

Personalization Competitive Report – E Commerce

In this competitive report on Amazon.com (<https://amazon.com>), an e-commerce site, I take the viewpoint of an average customer who uses the product/service for most essential purchases.

User experience:

Amazon has a site that is mostly either personalized or recommendation based. The experience on the site feels very custom to the user, and they have made use of site space very effectively.

The homepage is designed with user needs in mind. They start with a search bar that lets a user dive into amazon's portfolio of products, thus satisfying the need of the primary customer who comes in with a specific product/product category in mind. This is followed by a carousel that cycles through a subset of the major products and services not previously explored by the user, ex: echo show, prime wardrobe, etc. The goal here is to introduce and make the user aware of the breadth of Amazon's products and services. Surrounding the search and the navigation bar are a set of personalized/recommended modules that link to a large number of relevant products on their website, while not giving the impression of clutter.

Navigating the site is extremely easy as the site is very structured and they have easily accessible links to the important areas of the website. Their individual tile design subtly demarcates recommendations that are in different categories, thereby setting the user up for easy discovery.

Amazon Elements:

Personalization Only:

- User profile information such as name, default delivery address.
- User activity elements such as cart information, recently viewed items, previous orders, browsing history etc.

Recommendation Only:

- Amazon has a section on the home page called "New for you" which is made up of product recommendations that are not necessarily related to items I've viewed.
- Amazon also recommends popular products/services that the user may not be aware of – echo auto, amazon home services, etc.

Personalized and Recommended:

- Throughout the bottom section of the home page, Amazon has recommendations broken down by categories of interest to the user – sports & outdoors, pantry, books etc. and they cycle through different categories during different visits to the home page.
- Amazon has multiple sections that provide personalized recommendations:
 - Related to items you've viewed
 - Recommendations for you, Harish
 - Because you bought this item
- Amazon recommends items that are based on past viewing behavior but also factor in the popularity of the product at this point in time. For ex, it has been rainy the past two days, so amazon makes recommendations based on umbrellas I looked at a couple of weeks ago
- The product page has a "frequently bought together with this item section" which is trying to increase the order value of every basket. This is recommendation based but also personalized as they originate from the initial product the user is looking at.

Personalization and Recommendation Review:

- The personalized aspects such as name, cart information, etc. are very accurate.
- Amazon's recommendations are mostly relevant to the user and have proven performance – a McKinsey study mentioned that 35% of Amazon sales are generated by their recommendations.
- Amazon also mixes up their recommendations very well. They are coherent within a module but they have diversity across modules.
- Amazon allocates the top portion of the page to recommendations that are based on more recent user behavior.
- Amazon is careful not to suggest items that have already been purchased (unless the product has a short purchase cycle)

Challenges:

- **Interpretability** - For many of the recommendations, users might wonder why they are seeing them. Amazon makes the recommendations more interpretable by listing out their reasons such as "Related to items you've viewed", "Because you bought this".
- **Diversity** – Amazon clearly diversifies its recommendations as it covers multiple categories of products and also cycles through different recommendation modules on multiple visits to the site. This counters the scenario where the user is not in the mood for a particular category
- **Aspirational vs Actual** – Amazon recommends items both based on viewership and past buying behavior - so they use both aspirational and actual signals.
- **Time-variance** – Preferences/foci of users vary over time. Amazon's recommendations cover a wide span of time. They recommend products both based on what I was looking at today and what I was exploring to buy months ago. So this might be a strategy to account for the uncertainty.
- **Cold start** – Amazon introduces many items (both its own brand) and from other sellers regularly. They likely use item attributes based similarity methods to overcome the product cold start problem. For new users, they probably recommend top products across their categories.
- **Scalability** – Amazon deals with large scale - millions of users and items and they likely use highly efficient (and maybe approximate) methods to make recommendations

Suggested Changes:

I would like to take input from users who are willing to share, regarding their categories of interest. I would add some optional inputs that gauge the user mood when they open the site to shape recommendations. I would also add in the ability for the user to provide feedback about recommendations. For example, my wife watched a series on prime video and they asked me to continue watching it. It would be great if I had the ability to say it wasn't me or turn off certain recommendation categories that I'm not interested in.

From a recommendations standpoint, I found that some of their recommendations were stale. They were based on items I was interested in a long time ago but haven't ever revisited. I would work on methods to improve their time-variance strategies.

Most innovative Aspects:

The general relevancy of their recommendations is worth striving for. They also have a very simple interface that focuses on covering a lot of products and services while trying to make it less cluttered. They have built an enviably huge database of users and their interests across multiple products and services and this can be used to derive interesting user insights.

In summary, Amazon is catering to different needs across the search/discovery spectrum but with a strong emphasis on data driven actions such as personalization and recommendation and it is important to replicate their ability to use data so effectively.