

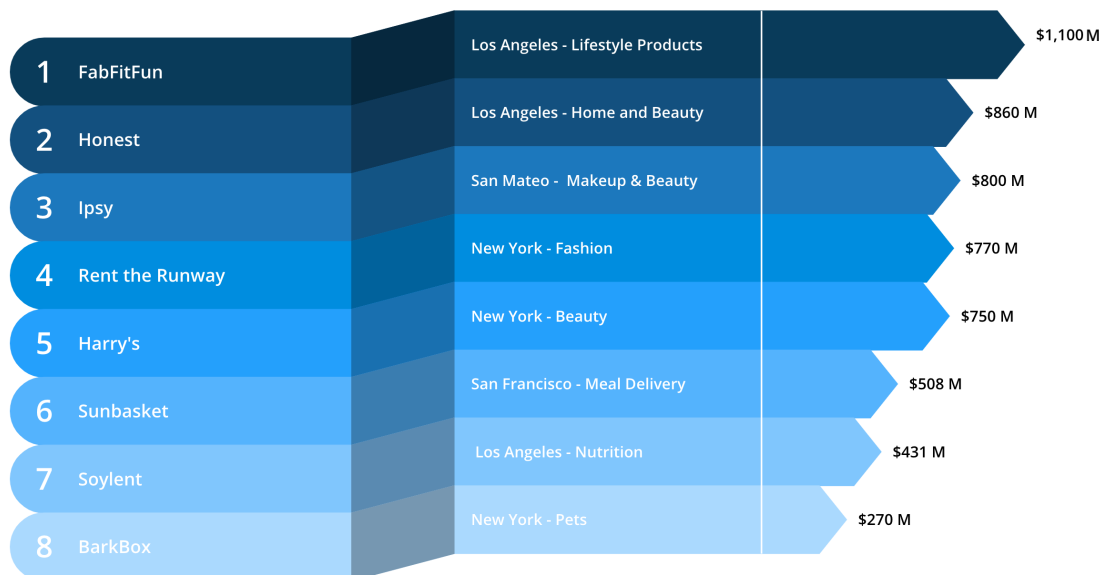
bennett_data_science

The top 7 ways AI is Transforming the Subscription Box Industry [Insider Report]

Subscription services have seen tremendous adoption and growth, with more than 15% of online consumers saying they've tried or are currently using one or more subscriptions. Valuations for startups is soaring into the billions for companies like FabFitFun, and, before their IPO, Stitch Fix. The chart below shows just how much these consumers are welcoming these services.

Highest Value Subscription Based Companies

Pre-IPO Companies Only



Data Source: Pitchbook - [The science and data behind the subscription box craze](#)

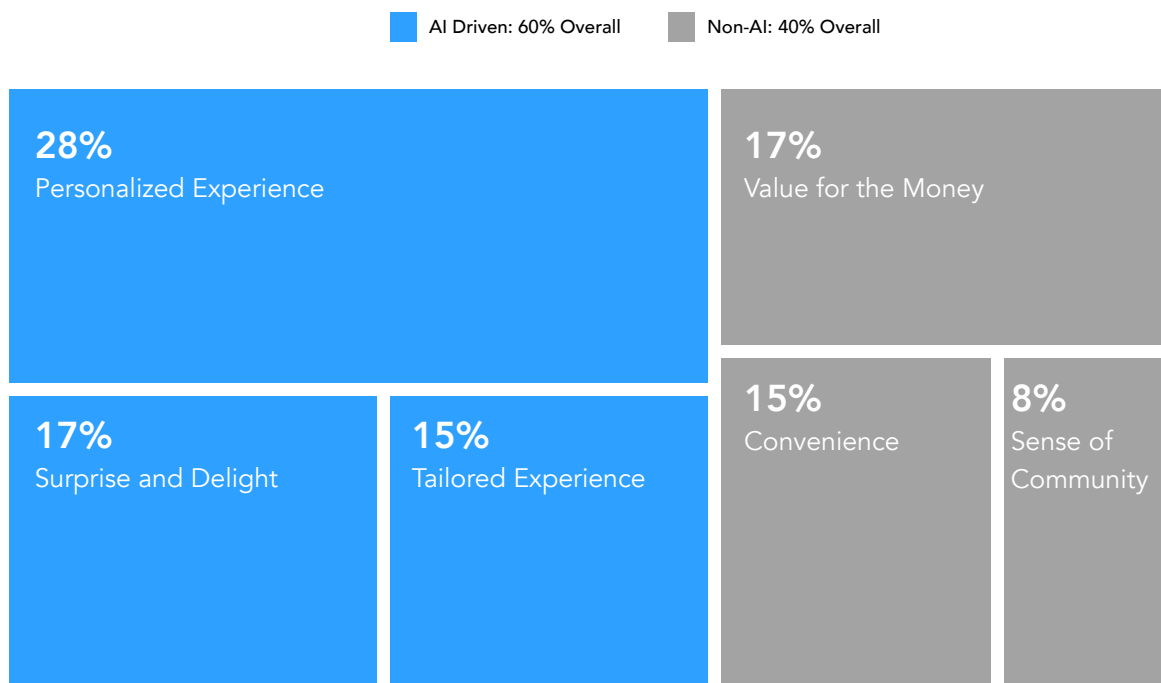
With huge valuations comes strong competition, and the companies that provide their subscribers what they want, and when they want it, will rise to the top. Differentiation and best-in-class service are key to success. And doing this at scale is made possible by careful application of Artificial Intelligence (AI). For curated content, customers rank "personalized experiences" as the most important factor when considering a subscription box service.

