

CONDUCTING CONJOINT AND DISCRETE CHOICE ANALYSIS AND MODELING

CONDUCTING CHOICE MODELING AND ANALYSIS

Preference structure modeling—the family of marketing research tools which includes conjoint analysis and discrete choice modeling—is one of the most exciting and fastest-changing areas of marketing research.

These research techniques view a product or service as the sum total of the features and characteristics of which it is made up. Typical features might include the brand name under which the product is marketed, the price of the product, and even how the product is positioned and promoted, in addition to the actual physical features of the product, such as its size, color, speed, capabilities, or effectiveness.

Preference structure modeling techniques provide a powerful way to understand what it is about a product or service that drives customers' interest in it and their purchase choices. It is also an excellent way to isolate the effects of a single change that a company is considering making in its product or marketing strategy. Conjoint and discrete choice are excellent tools when a company wishes to:

- Configure a new product or service
- Re-configure an existing product to increase profitability
- Evaluate whether a new concept is viable before it is known just what features it may include
- Better understand what drives customer preferences in the market place
- Introduce a line-extension (while minimizing “cannibalization” of existing products and maximizing profitability of the whole line)
- Set prices for maximum profitability

Conjoint analysis is a research technique in which customers and potential customers are asked to evaluate a series of hypothetical and real products, defined in terms of their features. From their responses, the relative value of each feature is isolated.

For instance, a manufacturer of an over-the-counter cold remedy might be considering

adding a new ingredient to its product which would alleviate an additional set of symptoms, but also cause drowsiness. Through conjoint analysis, the current product could be compared to the new product. The two products would differ in two ways: the additional symptoms cured and the drowsiness. One of these changes would likely be positive and one negative. Conjoint analysis enables the company to trade off the two changes against each other, compare their relative size, and determine which product would appeal more to consumers, or possibly, whether there is room in the marketplace for both products, and how much they would compete with each other, versus being used on different occasions or by different people.

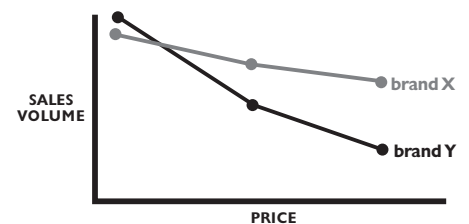


Discrete choice modeling, a somewhat newer technique than conjoint analysis, differs in that consumers are asked to view a series of competing products and select one (or in some cases more than one). In this regard, it is based on a more realistic task that consumers perform every day: the task of choosing a product from among a group of competitors. Discrete choice models can be used to perform powerful and complex simulations of the marketplace for an entire product or service category. The impact of price changes and product enhancements on brand shares can be simulated before they are implemented, as can the effects of potential competitive responses to these actions. Further, discrete choice models are much better than conjoint analyses at duplicating the interactions between different characteristics of a product or service.

What are interactions and why are they important?

Most of the really valuable and insightful information uncovered when preference structure models are applied comes in the form of interactions. Interactions occur when the importance of one product feature depends on another one. For example, price often interacts with brand. Consumers may be

equally interested in two brands when the prices are low. But as price increases, their interest drops off sharply for the less-known brand, while interest is much more stable and declines only slightly for an older, well-established brand. Thus the importance of price depends on the brand with which it is associated. A model which did not measure this interaction, like most conjoint models and even some discrete choice models, would essentially get the price sensitivity wrong for both brands. The real world is full of interactions, and we believe that, to fully understand its customers, a company's view of the world should be too.



Individual models. At Burke, we believe strongly that individual consumers are just that...individual. They differ from each other in important ways that determine what they consider when they make purchase decisions and what products they buy. Consequently, preference structure models should generally be created at the individual level. That means that the value and relative attractiveness of each feature and brand and price is determined uniquely for each individual we survey. Individual-level models are necessary to learn which types of customers are interested in a particular product, so they can be effectively targeted in marketing efforts.

Individual-level models are also necessary to identify different market niches or groups of customers, so that a company can create multiple products to meet the needs of different people.

Even if a company only has the resources to create a single product for a “whole” market, it is still important at the research stage to build separate models for individual customers and groups of customers. Take for instance a study of cellular telephones where one of the product features is a smaller sized phone. The study reveals that this feature has very little impact on consumer choices.

Regardless of its size, interest in the phone is pretty much the same. This finding may indicate that most consumers just do not care about the size of the phone. Or, it may be the case that some consumers find a smaller phone to be a very attractive convenience for carrying the phone with them while another group of customers finds the smaller size to be highly undesirable, feeling uncomfortable that the phone does not reach from their mouths to their ears when they speak. These two different situations (indifference to the feature versus polarized opinions) may lead to two very different marketing strategies, but without an individual-level model, there is no way to distinguish between them, and know which scenario accurately describes the marketplace.

THE BURKE APPROACH TO CHOICE MODELING AND ANALYSIS

In the mid-1980s, Burke Marketing Research was a pioneer in developing techniques to estimate larger conjoint models at the individual level through the use of our proprietary COSMOS® approach. We accomplish this by supplementing consumers' ratings of products with additional ratings of the individual features that make up the products, and then creatively combining these data into an integrated model. Though refined over the years, we are still successful applying the COSMOS technique today.

