Endcap Optimization

By Mike Humphrey and John Colias, Ph.D.

PepsiCo and Decision Analyst recently presented the results of ground-breaking endcap-optimization research at a large annual U.S. conference (TMRE, The Marketing Research Event, by IIR). The goal of the research was to identify endcap displays (by type and mix of SKUs) that would maximize sales of PepsiCo's snack and beverage products in a major U.S. retail chain.

Food manufacturers use endcap displays in the hopes of boosting in-store sales of specific products or groups of products. That is, manufacturers place one or more products at the end of a retail aisle (the endcap), where consumers are most likely to see the display.

The question is: which product (SKU) or products (SKUs), if displayed on the endcap, are most likely to boost sales of the manufacturer's brand or brands within that retail chain? Endcap-optimization research determines which SKU or sets of SKUs would maximize the sales of the manufacturers' brands.

If a manufacturer has 10 to 20 related SKUs in a retail store, the number of endcap arrangements could easily exceed hundreds of possibilities. Therefore, actual in-store experiments are impractical because of the large number of possible endcap displays.

Choice Modeling Advantages

With Decision Analyst's 3D virtual shopping platform, combined with advanced choice modeling experiments, it's possible to simulate and evaluate all endcap possibilities.

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Choice modeling advantages:

- The selection of products to place on the endcap, and the number of facings, can be scientifically controlled to measure the impact on purchase decisions.

- The enormous cost of actual in-store experimentation is avoided.

- 3D virtual shopping delivers a realistic shopping simulation and provides superior measurement of consumer behavior.

- Choice modeling is very accurate since the respondent is not able to determine what is being tested.

The PepsiCo Study

In the PepsiCo study, Decision Analyst sought to optimize endcaps to maximize sales of PepsiCo brands in the snack and beverage aisles. Endcaps have two possible effects:

- Distribution Effect: Making a product more available.

- Advertising Effect: Boosting awareness of a product.

In the PepsiCo study, Decision Analyst sought to optimize endcaps to maximize sales of PepsiCo brands in the snack and beverage aisles.

This study focused solely on the advertising effect.

Study Design. Within the survey, each consumer experienced eight shopping scenarios. Each scenario began with a simulated store "fly-in"—approaching the store, then entering and walking through the store until reaching the endcap, pausing to view the endcap, and then proceeding to the chip aisle to make chip purchases, followed by the beverage aisle for beverage purchases. Respondents could select as many brands as they wished or choose not to make any purchases.

Sampling. A U.S. nationally representative sample of female consumers who had shopped for chips or beverages at a given food retailer within the past three months was selected. These consumers were chosen from Decision Analyst's American Consumer Opinion®, one of the world's largest online panels.

Experimental Design. The endcap and the two shelf sets (chips and beverages)were based on an experimental design so that the endcap and the two shelf sets were different for each scenario.

The endcaps included one, two, or four products (SKUs), selected from among 10 PepsiCo brands.

Each shelf set (one for snacks/chips and one for beverages) contained 19 snack or chip products and 23 beverage products all of the time; however, the number of facings and the

prices varied. Shelf position (top shelf to the bottom shelf) was randomized.

ChoiceModelR™. R-Language choice modeling was used to model consumer purchase behavior and simulate predicted impacts of the following variables on product sales:

- Product price (displayed on shelf).

- Number of shelf facings.

- Presence or absence of a product on the endcap.

- Number of facings on the endcap.

- Number of snack/chip facings on the endcap.

- Number of beverage facings on the endcap.

Results

The study predicted PepsiCo sales volumes for 385 different possible endcaps, as illustrated in **Figure 1** (Page 4), where each point represents the revenue and unit volume for a particular endcap. The 385 endcaps were simulated and indexed versus the highest revenue endcap (Snack C, Snack
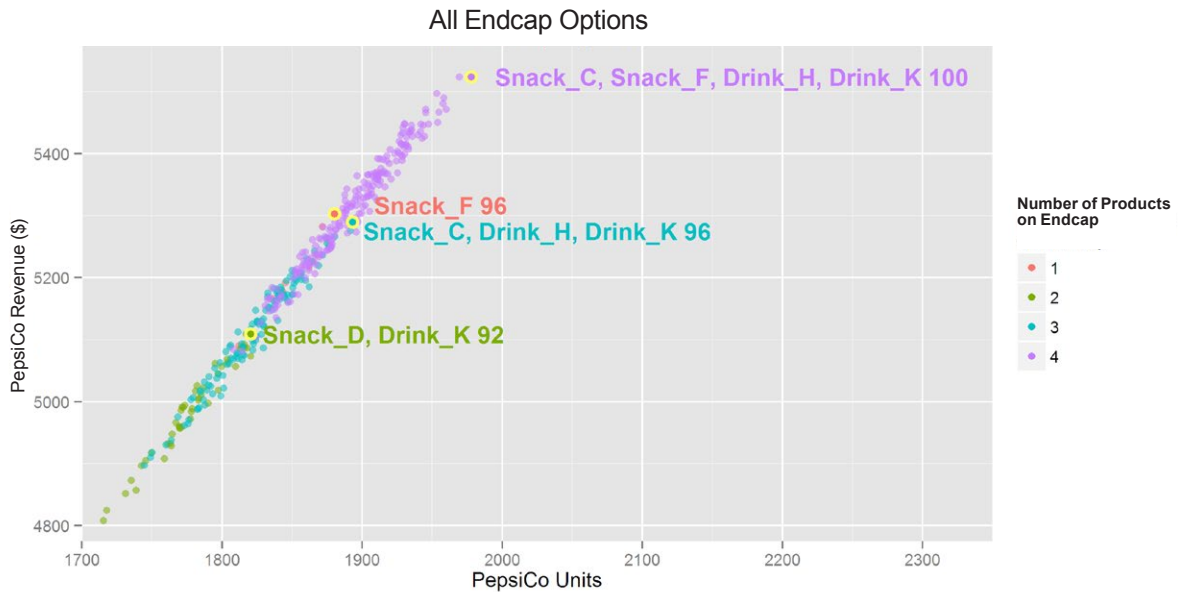
All Endcap Options

Figure 1. All Endcap Options.

F, Drink H and Drink K—actual product names omitted), as displayed in **Figure 1**.This endcap-optimization study helped PepsiCo decide upon endcap arrangements and displays that would maximize sales of specific brands or sets of brands.

Among the interesting findings, one rather minor brand provided sales lift to a large number of other PepsiCo brands, and one major brand failed to provide any lift to itself or to other PepsiCo brands. The final deliverable of this research was a DecisionSimulator™, a user-friendly model to simulate the sales effects of hundreds of different product mixes on the endcap.

About the Author

John Colias, Ph.D., is Senior Vice President and Director of Advanced Analytics at Decision Analyst. He can be reached by email at *jcolias@decisionanalyst.com*. Mike Humphrey is a Vice President at Decision Analyst. He can be reached by email at *mhumphr@decisionanalyst.com*. Both can be reached by phone at *1-800-262-5974* or *1-817-640-6166*.

Decision Analyst is a global marketing research and analytical consulting firm. The company specializes in advertising testing, strategy research, new products research, and advanced modeling for marketing-decision optimization.

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604 Avenue H East ■ Arlington, TX 76011-3100, USA
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