

Category: *Retail*

Methods: *Predictive Modeling, Market Simulation, Advanced Analytics*

Summary

A large, online retailer decided to purchase banner ads on various websites within three different geographies. We applied an experimental design and choice modeling to optimize the color scheme, ad size, and geographic scope of the banner ads.

Strategic Issues

The client wanted to design banner ads in such a way as to maximize impressions, click-throughs, and, ultimately, new customer accounts. Reliable ROI estimates were required before incurring the cost of a broad rollout of the banner ads.

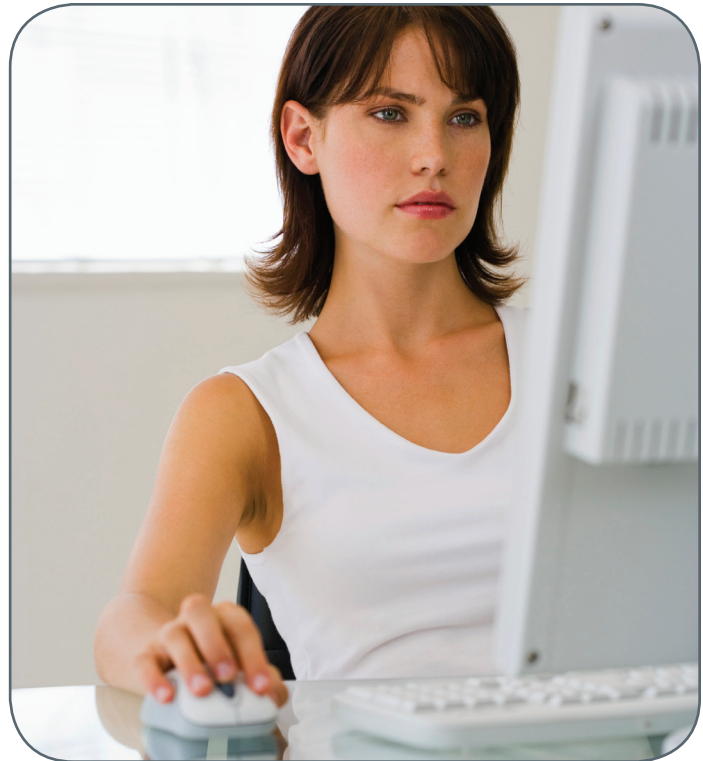
Research Objectives

- Accurately measure the relative importance of color scheme, ad size, and geography in increasing impressions, click-throughs, and new customer accounts.
- Determine the optimal combination of color scheme, ad size, and geography that maximizes new customer accounts or generates impressions and click-throughs.

Research Design and Methods

An online test-market approach was used to achieve the highest degree of accuracy in predicting ROI when varying each website attribute.

Three levels or options were tested for each website attribute, as shown in the table on the following page.



Disclaimer: Our case studies are drawn from our real-life work. However, the details—and in some cases, subject areas—have been thoroughly disguised to avoid any compromising of the actual work or its sponsors.

Factor Level Part-Worth and Importance

	Factor	Part-Worth	Relative Importance
Color Scheme	1. Blue-Green	0.09	14%
	2. Brown-Yellow	0.23	
	3. Black-Gray-White	0.16	
Ad Size (Pixels)	1. 240 x 400	0.81	59%
	2. 300 x 250	0.20	
	3. 336 x 280	0.22	
Geographies	1. New York City	0.01	27%
	2. Chicago	0.28	
	3. Los Angeles	0.29	

In order to minimize research expense associated with creating the banner ads, we used an experimental design to select only a subset (9 combinations) of the 27 possible combinations of levels/options—(3 color schemes) x (3 ad sizes) x (3 geographies) = 27 combinations. Each of the 9 banner ads was placed an approximately equal number of times.

Results

Application of predictive modeling produced the relative importance of each attribute and the particular level or option of each attribute that maximizes ROI.

Market simulation predicted the relative ROI for all possible 27 banner ad designs in terms of color scheme, ad size, and geography.

The results might have suggested, for example, that ad size had double the importance vs. geography and that geography had double the importance vs. color scheme.

In addition, ROI might, for example, be maximized with an ad size of 240 x 400 pixels, displayed on Web pages in Los Angeles or Chicago, with a brown-yellow color scheme. Based on such findings, the client would maximize ROI of banner ad market spend.