: CLASSIC HAMMERED RING, YELLOW GOLD (\$70.00), CLASSIC HAMMERED RING, SILVER (\$28.00), EAR CUFF, YELLOW GOLD (\$78.00), FOREVER TINSEL BRACELET (\$128.00), and TOMBOY FIRST KNUCKLE RING, SILVER (\$48.00). The top navigation bar includes links for Business Solutions, Laptops, Desktops, Printers, Ink & Toner, Monitors, Accessories, Care Pack, Sale, Blog, and Support.

Best sellers were called out on the Catbird home page like this.

Best-selling laptops were recommended this way on HP.com's Thailand webstore.

Shopper-based recommendations

Shopper-based recommendations are perhaps the most personalized you can provide. They are based on a shopper's current and previous on-site behavior and can be updated in real time as the shopper browses your site. However, because they require the collection of data on individual customers, they are also the most challenging recommendations to generate.

On the other hand, shopper-based recommendations are great for helping you deepen relationships with loyal repeat customers on whom you've gathered a lot of data. Over time, as you collect even more data and as your AI learns each customer's preferences, these recommendations will become even better.

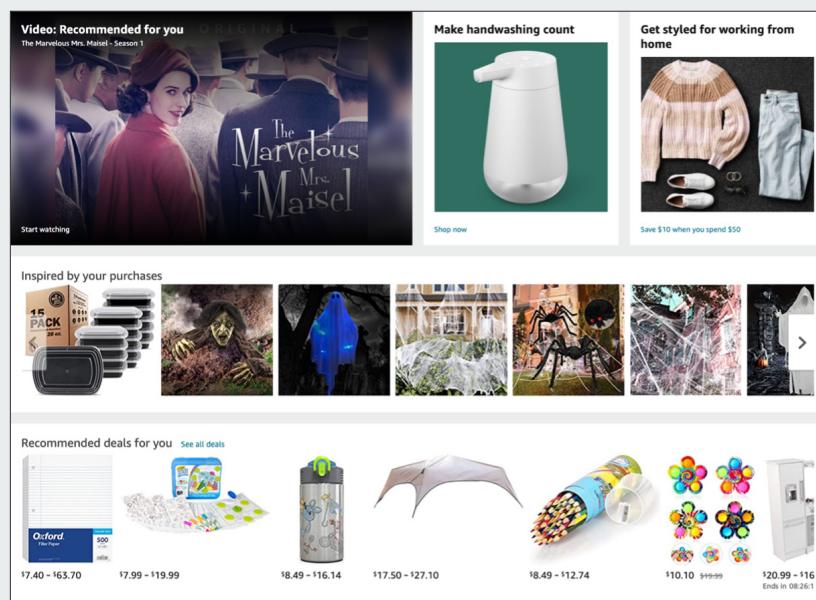
Where to place these recommendations on your site

Shopper-based recommendations most often appear on the home page and on category pages. They can help shoppers find relevant products very quickly without searching through lots of pages. They can also remind shoppers of add-on products they may need—such as bits to go with a drill—and surprise them with new ideas.

This is why Amazon's home page and category pages for their regular customers are dominated by "Recommended for you" listings. Amazon has a wealth of data on their customers—and uses every bit of that data to direct them to new purchases. In fact, the sheer quantity of data Amazon has on customers spanning multiple sellers and categories is one of the reasons they're so successful.

How they're used

Here are just a few of the personalized recommendations appearing on a typical Amazon home page:



How to label them on your storefront

Labeling shopper-based recommendations is straightforward. These are common choices:

- "Just for you"
- "Inspired by your shopping trends"
- "Recommended for you"

Time to launch

As noted above, shoppers must have some history with your site before you can show them meaningful "Recommended for you" options. Many sites substitute popularity-based recommendations for customers who are new to their store. Other recommendations you can show new visitors include visual similarity, recently viewed, and also viewed. Item-based recommendations

Item-based recommendations

Item-based recommendations show shoppers products with characteristics similar to the product they're viewing. Here are some examples:

- **More like this** recommends items based on similar content and attributes.
- **Visual similarity** recommends products that resemble the one being viewed in color, shape, size, texture, material, or style as well as other variables.

