

Marketers and market researchers devote much attention to understanding why people buy certain products and brands. In marketing research it's often assumed that products and services can be characterized by a set of concrete attributes. Each brand or product is perceived to have a certain level of performance on each of these attributes. The consumer ascribes an overall value to a specific product based on how the product is perceived to perform on the various attributes and based on how important these attributes are. In many product categories this paradigm works well, and conjoint analysis or discrete choice models are used to predict the appeal or sales potential of a product. These approaches help us answer questions such as: "What is the relative importance of the product attributes?" "How important are improvements within attributes?" "Can we identify segments based on what concrete attributes consumers find important?" "How will changes in our product affect changes in our expected market shares?"

EXECUTIVE SUMMARY

The authors discuss means-end chain analysis as a method to understand why consumers buy certain products or brands. Means-end chain analysis identifies links between product attributes, benefits, and consumer values. This allows marketers to deal with a broad set of marketing problems, including new product development, brand positioning, advertising strategy, and market segmentation. The authors discuss the managerial relevance of the technique and provide illustrations of several empirical studies, with a special focus on international market segmentation.

However, quantifying the importance of concrete attributes does not always provide a panacea for positioning brands and developing advertising strategies. A first situation where brand positioning based solely on concrete attributes does not work is in markets where the performance of products has become very similar (e.g., light bulbs, detergents, and other fast moving consumer goods). For such product classes it may be very difficult to differentiate and position a brand on its performance on concrete attributes. In addition to information on concrete attributes, more information on consumers' needs is needed to successfully position the brand against competitors. A second situation where the "concrete-attribute" approach doesn't work very well is when the product and the brand information are too much for the consumer to handle. In complex markets, such as cameras, cars, computers, and financial services, consumers look for ways to simplify the information available to them. They can simplify detailed brand and attribute information by categorizing the information into higher level constructs such as "reliability" and "quality." Magazines such as *Consumer Reports* know this, and use it in their comparisons. Communication strategies based solely on the performance of product attributes are not likely to be successful for these products. Marketers know this too. In car advertisements, for example, one can encounter higher-level constructs such as "excitement," "performance," "spacious," "luxurious," and "economical." In car ads it's not uncommon to refer to more personal values such as *fun and enjoyment* ("the ultimate driving machine"), and *achievement* ("arriving ahead of schedule," which in this case refers to arriving at a social status position ahead of when one would expect you to arrive at that position).

The June 19, 2000 issue of *Business Week*, "VW: Now That's How to Rebuild a Brand," praised Volkswagen for the successful revival of the VW brand name because its "Drivers Wanted" ad campaign pushed "fun and excitement" (consumer value) while designing the Beetle to be "agile" and "lively" (benefits). Successfully claiming and pre-empting a position on such higher-level constructs as benefits and values makes it nearly impossible for the competing brands to use this same positioning and hence create a sustainable competitive advantage.

In order to position products and brands at a higher level, we need to understand and measure the meanings that products have for consumers. A theory that provides such an understand-

ing is the means-end chain theory. The means-end chain establishes a link between tangible attributes of a product and the individual and social needs of consumers, such as benefits and values. As we will describe later, the analysis of consumers' means-end chains provides a basis for new product development, brand positioning, advertising strategy development, and market segmentation.

MEANS-END CHAIN THEORY

Means-end chain theory is concerned with the relationships between attributes, benefits, and values. Attributes gain their relevance because they allow the consumer to achieve certain benefits (e.g., reliability or health). A benefit in turn becomes important because the consumer has a higher need for the benefit (i.e., they are related to higher-order personal values such as happiness, security, sense-of-belonging, and achievement). The meaning of a product can be different depending on the values used by consumers. For example, as noted in Lynn Kahle's 1986 *Journal of Marketing* article, "A computer can be a necessity for a person who values 'sense of accomplishment,' a status symbol for a person who values 'self-respect,' and a toy for a person who values 'fun and enjoyment.'" See Exhibit 1 for a brief definition of attributes, benefits, and values.

The relationships between attributes, benefits, and values can be visualized in a means-end map. The example in Exhibit 2 is derived from a pan-European study on yogurt. The links in the figure can be regarded as the content, structure, and emotions associated with consumer information processing. Relationships between product attributes and personal values are identified, with benefits as an intermediate link. Exhibit 2 for example shows that the concrete attribute "low fat" is perceived as related to "diet" and "good for health." The ladders, as shown in Exhibit 2, are the bases consumers use for distinguishing between products and brands. In complex markets, processing and categorizing information in this way helps the consumer keep track of what is available in the market and quickly identify what alternatives match their needs and wants. Benefits and values can provide consumers with a basis for comparison-shopping. In markets with high similarity among brands at the concrete attribute level, such processing and categorizing information

EXHIBIT 1 Definitions of Attributes, Benefits, and Values

Concrete Attributes

Concrete attributes can be defined as relatively directly observable physical characteristics of a product or service. Examples are price, color, weight, etc.