(Source: McKinsey) Well funded companies are well aware of this, and for many of the companies above, Data-driven personalization is already providing key differentiation.

As a first step towards delighting customers, delivering highly personalized products regularly is a good place to start, but there's a lot more to subscription businesses; There are a myriad of touchpoints to consider. Simply hiring a data science team and asking them to increase revenue won't work, since effective personalization needs to work in concert across several business units.

Emphasizing the need for AI, is the list of reasons that customers cite for continuing their subscriptions. In a McKinsey survey given to more than 5,000 US consumers, they asked, "Now, what is the most important reason why you continue to subscribe to [brand]?" A full 60% of the reasons customers stay with subscription companies are directly affected by AI. In order, the reasons are: the desire to have a personalized experience (28%), the desire to be surprised and delighted (17%) and the desire to have a tailored experience (15%).

Most Important Reasons to Continue the Subscription



Data Source: McKinsey - [Thinking inside the subscription box: New research on e-commerce consumers](#)

1. Onboarding

AI Technique(s)	Onboarding is used as an input to personalized recommenders
What is it	Onboarding refers to the data collected when a customer (prospect or lead) shares their preference data with a subscription company before purchasing anything. (Onboarding is not technically an AI technique, but given how indispensable it is to personalization, it's included here.)
Why is it Important	<p>Subscription businesses must be personalized to be competitive. Given the right onboarding data, personalization can start right away, before any purchase is made. Onboarding enables and plays an important role in every technique listed here.</p> <p>Once collected, onboarding data becomes immediately useful, as it provides:</p> <ol style="list-style-type: none"> 1. An immediate understanding of user preferences for certain types of products or services 2. A way to offer similar items to customers with similar preferences <p>Without onboarding data, early offers cannot be personalized, forcing a fall-back to one-size-fits-all methods, which generally do not perform as well as data-driven one-to-one personalization. In this case, each customer would receive the same products, ultimately serving no one customer well. AI adds the personalization that's essential for greater customer satisfaction. By implementing onboarding data, you can expect to see a minimum of a 20-30% lift in revenue from new customers.</p>
Example	<p>For companies like Stitch Fix or Trunk Club, onboarding data consists of carefully crafted questions designed to compile enough information that they can send out highly personalized clothing. Obviously, it takes a lot of questions to understand what a person will love to wear. In these cases, onboarding is long and comprehensive. Customers expect this, and will spend time carefully answering each question. Later, these same customers expect that their time will be rewarded by personalized (and good!) recommendations for that perfect outfit.</p> <p>For other subscription companies that don't have such a complex value proposition to deliver, it would be nearly impossible to get users to sit through multiple screens of</p>

onboarding questions. AI should be used to determine the balance between asking enough to build rich customer profiles and asking too much where new customers tire and churn before their first purchase. AI can even be used to help write new onboarding questions, based on information that's missing from a 360-degree customer profile.

What's Your Style?

Rate these 12 looks below to let us know which ones you like and which you don't. Be honest! This gives us a starting point to learn about your personal style aspirations.