Where to place these recommendations on your site

Item-based recommendations typically appear on product detail pages, where they can help shoppers quickly locate and compare similar products without having to search. They can also surface products from brands shoppers may not be aware of.

How to label them on your storefront

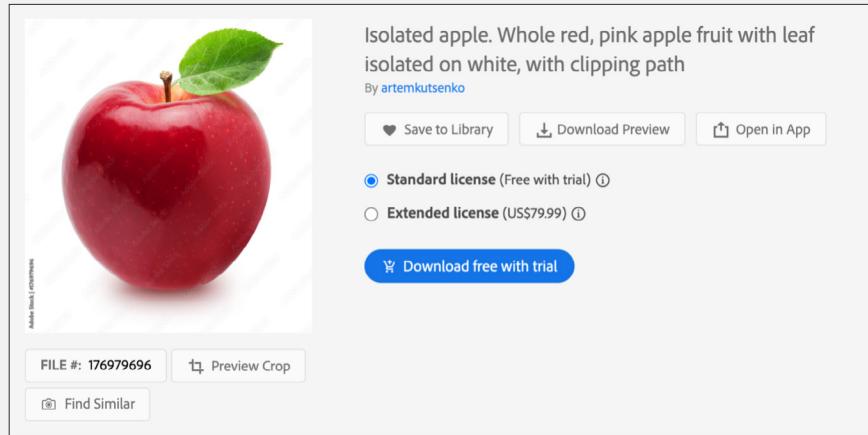
You can use simple descriptive labels for item-based recommendations, such as "Similar to this," "More like this," "You may also like," and "Inspired by this style."

Time to launch

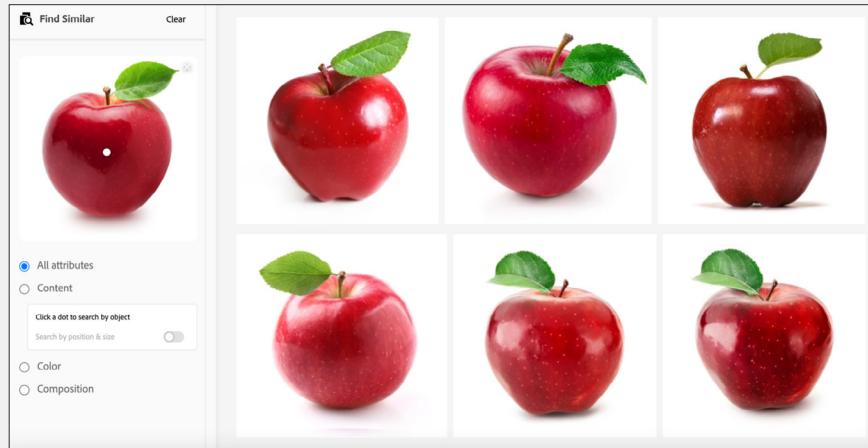
Because they are based on a comparison between the item being viewed and others in your product catalog and require no customer behavior data at all, visual similarity recommendations can often be launched immediately—long before recommendation types that require more data.

A Closer Look at Visual Similarity Recommendations

Visual similarity recommendations use AI to analyze product imagery across your entire catalog. The Adobe Stock photo library is a pioneer in the use of visual similarity recommendations. It lets you search for photos that are similar to one you've viewed simply by clicking on the "View similar" button on the image detail page. Here is an example:



The results of this "View similar" search will look something like this:



When used in ecommerce, visual similarity recommendations have two major uses. First, they let shoppers directly compare similar products from different brands. If you're looking for a shaggy blue rug, visual similarity lets you take a deep dive into the category rather than using less precise keywords.

