RESEARCH METHOD

01 A/B Testing

Design Phase: 1 2 3 4 5

Use A/B testing to compare two versions of the same design to see which one performs statistically better against a predetermined goal.[1]

A/B testing is an optimization technique that allows you to compare two different versions of a design to see which one gets you closer to a business objective.[2] The tests are run by randomly assigning different people down two paths—the "A" test and the "B" test—until a statistically relevant sample size is reached. At the end of the test, you will be able to determine which design gets you closer to your goals.

Take, for instance, the challenge of increasing the number of people who sign up for a free trial of your online service. There could be many explanations why people aren't registering: Is the sign-up form too long? Are people worried about their privacy and what you will do with their data? Do they want to know about pricing information before they register? You can find out the answer to each of these questions by making small modifications to the interface, and then run an A/B test to see which version prompts more people to register. For instance, given the scenario above, you can design and run several tests that compare:

- different treatments of the page microcopy—the text that guides and reassures the user—regarding the terms of the service (tone, length, font size);
- the form elements (how many, layout, which are required); and
- different treatments of the button or call to action (page placement, size, color, labeling).

Even though there is a benefit to being able to measure *which* design generates better results, A/B testing won't help you understand *why* the design was preferred over the alternate. A/B testing is not a replacement for qualitative methods that can assess your customers' desires, attitudes, and needs, nor can it uncover larger problems like whether customers feel that they can trust your site or that it is credible.[3] To that end, A/B testing should always supplement qualitative methods that help you gain a deeper understanding of what really motivates your customers and what they really want.

1. A/B tests are adapted from the classic direct mail practice in which two different versions of the same mailing are sent out to different people in order to see which one gets the better response rates.

2. Nielsen, Jakob. "Putting A/B Testing in Its Place," 2005, http://www.useit.com

3. Kahavi, Ron, Randal M. Henne, and Dan Sommerfield. "Practical Guide to Controlled Experiments on the Web: Listen to Your Customer Not to the HiPPO." *Proceedings of the 13th ACM SIGKDD*, 2007.