Benefits

Benefits are less, or not, directly observable characteristics of a product or brand. They can be a combination of several attributes and are the result of a consumer using the product. Examples are 'ease-of-use,' 'comfort,' 'convenience,' etc.

Values

Personal values are, in general, defined as relatively stable cognitions and beliefs that are assumed to have a strong motivational impact. Examples are 'security,' 'happiness,' 'fun and enjoyment,' etc.

gives marketers a way to claim a positioning in consumers' minds. The more tightly a product or brand is linked to the various elements in consumers' means-end structures, the more likely it has personal relevance, and the more likely it will be preferred and chosen. Many academic and commercial studies have shown that a successful positioning along dominant ladders is related to product preferences and brand choices.

HOW TO IDENTIFY MEANS-END CHAINS

Traditionally, means-end chain data are gathered through a qualitative interviewing technique, which we have denoted as laddering. Briefly, the first part of the interview elicits attributes that are important to the consumer, and the preferences within attributes are established. Then, by subsequently raising questions about why issues are important to the consumer, benefits and values are identified. A hypothetical laddering interview, involving car stereos, is shown below.

Interviewer: "You indicated that you prefer touch control buttons [attribute] over rotary control buttons. [attribute] Why is this important to you?"

Respondent: "It allows me to control my car stereo more easily and comfortably." [benefit]

Interviewer: "Why is an easier and more comfortable control [benefit] important to you?"

Respondent: "Well, because ultimately I feel more safe in driving my car." [benefit]

Interviewer: "Why is it important to feel safer [benefit] in your car?"

Respondent: "Well, if I drive more safely I protect myself better, guarantee my safety better, and as a result feel good about thinking about these things, and feel I secure my family better." [personal value]

A limitation of this qualitative approach is its implementation in large-scale, representative samples. As it requires skilled qualitative interviewers, a large-scale implementation would quickly become too expensive and would take too long to complete. Recently, Ter Hofstede et al., in their 1998 *International Journal of Research in Marketing* article, proposed and validated a quantitative approach to collect means-end chain data. This survey-based approach, called the Association Pattern Technique uses two matrices: an attribute-benefit matrix and a benefit-value matrix. An example of such a matrix is shown in Exhibit 3.

In the attribute-benefit matrix, the attributes are listed in the columns and the benefits are listed in rows. Similarly, the benefit-value matrix lists the benefits and values. Consumers indicate in these matrices the perceived links between attributes and benefits and the links between benefits and values. Both the qualitative and the survey-based approach have its advantages. We recommend a two-stage approach to collect information on means-end chains. In the first stage we recommend using the qualitative laddering approach to elicit the important attributes, benefits, and values and to learn how these can be worded for the respondent. Usually around 30 qualitative interviews suffice

EXHIBIT 2 Segment Yogurt Study

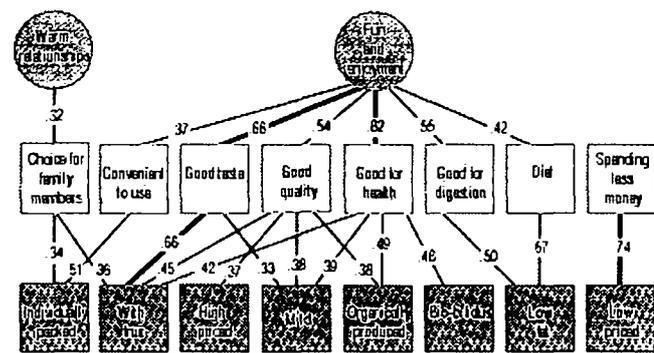


EXHIBIT 3 Association Pattern Matrix

	With fruit	Organically produced		Attributes
Convenient				Low fat
Good for health				
Good for digestion				
Environmentally friendly				
Benefits				

to identify the possible set of attributes and benefits.

In order to define the values we recommend using existing value inventories. For example, one could start with the List of Values (LOV) inventory proposed in Kahle's 1983 book *Social Values and Social Change: Adaption to Life in America*. The LOV contains nine values relevant for consumer behavior: "being well-respected," "excitement," "fun and enjoyment in life," "security," "self-fulfillment," "self-respect," "sense of accomplishment," "sense of belonging," and "warm relationships with others." Values can be used outside the means-end chain framework. (For example, respondents could be presented with each of these nine values and be asked to indicate their most important value(s).) In our approach we use the laddering interviews to test which values are relevant and how consumers verbalize these values. Values have shown to be universal to a very large extent and hence can be used among different groups of consumers. In the second stage, the results of these qualitative interviews can be used to develop the association pattern matrices and collect means-end chain data from a larger sample of consumers. This two-stage methodology was successfully applied in several pan-European and global studies. Analysis of these matrices allows for the development of mean-end maps, the understanding of key linkages, and the identification of market segments.