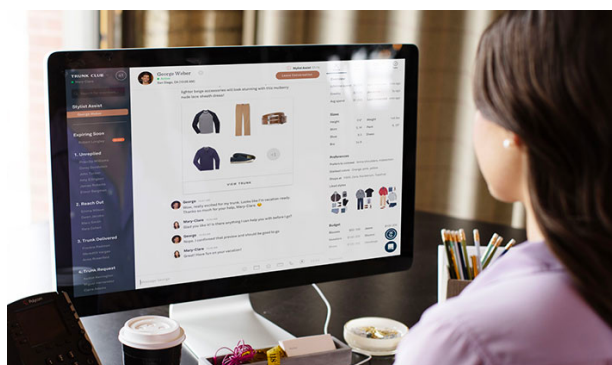
An example of onboarding at [Stitch Fix](#)

2. Product Recommendations

AI Technique(s)	Recommenders
What is it	Recommenders (or recommender systems) are tools that provide a ranked, personalized list of products for any given customer or group of customers.
Why is it Important	Recommendations are at the heart of personalization. Netflix spends nearly a billion USD per year on delivering world-class recommendations! Amazon uses recommenders to organize its millions of products just for you. When you show a customer personalized products or product options, you're providing an experience tailed to that individual's purchasing desires. When done correctly, recommenders increase customer engagement and adoption. In other words, you're giving your customers what they want, based on their history with you, and they'll be delighted by it. Without personalized recommendations, each customer would receive the same service, and the fastest way to please no one is to try to please everyone (by sending them all the same thing(s))!
Example	For companies like Trunk Club, recommenders are essential. Trunk Club uses talented and highly trained stylists to curate each Trunk. Since there are hundreds of thousands of products to pick from at any given time, the stylists rely on product recommendations to cull that list down to something stoppable in a reasonable amount of time. Without this personalized recommender, it would be like finding an item on Amazon without knowing its name! When stylists search the numerous styles available through the Nordstrom catalog, it's these recommendations that help them do their job faster,

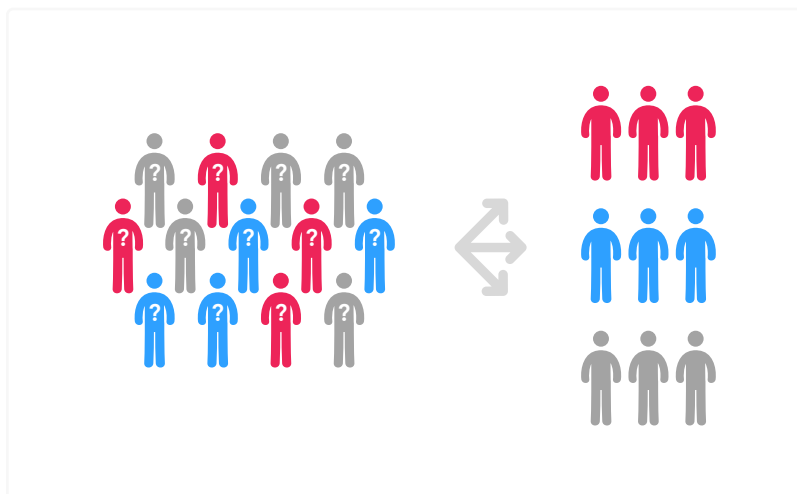
more efficiently, and to the delight of their customers.

Without this personalization, it would be nearly impossible to scale while keeping a high level of customer service and satisfaction.



3. Advertising

AI Technique(s)	Customer segmentation
What is it	Using big data to discover groups of customers who behave similarly
Why is it Important	<p>Without deep customer segmentation, ad executives are stuck sending the same ads to everyone. This lowers ad efficacy, especially with brands that aren't yet household names.</p> <p>Advertising is most effective when it provides messaging most appropriate for a given segment. One-to-one personalized advertising is costly to implement, while segment-based advertising can achieve better results than non-personalized advertising, but at a much lower cost. To effectively advertise to a customer segment, it is important to know what they like, where they frequent (online or offline) and how they generally consume media.</p>
Example	<p>If the subscription products appeal to a wide age and economic demographic, chances are that older users would respond best to different ads than younger users. Starting with age and digging into all available customer data can result in well defined segments of customers with unique test profiles. Using AI to carefully create these segments provides the opportunity to advertise to each group with highly effective messaging. We'll see later that the same is true with marketing.</p>