Another way visual similarity recommendations can help shoppers is by finding the same pattern on different items, such as T-shirts, towels, coffee cups, and the like.

Step 3: Map product recommendations to key areas of your website.

Once you have a solid understanding of the types of recommendations commonly available, you'll need to take a closer look at your ecommerce platform or recommendation engine. Consider what kinds of recommendations are available and where you can place them on your site. You may need to consult your web designer or UX expert.

You should also think about how recommendations will work together. For example, you'll want to provide recommendations that are relevant to each stage of the customer journey. You might serve new customers popularity-based recommendations and loyal customers more personalized "Recommended for you" options.

Another important consideration is how long it will take you to acquire the data you need for each type of recommendation. Generally speaking, you will want to assign backup options for recommendations that may not be ready to launch for days or weeks.

And you'll want to ensure that your recommendations promote a relatively wide assortment of products, not the same stuff all the time. Overexposing your best-sellers can bore your regular customers and oversell your top items.

What to do next

- Make a list of available recommendations in your ecommerce platform or recommendation engine.
- Determine which recommendation types will appear on which pages.
- Be sure to include backup recommendations for when you don't have enough data for your preferred options.
- Build wireframes for each page that will include recommendations.

B2B Product Recommendations Are Different—and Also the Same.

While selling to businesses can be a lot more complicated than selling to consumers, B2B product recommendations function in largely the same way on business-facing websites as on consumer-facing websites. Virtually all the types of product recommendations described in this eBook apply to both business buyers and retail shoppers.

The major way that B2B product recommendations differ from consumer-facing recommendations is that you may have to set up recommendations for each of your customer-specific product catalogs.

For example, let's say you sell industrial supplies, and two customers—a plumber and an electrician—visit your website. Let's also say they're both looking at a product page for shop rags. The plumber, a high-volume customer, has access to different products and pricing than does the electrician, who is a low-volume customer. That means they should see different recommendations based on the catalog they're assigned to use.

Because B2B websites often get less traffic than their B2C counterparts, it may take a little more time to set up data-intensive product recommendations. But, as Amazon Business shows, product recommendations can deliver powerful results for B2B sellers.



Step 4: Define rules for each type of recommendation.

Product recommendations may be powered by AI, but they also require some human merchandising insights to work well. For example, you don't want to recommend your most popular product if it's currently out of stock or subject to six-week shipping delays. Likewise, you don't want to recommend products customers have recently purchased already or that offer limited margins.

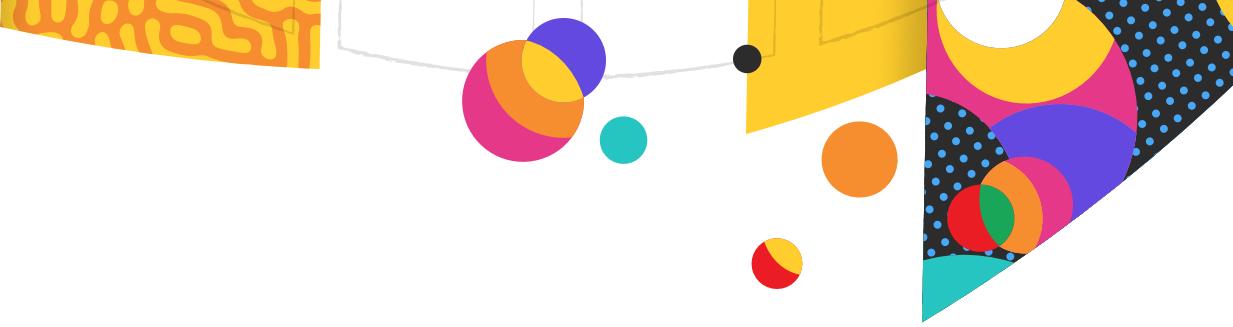
Most ecommerce systems and product recommendation engines will allow you to add rules—sometimes known as inclusion/exclusion filters—on top of your recommendations. For example, let's say you configure a best-sellers recommendation. You can specify that only recommendations from the category the customer is viewing be shown, so a customer on the dresses page won't see recommendations for, say, fishing tackle. You can also set limits on the prices of the items that appear, so shoppers only see items above, below, or between certain price points. Or you can recommend only best-selling products that exceed a certain minimum profit margin. The possibilities are nearly endless.