MARKETING IMPLICATIONS

Perhaps the most appealing characteristic of the means-end chain approach is that it's founded in the theory of consumer behavior and, at the same time, provides guidance for the development of marketing strategies. Specifically, the results of a means-end chain analysis can be successfully used for new product development, brand assessment and brand positioning, advertising strategy development, and market segmentation.

NEW PRODUCT DEVELOPMENT

The identification of attribute-benefit links can provide marketers with different opportunities for product development. A key element in the successful development of a new product is the availability of a core benefit proposition. (For example, a short list of strategic benefits the new product provides to its customers and how the product will provide these benefits.) The attribute-benefit links in the means-end chain will help marketers identify which product attributes will deliver these benefits. Thus, means-end chains can identify areas for new product opportunities. It is obvious that the means-end chain map shown in Exhibit 2 gives rise to various new product strategies for low-fat yogurt, easy-to-use-packaged yogurt, and healthy yogurt with active bacteria for enhanced digestion.

BRAND ASSESSMENT AND BRAND POSITIONING

Knowing which attributes, benefits, and values consumers use within a given product category constitutes a great start for brand assessment. Having identified the various attributes, benefits, and values, respondents could be asked to rate existing brands on each of the identified concepts; this enables brand positioning at the various levels. The positioning on attributes can provide a "reason-why" for the consumers. The benefits associated with concrete product attributes can further support the persuasive claims made in advertising. The linkage to values increases the strength by which the product or brand is perceived to be consistent with one's personal values. It's well known that once a brand's positioning is claimed at the benefit and value level, it becomes nearly impossible for competitors to copy or claim that position. Think of the Volvo brand name that has successfully claimed the "safety" (benefit) and "security" (value) positioning. Successfully claiming a position such as in the Volvo case is certainly not easy. Claiming a position explicitly and forcefully through advertising is needed. By being the first to explicitly claim a positioning, it's possible to preempt this positioning for the competition. Brand managers know that such positioning requires continuous investment in marketing communications. By assessing how the brand is perceived at the various levels we extend brand assessment beyond the traditional attribute level and are able to get information needed to create a sustainable positioning.

ADVERTISING STRATEGY DEVELOPMENT

Means-end chains also provide a powerful tool for advertising strategy development. First, respondents (or management) could be shown a series of ads and asked to rate them on the extent to which the ad depicts the brand as having the attributes and benefits as found in the means-end chain analy-

sis, and to what extent values are evoked or indicated in the ad. This will identify which positions are taken and which positions yet have to be claimed. The results of a means-end chain analysis and the assessment of the ads will provide creative executives and brand managers with a number of perceptual orientations (i.e., the means-end chains that are not, or not completely, claimed yet). This provides a powerful set of guidelines. Complete chains point to important perceptual orientations for the product and the consumer. In Exhibit 2, for example, the chain that links "low fat" to "good health," and that links "good health" to "fun and enjoyment" provides such a perceptual orientation. Chains like these offer guidance, but don't dictate the exact content and formulation of the advertising thereby allowing creative freedom while providing a framework for guidance and thinking. In addition, having information on what values consumers use in a particular product category may support media selection decisions.

MARKET SEGMENTATION

The links between attributes, benefits, and values may also serve as the basis for market segmentation. In many cases, for example in conjoint segmentation, the importance of attributes is used as a basis for segmentation. Other approaches, for example the Stanford VALS (Values And Life Styles) approach, developed by the Stanford Research Institute, use values as a basis for segmentation. Market segmentation based on means-end chains has the distinct advantage because it combines the strengths of product-specific (i.e., attribute-based segmentation) and consumer-specific (i.e., values-based) bases of segmentation by linking attributes, benefits, and values at the segment level.

In their 1999 *Journal of Marketing Research* article, Ter Hofstede, Steenkamp, and Wedel presented a procedure that enabled identifying market segments based on the strengths of the links between attributes, benefits, and values. This approach used data obtained through the Association Pattern Technique. A special formulation of a discrete binary choice model is proposed that incorporates elements of item response theory. This model has a number of advantages over existing alternatives (e.g., correspondence analysis and k-means cluster analysis) that can be summarized as:

- The model is a *mixture model* of binary choice, which identifies market segments that differ with respect to their means-end chain structures.
- The model formulates *probabilistic relations* between attributes, benefits, and values. These relationships are specified at the segment-level. Hence, the model differentiates between strong and weak links through estimates of the probability of a link within the identified segments.
- The model has been designed to accommodate *international market segmentation*. It corrects for differences in response tendencies, it takes into account international sampling problems through the utilization of a pseudo-maximum likelihood approach, and it allows segment-sizes to differ by country. The ability to correct for differences in

response tendencies and the ability to allow segment-size to differ across countries allows for the identification of truly international segments.