4. Box Completion - up-sell / add-on

AI Technique(s)	Market basket analysis / Association rules
What is it	<p>When a customer asks for a particular item or item set, this data-driven technique says what item(s) should be added to complete the box. It also works in situations where there's an opportunity to up-sell by suggesting something that goes perfectly with the items already boxed. This AI technique comes from the grocery industry (the "market" in market basket analysis).</p>
Why is it Important	<p>Some things just go together well. Like beer and diapers. If you're assembling a list of products to send to a customer and you're looking for that one last item they'll love, a box completion technique tells you what to add with the highest probability that it will be kept.</p> <p>Countless online businesses have realized big lifts when implementing box completion. Imagine you're buying something that requires batteries, but forgot to put them in the cart? Box completion recommends the batteries, boosting sales and customer satisfaction.</p>
Examples	<p>When a food delivery service sends a box with chips, guacamole, beans and cheese, shouldn't the box also contain salsa? That's exactly how box completion works. It finds the items frequently purchased together in the past and recommends anything that may be missing. Think of it as an "add on" recommender, personalized to the order, and the user.</p>

Take a look at how Dollar Shave Club handles upselling by reminding customers to stock up on replacement blades.

DOLLAR SHAVE CLUB

United States

Get Ready > Customize > Checkout

Today you pay \$5.00

GET THE STARTER SET

The Shave Starter Set

Get the perfect introduction to our most popular products. We follow that up with Restock Boxes, so you never run out.

Starter Set ships today \$5.00

Trial sizes are big enough to use a few times. No hidden fees. Starter Set ships for free.

The Shave Starter Set

- Shave Butter Travel (3 oz)
- Razor Cartridges (4 pk)
- Executive Handle (1 ct)

[Change your selections?](#)

Restock Box ships Apr 29th \$24.70

Your full-size Restock Box will ship with the items below. Anytime you want, you can add & remove products. ~~\$26.00~~

Shave Full-size

Razor Cartridges
4 pk
Qty 2

Shave Butter
6 oz
Qty 1

This box ships free **every 2 months**.

You've got a **5% discount**.

Add or remove products anytime.

An example of up-selling at [Dollar Shave Club](#)

5. Marketing and Communications (Messaging)

AI Technique(s)	Product recommendations powering personalized messaging
What is it	Every customer receives unique messaging (email or SMS)
Why is it Important	Nowadays, customers expect personalization in all their interactions with companies. Marketing messaging is no exception. Any mature company should send one-to-one personalized emails to its users.

Here are some interesting stats:

- Personalized email messages improve click-through rates by an average of 14% and conversions by 10%. Source: [Aberdeen](#)
- Only 39% of online retailers send personalized product recommendations via email. Source: [Certona](#)

Examples	<p>I'm reminded of when Groupon first came to be; I used to receive leg waxing "deals" every week. But I don't want to wax my legs. I don't suspect many men do wax their legs, outside of triathlon season, of course! What about clothing companies sending executive clothing to a stay-at-home parent? Clearly there's a mismatch there.</p>
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And take a look at how Blue Apron does it. Based on the item they're promoting below, if the pasta recipe is sent to a gluten-free customer, or is sent out in the winter, it would be a catastrophe! However, highly personalized recommendations, when done appropriately, can be very effective.

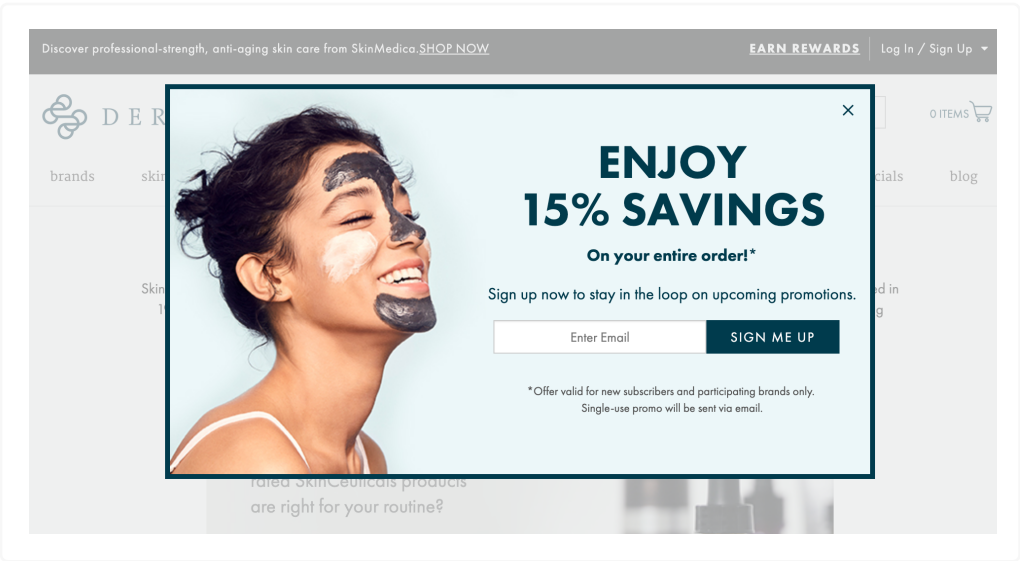


Example from [Blue Apron](#)

