



LADDERING THEORY, METHOD, ANALYSIS, AND INTERPRETATION

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Personal values research in marketing has recently received a substantial amount of attention from both academics and practitioners. This more in-depth profiling of the consumer and his or her relationship to products offers potential not only for understanding the "cognitive" positionings of current products but also permits the development of positioning strategies for new products. Endorsing this more psychological view of the marketplace, Sheth (1983) suggests that to be comprehensive in marketing products in the 1980's both researchers and management are going to have to, if they have not already, adopt this consumer-based orientation rather than one that merely focuses on product characteristics.

The application of the personal values perspective to the marketing of consumer products can be classified into two theoretically grounded perspectives, "macro" representing sociology and "micro" representing psychology (Reynolds, 1985). The macro approach refers to *standard* survey research methodology combined with a classification scheme to categorize respondents into predetermined clusters or groups (e.g., VALS methodology of the Stanford Research Institute). Products and their positioning strategies are then directed to appeal to these general target groups, such as the Merrill Lynch solitary bull appealing to the achiever orientation whose desire is to send out and "get ahead of the pack" (Plummer, 1985).

Reynolds (1985) notes, though strong on face validity these rather general classifications fail to provide an understanding, specifically, of how the concrete aspects of the product fit into the consumer's life. As such, the macro survey approach only gives part of the answer, namely, the overall value orientation of target segments within the marketplace. Missing are the key defining components of a positioning strategy—the linkages between the product and the personally relevant role it has in the life of the consumer.

The more psychological perspective offered by the "micro" approach based upon Means-End Theory (Gutman 1982), specifically focuses on the linkages between the attributes that exist in products (the "means"), the consequences for the consumer provided by the attributes, and the personal values (the "ends") the consequences reinforce. The means-end perspective closely parallels the origin of attitude research represented by Expectancy-Value Theory (Rosenberg, 1956), which posits that consumer actions produce consequences and that consumers learn to associate particular consequences with particular product attributes they have reinforced through their buying behavior. The common premise, then, is that consumers learn to choose products containing attributes which are instrumental to achieving their desired consequences. Means-End Theory simply specifies the rationale underlying why consequences are important, namely, personal values.

The focus of this article is on detailing the specifics of the in-depth interviewing and analysis methodology, termed "laddering" (Gutman and Reynolds, 1979; Reynolds and Gutman, 1984a), for uncovering means-end hierarchies defined by these key elements and their linkages or connections. The combination of connected elements, or ladder, represents the linkage between the product and the perceptual process of consumers, which as pointed out previously, yields a more direct and thus more useful understanding of the consumer.

Laddering

Laddering refers to an in-depth, one-on-one interviewing technique used to develop an



understanding of how consumers translate the attributes of products into meaningful associations with respect to self, following Means-End Theory (Gutman, 1982). Laddering involves a tailored interviewing format using primarily a series of directed probes, typified by the “Why is that important to you?” question, with the express goal of determining sets of linkages between the key perceptual elements across the range of attributes (A), consequences (C), and values (V). These association networks, or ladders, referred to as perceptual orientations, represent combinations of elements that serve as the basis for distinguishing between and among products in a given product class.

It is these higher-order knowledge structures that we use to process information relative to solving problems (Abelson, 1981), which, in the consumer context, is represented by choice. Basically, distinctions at the different levels of abstraction, represented by the A-C-Vs, provide the consumer with more personally relevant ways in which products are grouped and categorized. Thus, the detailing and subsequent understanding of these higher level distinctions provides a perspective on how the product information is processed from what could be called a motivational perspective, in that the underlying reasons why an attribute or a consequence is important can be uncovered.

For example, the following ladder, starting with a basic distinction between types of snack chips, represents part of the data collection from a single subject in a salty-snack study:

- (V) self-esteem
I
- (C) better figure
I
- (C) don't get fat
I
- (C) eat less
I
- (A) strong taste
I
- (A) flavored chip

These elements were sequentially elicited from the respondent as a function of the laddering technique's ability to cause the respondent to think critically about the connections between the product's attributes and, in this case, her personal motivations.

The analysis of Laddering data such as this across respondents first involves summarizing the key elements by standard content-analysis procedures (Kassarjian, 1977), while bearing in mind the levels of abstraction, A-C-V, conceptualization. Then a summary table can be constructed representing the number of connections between the elements. From this summary table dominant connections can then be graphically represented in a tree diagram, termed a hierarchical value map (HVM). (This type of cognitive map, unlike those output from traditional factor analysis or multidimensional scaling methods, is structural in nature and represents the linkages or associations across levels of abstraction [attributes-consequences-values] without reference to specific brands.) Unfortunately, though basically accurate, this general description of; the analysis process has not been specific enough to permit first-time analysts (or their superiors) to feel comfortable with dealing with all the vagaries of qualitative data of this type. Thus, a step-by-step procedure, including both the analysis and the assessment of the resulting map, will be detailed by way of example later.