BEHAVIORAL

Attitudinal

Innovative

ADAPTED

Traditional

Participatory

Observational

Self reporting

Expert review

DESIGN PROCESS

Quantitative

QUALITATIVE

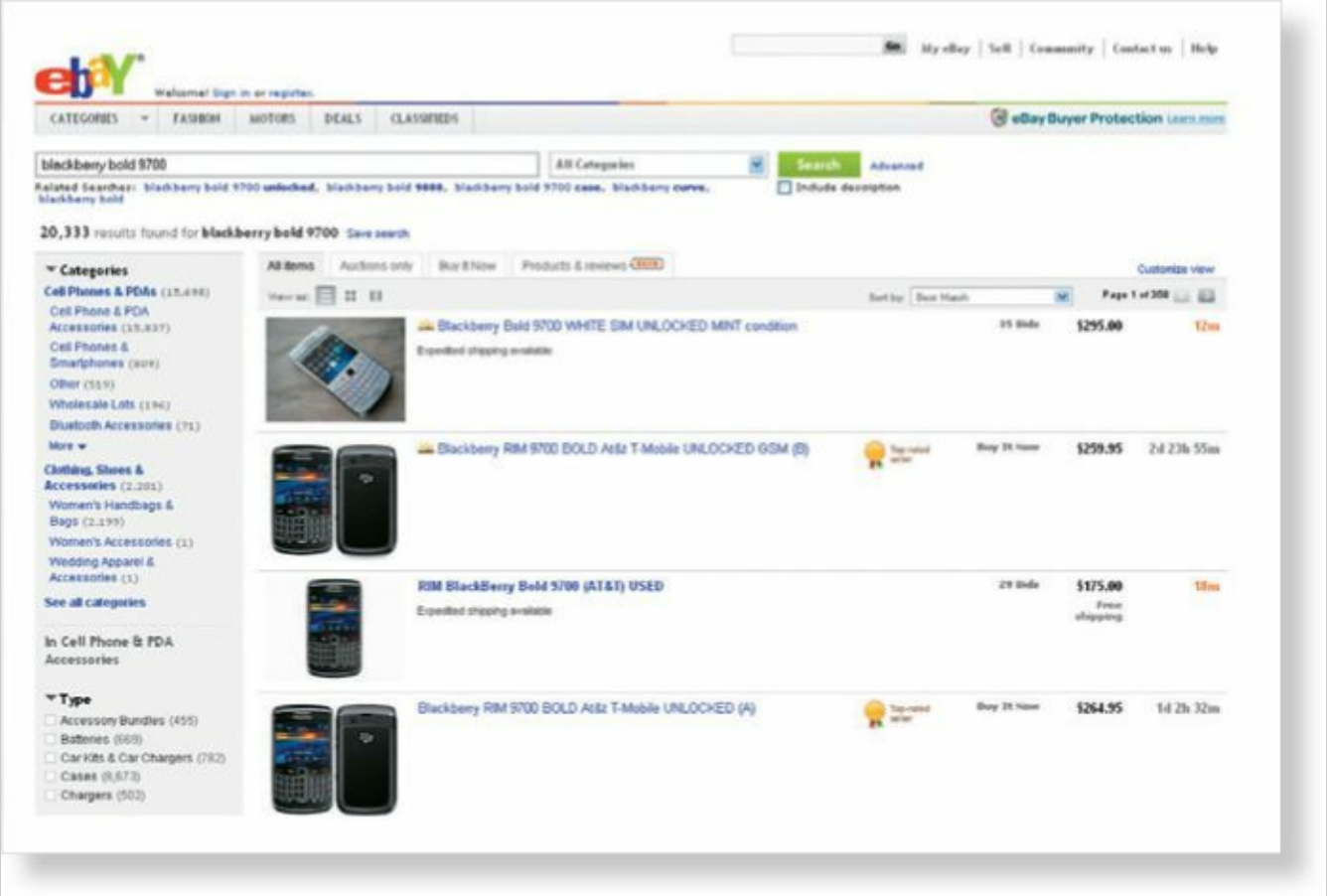
Exploratory

Generative

EVALUATIVE

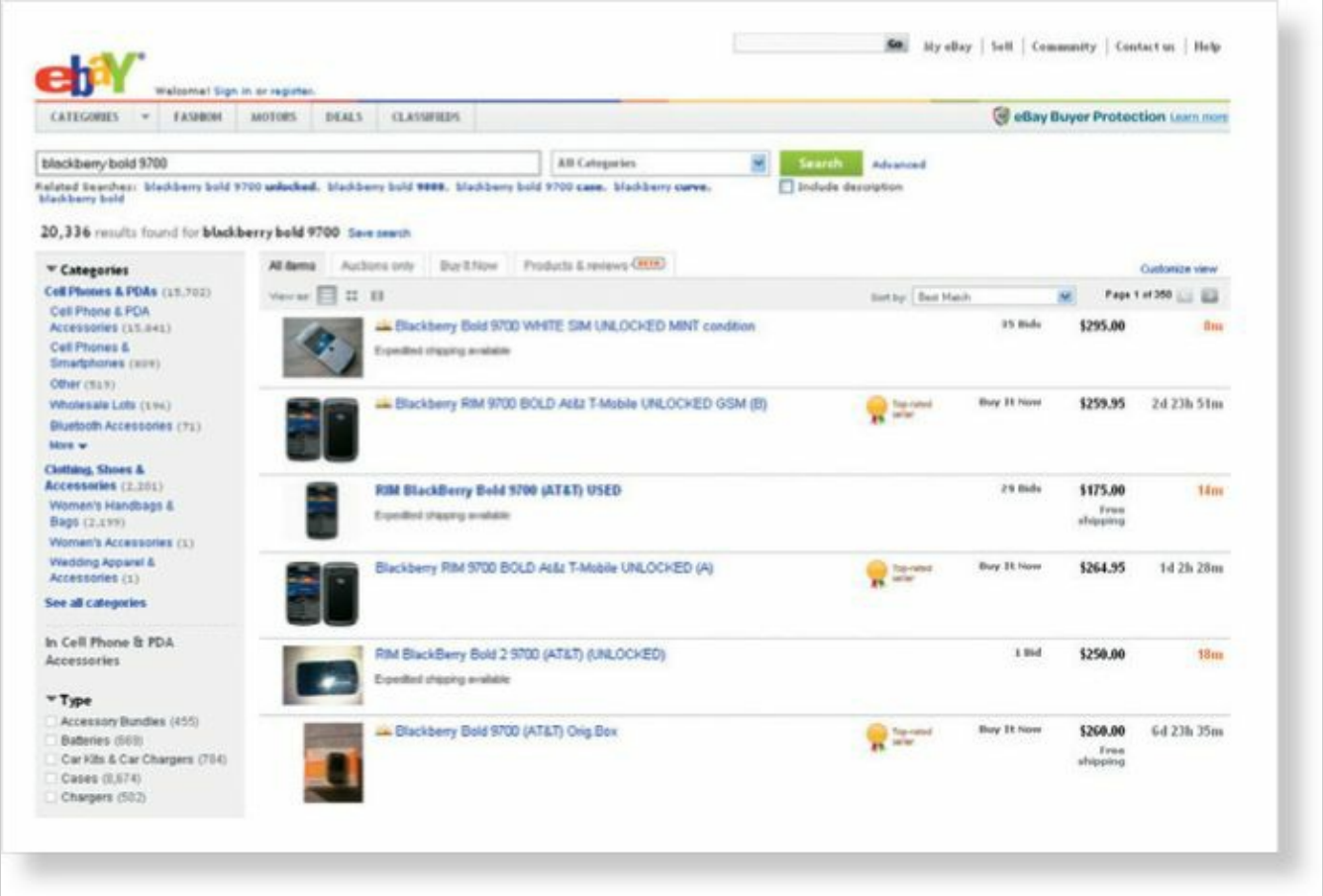
A/B TESTING: AN EBAY CASE STUDY

Experimentation with A/B testing can inform various hypotheses and product directions. It's important to experiment all the time and not just accept certain past observations as always holding true in the future. A set of experiments performed by eBay in 2010 on image size is a great example.



Test A: the larger image test

Over the course of several tests, eBay researchers generally observed that their buyers have a higher engagement when they can maximize the number of listings above the fold and minimize the need to scroll or paginate. Keeping this hypothesis in mind, the goal of the image size A/B test shown here sets out to prove that smaller images increased the number of listings on one page, and therefore would result in higher engagement.



Test B: the smaller image test

To the researchers' surprise, the smaller image size test (Test B) did not perform as well as expected against the larger image size test (Test A). After more investigation and a follow-up experiment, the researchers learned that the reverse was actually occurring—that the buyers demonstrated higher engagement on the larger image sizes even when fewer items were able to fit on the first page. From the results of this experiment they quickly made the change to the larger image size across the site.

Courtesy of Robin Chiang, eBay, Inc.

See also 38. Experiments • 51. Key Performance Indicators • 97. Web Analytics