6. Retention (Churn reduction)

AI Technique(s)	Multivariate (A/B) testing, recommender systems
What is it	Recommenders are responsible for making sure customers receive a highly personalized experience. This alone is the largest driver of retention. Multivariate testing, on the other hand, is a technique that tests variants and picks the best performer. In terms of retention, that means testing multiple tactics (such as percent-off offers or free shipping) to reduce churn.
Why is it Important	<p>Just over a third of subscription consumers cancel in fewer than three months. By six months, that number grows to more than 50%. And with personalization being the largest driver of retention, it's no wonder that subscription companies are using AI personalization techniques.</p> <p><i>"[Subscription] businesses depend on their long-term relationships to provide predictable revenue growth and deep insights into customer behavior to personalize the experience. Churn can dramatically undermine their viability, since the cost of replacing lost subscribers could not only make it difficult to meet their growth objectives but also quickly drain their cash reserves."</i></p> <p>Source: Mckinsey - Thinking inside the subscription box: New research on e-commerce consumers</p>
Example	Through testing the delivery timing, messaging and presentation, a food delivery company can learn how to provide a great experience to its users. Recommender system can then learn from this feedback and bake it into creating a delightful experience for future deliveries. Great products (foods) are not enough to avoid high churn rates. Customers today expect high quality products, and they demand a great experience.

Look at how [Dermstore](#) tries to keep customers who may be navigating away from a full cart.



An example of retention at [Dermstore](#)

7. Swap - Out

AI Technique(s)	Similarity search across visual and/or text-based attributes.
What is it	Replacing an out of stock or otherwise unavailable product for one with similar appearance or attributes. Ultimately, this should result in a like-for-like swap that doesn't negatively affect customer experience.
Why is it Important	For companies with a large catalog of items, it can be almost impossible to find a replacement for unavailable items. When possible, recommender systems shouldn't incorporate product availability; Rather they should recommend the best products, with a post-processing step that accounts for inventory. With a broad and deep inventory, an unavailable item can be swapped for something similar, based on text and visual attributes. Doing this at scale is not trivial as product catalogs can have hundreds of thousands (or more) of items.
Example	For a subscription business that has a large, diverse inventory, as is the case with clothing, often times there is not a standardized or well maintained attribute tagging system. For example, with clothing companies that have constantly changing inventory, many items are missing crucial attribute tags, such as crew, vee, or henley neckline. Let's say a customer requests a particular sweater with a henley neckline but at the time of fulfillment, that item is out of stock. With comprehensive attribute tags, it's trivial to find a replacement. But keeping up with hundreds of tags (usually a manual process) across thousands of new products per month is very difficult. This is where image similarity can find a replacement without needing to know anything about the neckline. This sort of swap-out replacement is essential to keep a high level of customer service and personalization.



Those certainly aren't all the AI touchpoints that impact subscription companies. A few of the most notable techniques we skipped are:

- **Supply chain management:** a big part of AI at Stitch Fix
- **Seasonality effects:** in Maine, swimsuits don't sell well in February, but in July...
- **Staleness:** once-popular products can fade away for any number of reasons
- **Trending products:** knowing what to send just as it's becoming the next "thing" can increase sales and customer delight
- **Serendipity:** refers to sending well-received products that are outside the normal taste pallet of customers

Wrapping it all up

Subscription customers expect incredible products and personalized service. Most successful companies today leverage a myriad of AI techniques to deliver personalized products and services. As valuations push higher into the billions of dollars and more customers subscribe, the quality of service must go up. In the end, the subscription companies that can accurately predict what a customer will like, and continue to learn over time, will succeed in this crowded space.

At Bennett Data Science, we have years of experience leading top data science teams and initiatives, driving millions in revenue.

We would be happy to talk with you.

Our first consultation is always on us.

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