Interpretation of this type of qualitative, in-depth information permits an understanding of consumers' underlying personal motivations with respect to a given product class. Each unique pathway from an attribute to a value represents a possible perceptual orientation with respect to viewing the product category. Herein lies the opportunity to differentiate a specific brand, not by focusing on a product attribute, but rather by communicating how it delivers higher level consequences and ultimately how it is personally relevant, essentially creating an “image positioning.” This understanding typically serves as the basis for the development of advertising strategies, each representing a distinct “cognitive” positioning, which reinforces the various levels of abstraction for a given perceptual orientation (Olson and Reynolds, 1963; Reynolds and Gutman, 1984).



In sum, the express purpose of the interviewing process is to elicit attribute-consequence-value associations consumers have with respect to a product or service class. The general notion is to get the respondent to respond and then to react to that response. Thus, laddering consists of a series of directed probes based on mentioned distinctions initially obtained from perceived differences between and among specific brands of products or services. Again, after the initial distinction obtained by contrasting brands is elicited, all subsequent higher-level elements are not brand specific. The laddering results can be used to create an HVM summarizing all interviews across consumers, which is interpreted as representing dominant perceptual orientations, or “ways of thinking,” with respect to the product or service category.

Objectives

Since the introduction of the laddering methodology into the consumer research domain, numerous applications, both applied and academic, have been executed (Gutman, 1984; Gutman and Alden, 1984; Gutman and Reynolds, 1983; Gutman, Reynolds, and Fiedler, 1984; Olson and Reynolds, 1983; Reynolds and Gutman, 1984a; Reynolds and Gutman, 1984b; Reynolds and Jamieson, 1984). Again, the primary application has been to develop a cognitive hierarchical value map indicating the interrelation of the attributes, consequences, and personal values for a given product or service category.

Unfortunately, the term laddering in the marketing community has become a somewhat generic term representing merely a qualitative, in-depth interviewing process (Morgan, 1984), without reference to either its theoretical underpinnings (Gutman, 1982) or the rather critical distinction between the interviewing process and analytical methods used to derive meaning from the resulting data (Durgee, 1985). Not only have these critical distinctions been overlooked, but even the standard definition of laddering as an interviewing methodology, to date, has not been addressed in the academic literature. Given the value of this type of in-depth understanding of the consumer, in particular, the potential with respect to the specification of more accurate and appropriate positioning strategies, a comprehensive documentation of this research approach is needed.

Thus, it is the primary objective of this article to detail the interviewing techniques that pertain to laddering in order to provide a foundation for both its application as well as subsequent method evaluation. A secondary objective is to provide a detailed description of how the analysis of this specific type of qualitative data is performed. The third and final objective is to demonstrate how the laddering results are interpreted with respect to developing and understanding perceptual orientations and product positionings.

Interview Environment

General Considerations.

An interviewing environment must be created such that the respondents are not threatened and are thus willing to be introspective and look inside themselves for the underlying motivations behind their perceptions of a given product class. This process can be enhanced by suggesting in the introductory comments that there are no right or wrong answers, thus relaxing the respondent, and further reinforcing the notion that the entire purpose of the interview is simply to understand the ways in which the respondent sees this particular set of consumer products. Put simply, the respondent is positioned as the expert. The goal of the questioning is to understand the way in which the respondent sees the world, where the world is the product domain comprised of relevant actors, behaviors, and contexts. The approaches and techniques discussed in this article are designed to assist the respondent in critically examining the assumptions underlying their everyday commonplace behaviors. Wicker (1985) discusses how researchers might use some of these same devices in breaking out of their traditional modes of thinking.

Importantly, interviewers must position themselves as merely trained facilitators of this discovery process. In addition, due to the rather personal nature of the later probing process, it is advisable to create a slight sense of vulnerability on the part of the interviewer. This can be accomplished by initially stating that many of the questions may seem somewhat obvious and possibly even stupid, associating this predicament with the interviewing process, which requires the interviewer to follow certain specific guidelines.



Obviously, as with all qualitative research, the interviewer must maintain control of the interview, which is somewhat more difficult in this context due to the more abstract concepts that are the focus of the discussion. This can be best accomplished by minimizing the response options, in essence being as direct as possible with the questioning, while still following what appears to be an “unstructured” format. By continually asking the “*Why* is that important to you?” question, the interviewer reinforces the perception of being genuinely interested and thus tends to command the respect and control of the dialogue.

By creating a sense of involvement and caring in the interview, the interviewer is able to get below the respondent’s surface reasons and rationalizations to discover the more fundamental reasons underlying the respondent’s perceptions and behavior. Understanding the respondent involves putting aside all internal references and biases while putting oneself in the respondent’s place. It is critical that rapport be established before the actual in-depth probing is initiated as well as maintained during the course of the interview. Basically, the interviewer must instill confidence in the respondent so the opinions expressed are perceived as simply being recorded rather than judged.

Also critical to the interviewing process is the ability of the interviewer to identify the elements brought forth by the respondent in terms of the levels of abstraction framework. Thus, a thorough familiarity with the Means-End theory is essential.