Burke is once again taking a leadership position in the industry, this time by applying the logic of our COSMOS approach to discrete choice models, making us among the first research companies to offer an individual-level discrete choice approach, which we call CHOICES™.

Unlike many discrete choice approaches, CHOICES produces accurate source-of-volume and cannibalization estimates. If you are considering introducing a line extension into a category where one of your products already competes, you want the new product to succeed at the expense of your competitors, not your own established product. Most models assume that a new product's sales are drawn proportionately from all competitors, but CHOICES accurately measures which competitors are hurt and which are not. Similarly, if you lower your prices, you will know who you hurt, and if a competitor improves its product in some way, you will know whether your sales are threatened.

As part of the CHOICES product, our clients receive powerful, yet simple-to-use computer simulators, which enable them to play "what-if" games, testing marketing strategies and evaluating competitive responses, all at the touch of a button or the click of a mouse.

COSMOS and CHOICES are not the only approaches to preference structure modeling

Wireless Telephone Study Discrete Choice Simulator

Instructions: Select Options to Define Each Offering in Market Scenario. Indicate Which Segments to Include in Simulation.

Provider	Original Cellular	Big National	New Digital
Check if Available:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Coverage Area:	Local	Standard	Standard
Technology:	Analog	Digital	* Digital *
Handset Size:	Standard	Extra-Small	Standard
Price:	\$25/mo. & 20c/min.	\$40/mo. & 100 free mins.	\$25/mo. & 20c/min.
Check Segments To Be Included			
<input checked="" type="checkbox"/> Mostly Business	<input checked="" type="checkbox"/> Safety/Security	<input checked="" type="checkbox"/> Mixed Usage	
<input checked="" type="checkbox"/> Family Oriented	<input checked="" type="checkbox"/> Always Accessible		

Wireless Telephone Study Choices Simulator

	Original Cellular	Big National	New Digital	No Service
Simulated Share				
Total (100%)	47.2%	16.8%	11.2%	24.8%
Males (63%)	43.1%	19.9%	14.4%	22.6%
Females (37%)	49.2%	15.0%	8.7%	27.1%
Current OC Customers (52%)	82.4%	9.9%	5.3%	2.4%
Non-Customers (48%)	27.7%	21.0%	17.3%	34.0%
Revenue Per Household				
Total (100%)	\$15.67	\$5.58	\$3.72	\$24.97
Males (63%)	\$14.31	\$6.61	\$4.78	\$25.70
Females (37%)	\$16.33	\$4.98	\$2.89	\$24.97
Current OC Customers (52%)	\$27.36	\$3.29	\$1.76	\$24.97
Non-Customers (48%)	\$9.20	\$6.97	\$5.74	\$21.91
Market Total				
Bundle Definition				
Coverage Area		Standard	Expanded	Standard
Technology		Analog	Analog	(Digital)
Handset		Standard	Standard	Standard
Price		\$25/month 20c/minute	\$25/month 20c/minute	\$25/month 20c/minute

employed by Burke. We offer a variety of techniques and never push our clients into a "black box" or any one approach. Other options include self-explicated-only conjoint, full-profile conjoint, and ACA. We conduct these studies using a variety of interviewing methods, including in-person, mail-phone-mail, kiosk, and Internet.

As a custom research firm, we rarely employ exactly the same technique twice. As with all of Burke's research tools, we believe in choosing the right product for the situation, or customizing or inventing one just for you.

CASE HISTORY — BATTERY PACKAGING (Hybrid Conjoint Using COSMOS)

A manufacturer of rechargeable batteries for hi-tech devices like camcorders and cordless phones wanted to redefine their packages to better tout the benefits of the most importance to consumers. They wanted to know whether consumers were most likely to respond to information about the battery's life or information about its chemical makeup. They also hoped to learn how important it was to have an endorsement from the maker of the device in which the battery was to be used. Market share simulations were performed to determine how many features to list without causing clutter and information overload, and which particular

combination of claims and features made their batteries most likely to be selected.

CASE HISTORY — BUNDLING INFORMATION SERVICES (Individual Level Choice Modeling Using CHOICES)

An information services company encountered technological and regulatory changes which allowed them to expand from their core business of local telephone service into other categories like long distance service, cable television, wireless communications, and Internet access. At the same time, established players in these other categories began to offer local telephone service, providing a competitive challenge to this company's traditional business. The company had the opportunity to leverage their relationships with customers and achieve synergies by offering bundles of services that work together, and to provide pricing incentives to influence consumers to select more than one of their services. Burke developed a model that simultaneously predicted consumers' choices in each of these categories. Consumers of course were not required to select a bundle of services all from the same company, and the nature of the bundles offered determined whether or not they did. The company used the model to determine which markets to enter, to fend off competitive challenges by identifying and offering special incentives to the customers most likely to defect, and to develop the optimal bundle of services to maximize sales and profit across all the categories.

Burke

Burke provides an easy-to-use Excel-based simulator with all CHOICES analyses. Simulators are operated through pull-down menus and check boxes, and provide output for all relevant subgroups.