Of course, some rules you'll define are grounded in simple common sense. Generally speaking, you should configure your product recommendations to avoid promoting:

- Out-of-stock products
- Products that take a long time to ship or deliver
- Product with low margins
- Products with unusually high return rates
- Products customers have already added to their cart
- Products customers have already purchased that are not typically replenished

What to do next

- For each product recommendation type, think about how you want them to behave on each page.
- Identify products you may want to recommend wherever possible, such as high-margin products.
- Identify products you do not wish to recommend for whatever reason, such as shipping delays, stocking issues, etc.



Step 5: Build and execute your launch plan.

Once you've completed steps 1–4, building and executing your launch plan should be fairly quick and straightforward. A typical plan for launching product recommendations might include these tasks:

- Configuring product recommendations and beginning to collect data
- Adding product recommendations to existing page designs
- Testing product recommendations in a staged environment
- Launching a limited set of product recommendations
- Updating pages to display recommendations as data becomes available

Of course, this may be a phased process, repeated as you add products and categories to your site.

What to do next

- Assign a project manager to be responsible for deploying product recommendations.
- Identify which teams will need to be involved (e.g., web design, IT, ecommerce, marketing, etc.).
- Create a step-by-step project plan.
 - Make sure your plan includes testing.
 - Depending on your ecommerce platform, this plan may not require the development of any custom code.

Step 6: Optimize performance over time.

Once you've added product recommendations to your web store, it's critical to track their performance over time and make adjustments as needed. Here are some metrics to track for each recommendation:

- **Impressions:** the number of times a recommendation is loaded and rendered on a web page
- **Viewable impressions:** the number of times a recommendation is shown to a shopper and is visible
- **Click-through rate:** the percentage of a recommendation's viewers who click on it
- **Viewable click-through rate:** the percentage of those shoppers who've seen a viewable recommendation who then click on it
- **Conversion rate:** the percentage of shoppers who buy a product after interacting with a recommendation
- **Revenue:** revenue driven by a product recommendation, equal to the total value of products that were clicked on in a recommendation and were ultimately purchased
- **Lifetime revenue:** lifetime revenue driven by a product recommendation, equal to the total revenue generated by a recommendation from the time it was created

