

Chapter 27. Two-Sided Marketplaces: Lines in the Sand

Two-sided marketplaces are really a blend of two other models: e-commerce (because they're built around transactions between buyers and sellers) and user-generated content (because they rely on sellers to create and manage listings whose quality affects the revenue and health of the marketplace). This means there's a combination of analytics you need to care about.

There is another reason analytics matter to marketplaces. Sellers seldom have the sophistication to analyze pricing, the effectiveness of their pictures, or what copy sells best. As the marketplace owner, you can help them with this analysis. In fact, you can do it better than they can, because you have access to the aggregate data from all sellers on the site.

An individual merchant might not know what price to charge. Even if he could do the analysis, he wouldn't have enough data points. But since you have access to *all* transactions, you may be able to help him optimize pricing (and improve your revenues along the way). Airbnb did this kind of experimental optimization on behalf of its vendors when it tested the impact of paid photography services on rental rates—then rolled the service out to property owners.

We've looked at both the e-commerce and UGC models in other chapters, but here we'll briefly consider some of the unique challenges faced by two-sided marketplaces.

Transaction Size

Some marketplaces are for infrequent, big-ticket items (like houses), while others are for frequent, smaller items (like those listed on eBay). This means that the number of listings per seller, and the transaction price, vary widely, and a useful baseline is impossible.

There are often correlations between purchase size and conversion rate

There are often correlations between purchase size and conversion rate, however. The bigger a purchase, the more consideration and comparison go into it. Smaller purchases carry less risk, and may be more impulsive or whimsical than big ones.

Bottom Line

We can't tell you what your typical transaction size will be, but we can tell you that you should measure it, along with conversion rates, to understand your buyers' behavior—then pass this information along to sellers.

What Etsy Watches

Etsy is an online store for creative types to share and sell their work. Founded in 2005 by a painter, a photographer, and a carpenter who had nowhere to sell their work online, the company now sells over half a billion dollars a year through its shared marketplace.

The company looks at a lot of metrics. It tracks revenue metrics such as shopping carts (individual sales), number of items sold, gross monthly sales, and total fees collected from those sales. It also looks at the growth of buyers and sellers by counting the number of new accounts, new sellers, and total confirmed accounts. Over time, the company has started tracking year-on-year increase in these core metrics.

Beyond these fundamentals, Etsy tracks the growth of individual product categories, time to first sale by a user, average order value, percentage of visits that convert to a sale, percentage of return buyers, and distinct sellers within a product category. It also breaks down time-to-first-sale and average order value by product category.

Recently, the company has started looking more closely at values like the total gross margin sold and percent of converting visits by mobile versus desktop, as well as the number of active sellers in a region. It's also calculating smoothed historical averages that act as a baseline against which to identify any anomalies in the data.

Etsy VP of Engineering Kellan Elliott-McCrae says that for any given product, Etsy calculates a number of metrics, particularly within site search. The

company runs its search system like any other ad network, and “constantly measures demand (searches) and supply (items) for all the keywords passing through the system, making them available for purchase and pricing them when there is both demand and supply.”

When Etsy adopted a continuous deployment approach to engineering, its initial business dashboards included registrations per second, logins per second (against login errors), checkouts per second (against checkout errors), new and renewed listings, and “screwed users” (distinct users seeing an error message). “Importantly, these are all rate-based metrics designed to quickly highlight that we might have broken something,” says Kellan. “Later we added metrics like average and 95th percentile page-load times, and monitored for performance regressions.”

Most recently, Etsy has been trying to make it clear how various features contribute to a sale. “For example, we can attribute the percentage of sales that come directly from search, but we’ve found that visitors who first browse, and *then* search, have a higher conversion rate,” says Kellan. “Of course, on the flip side, conversion rate is a very difficult metric to get statistical significance on, as purchases happen rarely enough that when analyzing them against the site-wide clickstream, you get anomalous results.”

Kellan points out that Etsy’s help pages have the best conversion rate for purchases anywhere on the site (because people go there when they’re trying to accomplish something), but jokes that the company hasn’t followed through on the logical product decision of making help pages the core site experience. “To get meaningful data, you really have to scope your experiments.”

Even with the site’s huge sales volume, the company hasn’t gone after rapid growth. “We play with a very narrow margin and so we’ve historically been very cautious about stepping on the gas rather than closely monitoring health metrics and growing sustainably,” he explains.

Because anticipating demand helps drive sales, the company sends out a monthly newsletter to sellers, which discusses analytical data, market research, and historical trends. The company also has a market research tool for sellers. “If a seller were to search for ‘desk,’” explains Kellan, “they could check out the market research tool to see that ‘desk calendars’ generally sell in the \$20–\$24 range, a downloadable desk calendar PDF sells in the \$4 range, desk lamps sell in the \$50 range, and a desk lamp PDF sells in the \$10 range.”

in roughly the \$50 range, and only a handful of actual desks are sold each day.

Etsy is a shared marketplace, but it overcame the chicken-and-egg issues that two-sided markets face through serendipity. “Initially our buyers and sellers were the same people. We made this explicit in the beginning by encouraging the sale of both crafts and craft supplies,” says Kellan. “Etsy was deeply embedded in a community of makers who supported each other, and initially we were helping them find one another.”

Summary

- Etsy is metrics-driven, but those metrics have become increasingly business-focused as it’s moved past product/market fit.
- The company sidestepped the chicken-and-egg problem most marketplaces face because initially, its buyers were also sellers.
- Analytics are also shared with vendors, in order to help them sell more successfully—which in turn helps Etsy.

Analytics Lessons Learned

The buyer/seller model in a shared marketplace is a lot like inventory in an advertising network. Knowing what buyers want, and how well you’re meeting that demand, is an early indicator of what your revenues will be like. And because you want to help your sellers, you should selectively share analytical data with them that will make them better at selling.

Top 10 Lists

Top 10 lists are a good way to start understanding how your marketplace is working. Run some queries of KPIs like revenue and number of transactions according to product segments:

- Who are your top 10 buyers?
- Who are your top 10 sellers?
- What products or categories generate the majority of your revenues?

- What price ranges, times of day, and days of week experience peak sales?

It might seem simple, but making lists of the top 10 segments or categories, and looking at what's changing, will give you qualitative insights into the health of your marketplace that you can later turn into quantitative tests, and then innovations.

Bottom Line

Unlike a traditional e-commerce company, you don't have a lot of control over inventory and listings. But what you *do* have is insight into what is selling well, so you can go and get more like it. If you find that a particular product category, geographic region, house size, or color is selling well, you can encourage those sellers—and find more like them.