Thus, in sum, this model yields:

- Segment-specific strengths of the links between attributes, benefits, and values, which can be represented in segment-specific means-end maps (See Exhibit 2).
- Within-country estimate of the average likelihood of indicating a link (response tendency).
- Within-country estimate of the variance of the response tendencies.
- Segment-sizes per country.
- A country-specific statistic, called entropy measure, indicates how well consumers in that country fit the international segmentation scheme.

An example of the segment-specific strengths of the links between attributes, benefits, and values is shown in Exhibit 2. This was one of the four segments found in a pan-European study. Exhibit 2 shows not only which links between the various elements are statistically significant, but also allows identifying the strongest links. The links and their strength provide guidance for developing strategies of product development, brand positioning, and communication for specific segments. Different types of outcomes are possible. For example, in the study from which Exhibit 2 was derived, the following results were obtained.

- The means-end map in Exhibit 2 shows consumers in this segment are primarily focused on the links between a single benefit (i.e., health, and multiple values such as security, fun and enjoyment, and self-respect).
- In a second segment the authors found that consumers used multiple benefits for the realization of one core value: fun and enjoyment.
- In a third segment consumers showed many links between a series of yogurt attributes to a series of related health benefits. No values were linked to benefits in this segment.

In general, means-end chains (ladders) that appear in multiple segments imply opportunities for developing standardized products, supported by mass (unsegmented) communication. In addition, segments will have unique means-end chains that further point to specific product development opportunities and rich suggestions for positioning and advertising. To the extent that segments are truly international, great efficiencies in marketing effort can be obtained. It's well known that efficiencies of scale in marketing effort can be even larger than efficiencies of scale in production.

Exhibit 4 shows the segment sizes obtained from a global means-end chain study on light bulbs. This study covered more than 14 countries across four continents. We did find a global segment (segment 3), and we found multi-country segments (segments 1 and 2). The results shown have been disguised and are shown only for illustrative purposes. Exhibit 4 shows the proportion of people in the various countries falling into the identified global/multi-country segments. For example, 48% of the population of Costa Rica was found to be belonging to segment 1. Exhibit 4 shows that segment 1 is pre-dominantly present in South America and Asia. Segment 2 is mainly present in European countries, and segment 3 can be considered a global segment although more strongly present in Western countries. Different segments may have certain attribute-benefit-value chains in common, or they may have certain attributes, benefits, or values in common. However, the total of all-different attribute-benefit, benefit-value, and attribute-benefit-value relationships will be different for each of the segments so that the means-end chain maps will vary across segments.

By looking at the means-end chain map of the global segment we are able to derive ideas for a product that will receive global appeal and can be globally positioned. One of the global segments that we found was quite small in each of the included countries, but since it appeared in all countries its overall size was still substantial. This pointed to a global niche market. It turned out that this segment consisted of the most affluent buyers, and its consumers had the richest means-end structures. For the manufacturer this created many unique possibilities for developing specialized products that could be globally marketed with one global positioning. The efficiencies of scale in market-

EXHIBIT 4 Segment Sizes per Country

	Segment 1 South America/Asia	Segment 2 Europe	Segment 3 Global but stronger in Western countries	Total
Costa Rica	.48	.1	.42	1.00
Brazil	.90	.1	.09	1.00
Chile	.96	.1	.04	1.00
UK	.03	.47	.50	1.00
Germany	.08	.44	.48	1.00
France	.10	.3	.6	1.00
USA	.15	.2	.65	1.00
Japan	.75	.15	.1	1.00
India	.75	.1	.15	1.00
Malaysia	.65	.09	.26	1.00

Because of the confidentiality of this study, the results in the table are disguised by aggregating some of the segments.

ing provide a powerful way to decrease marketing costs and increase profits.

We have shown that the perceived linkages between attributes, benefits, values, and the modeling of these perceptions, provide marketers with a powerful research tool (i.e., means-end chain analysis). Means-end chain analysis has been shown to be successful in new product development, (global) brand positioning, advertising strategy development, and (international) market segmentation. Means-end chain analysis, as described in this article, can supplement approaches solely based on concrete attributes, such as conjoint analysis and discrete choice analysis. The two-stage data collection procedure and quantitative modeling approach also can supplement laddering approaches that solely make use of qualitative techniques. ●

ADDITIONAL READING

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