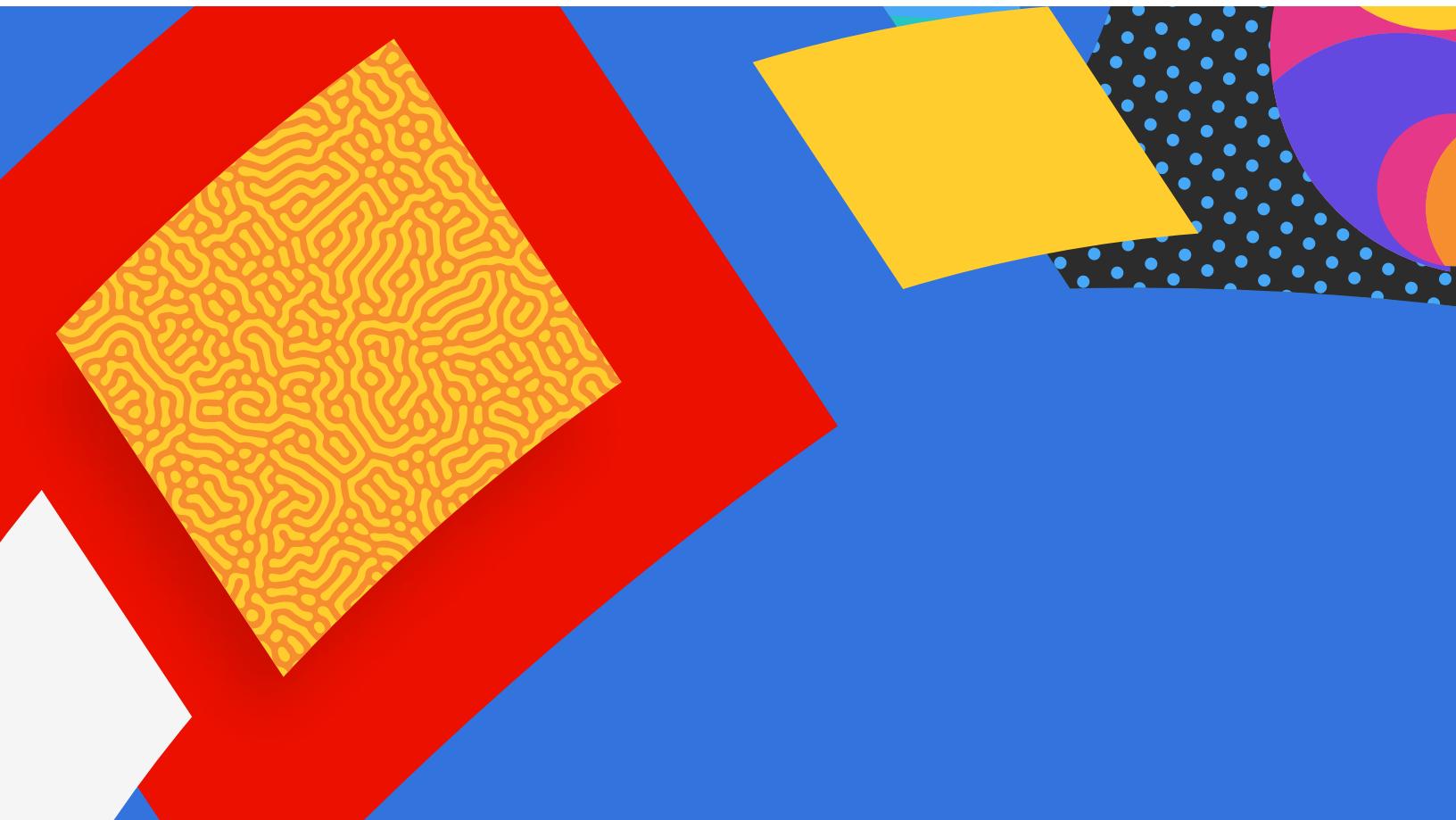
Take the next step.

As you've seen in this eBook, personalized product recommendations are now easily achievable by any ecommerce company, whether it's one that sells to businesses, consumers, or both. What's more, they're fast becoming an expected part of the customer experience for business buyers as well as consumers. Adding automated and personalized product recommendations is a great way to upgrade your customers' shopping experience—and to reduce your dependence on Amazon and other marketplaces that have financial incentive to promote their in-house brands over yours.

If you're ready to take the next step, we recommend these resources:

[Adobe Commerce documentation for Product Recommendations powered by Adobe Sensei](#)

[How to implement Product Recommendations in Adobe Commerce](#)



About Adobe Commerce

Adobe Commerce is the world's leading digital commerce solution for merchants and brands. With Adobe Commerce, you can build engaging shopping experiences for every type of customer—from B2B and B2C to B2B2C. It's built for enterprise on a scalable, open-source platform with unparalleled security, premium performance, and a low total cost of ownership. Businesses of all sizes can use it to reach customers wherever they are, across devices and marketplaces. It's more than a flexible shopping cart system. It's the building block for business growth.



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