



Choice Modeling

The Science of Marketing Optimization



Why Choice Modeling?

Consumers can tell us what they like and do not like. They can tell us what they will buy and what they will not buy. But rarely can they tell us why. They do not know what roles price, brand image, package color, brand name, promotional offers, and media advertising play in their purchase decisions. But with choice modeling experiments, we can implicitly measure these marketing variables.

R-Language Choice Modeling

One of the world's most sophisticated choice-modeling programs is the creation of Decision Analyst's programmers. Written in the R-Language, ChoiceModelR® is ideal for large datasets with complex variables. It handles discrete variables (nominal or ordinal) and share or probabilistic variables. Multiple constraints may be imposed on model parameters. The number of choice observations per respondent may vary, and the number of choice alternatives per observation is flexible. ChoiceModelR® is freely shared with anyone who wants a copy. It may be downloaded from Decision Analyst's website: www.decisionanalyst.com/download.aspx.

Choice modeling is used to:

- Analyze price sensitivity.
- Bundle product and service features.



- Optimize brand strategy.
- Improve product-line planning.
- Maximize media advertising effectiveness.
- Improve promotional offers.
- Optimize advertising messages.
- Improve package designs.

Choice Modeling Can Replace Marketing Mix Modeling

Choice modeling can answer the same questions that marketing mix modeling attempts to answer. Marketing mix modeling takes years of painstaking efforts to build a pristine database of sales results by geographic area and product line, along with marketing inputs. Marketing mix modeling can cost millions of dollars and take years to deliver actionable results. However, with choice modeling, the same types of marketing issues can be resolved quickly, economically, and more accurately (because all variables can be carefully controlled in choice models).



Discrete Choice

Discrete choice modeling is ideal when only one purchase is made over a longer period of time (for example, durable goods, credit cards, or mobile phones). Consumers are asked which one product they would buy, given a realistic scenario including all of the products or services that compete with one another. In each scenario, the respondent is presented with a different set of marketing stimuli.

Conjoint Analysis

Conjoint analysis (or trade-off analysis) is a technique used to determine the relative importance of different attributes or product features. It is used to optimize new product designs.

Volumetric Choice

Volumetric choice modeling is used when multiple products are purchased over short periods of time and repeat purchase volume is significant. Consumers are asked how many of each product they would buy, given realistic scenarios.

The types of decisions that respondents make in each scenario simulates reality, where multiple brands might be purchased in varying quantities. Volumetric measures would include units purchased, dollars spent, etc. The goal is to create scenarios that represent consumers' volumetric buying behavior.



Decision Simulator™

The choice model derived from experimental data is translated into a Decision Simulator™ with a simple point-and-click interface that allows “what if” scenarios to be explored by changing prices, product features, competitive variables, etc., in order to examine a range of marketing options.



Pricing Optimization

Within choice modeling experiments, the prices of the different brands are continuously varied from scenario to scenario. Price-demand curves are derived implicitly for each brand. These price-demand curves feed into a DecisionSimulator™ so that an optimal pricing strategy can be determined. If competitors change their prices, the Simulator permits quick, accurate responses.

Logician® 3D Shopping Simulation

The more realistic the experimental stimuli, the more accurate the results. Logician® 3D (three-dimensional) shopping simulations of the buying experience create shopping environments that take consumers on a realistic visit to a retail store, expose them to advertising and promotional stimuli, and allow them to purchase products with the click of a mouse. 3D models can be created for lawn mowers, mobile phones, cars, etc. These models permit consumers to see a product from many visual perspectives.

American Consumer Opinion® Panel

American Consumer Opinion® Panel is our proprietary Internet panel of over eight million consumers worldwide. The size of this panel makes it possible to pull matched samples to create perfectly balanced experimental cells. The high quality and rigorous management of this panel make it ideal for choice modeling experiments. Since Decision Analyst pays high incentives, consumers are willing to take the extra time necessary to participate in multiple experimental scenarios.

Why Decision Analyst?

Decision Analyst is a global, marketing research and analytical consulting firm with over three decades of experience in state-of-the-art modeling and simulation. A team of Ph.D.s heads up Decision Analyst's choice modeling work. They publish many white papers on advanced analytics methods and speak frequently at industry conferences.



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