Sensitive areas will frequently produce superficial responses created by the respondent to avoid introspection about the real reasons underlying the respondent’s behavior. A clinical sensitivity is further required of the interviewer to both identify and deal with these frequent and potentially most informative types of dialogue.

As in all interview situations, since the respondents will react directly in accordance with the interviewer’s reactions—both verbal and nonverbal—it is vital to make the respondent feel at ease. One should carefully avoid potentially antagonistic or aggressive actions. Moreover, to avoid any “interview demand characteristics,” nonverbal cues such as approval, disapproval, surprise or hostility, or implying rejection should be avoided. Put simply, the interviewer should be perceived as a very interested yet neutral recorder of information.

Laddering Methods

Eliciting Distinctions. Laddering probes begin with distinctions made by the individual respondent concerning perceived, meaningful differences between brands of products. Having made a distinction the interviewer first makes sure it is bipolar, requiring the respondent to specify each pole. The respondent is then asked which pole of the distinction is preferred. The preferred pole then serves as the basis for asking some version of the “*Why* is that important to you?” question. The following overview identifies three general methods of eliciting distinctions that have proven satisfactory. The interview outline generally includes at least two distinct methods of eliciting distinctions to make sure no key element is overlooked.

1. *Triadic Sorting* (Kelly, 1955).

Providing the respondent with sets of three products as in the Repertory Grid procedure is one way to elicit responses from a respondent. Following are instructions for a wine cooler study which used triads to elicit initial distinctions.

Instructions for Triads

You will be presented with five groups of three different wine coolers. For each group of three you will have the opportunity to tell me how you think about the differences among the coolers. For example, if you were given a group of three cars:

Lincoln Continental—

Mustang—Cadillac

you might say “car maker” as a way of thinking about them. Two are made by Ford and one is made by General Motors. Another way to think about them is size—big versus small. Of course, there are many different ways that you could think about the cars, for example:

- high styling versus ordinary styling
- economy versus luxury



- sporty versus traditional

There are no right or wrong answers. As I present you with each group, take a moment to think about the three wine coolers.

Specifically, I want you to tell me some important way in which two of the three wine coolers mentioned are the same and thereby different from the third. Again, when I show you the names of the three wine coolers, think of some overall way in which two of the coolers are the same and yet different from the third. If your response for one group of wine coolers is the same as for a previous group, try to think of another way in which they differ.

2. *Preference-Consumption Differences.*

Preference differences can also be a useful device for eliciting distinctions. Respondents, after providing a preference order for, say, brands of coolers, might be asked to tell why they prefer their most preferred brand to their second most preferred brand, or more simply to say why one particular brand is their most preferred (or second most preferred, least preferred, etc.) brand.

To illustrate:

You said your most preferred brand is California Cooler and your second most was Bartles and Jaymes. What is it, specifically, that makes California Cooler more desirable?

Along these same lines, one might ask about preference and usage and query instances where liked brands are used infrequently or less well-liked brands are used more frequently. This device worked well in a proprietary study of snack chips. Differences between what people like and what they actually used opened up the discussion to include strategies to limit or control the consumption of snacks.

3. *Differences by Occasion.*

In most cases it is desirable to present the respondent with a personally meaningful context within which to make the distinctions. This contributes to more important distinctions being elicited as respondents' distinctions are being examined in the context of the setting in which they naturally occur (Barker, 1968; Runkel and McGrath, 1972). Attention to the context of consumer behavior provides a more meaningful context for laddering to proceed. People do not use or consume products in general; they do so in particular contexts. A study done in the convenience restaurant category (Gutman, Reynolds, and Fiedler, 1984) used triads between various convenience restaurants as a starting point. It was soon discovered that the distinctions elicited represented such obvious physical characteristics of the places compared (namely, hamburgers versus chicken) that they did not permit movement to higher, more personally meaningful areas from this starting point.

Respondents were then questioned about their usage of various convenience restaurants and the occasion (day-part, who with, concomitant activities) in which they frequented them. Using this information to provide a relevant context relating to frequent usage of the category, respondents were given the same triads but with a context for making a comparison. For example, it might be suggested to a mother with young children that she has been out shopping with her children, and it being lunch time, she wants to stop for lunch on the way home. Three convenience restaurants could be compared for their suitability with respect to this usage situation. Respondents could respond to triads using their two or three most frequent usage occasions as a context for responding.

What is important is to provide a meaningful basis for the respondent to keep in mind when thinking about differences among the stimuli. In this manner their distinctions are more likely to lead to a meaningful consideration of outcomes accruing to the respondent, which relate to making distinctions among the products.

Selecting Key Distinctions to Ladder. Typically, a respondent can only mention 10 to 12 different distinctions for a given product category. Once a satisfactory number of distinctions have been mentioned, the interviewer has basically two options on how to select which ones will serve as the basis for building ladders. Either the interviewer can judgmentally select which



distinctions are to be used on the basis of prior knowledge of the category or with respect to the specific research issue at hand. Or, the interviewer can present a card with all the mentioned distinctions on it and have the respondent rate the relative importance of each, then select those with the highest ratings.

The Two Basic Problems of Laddering. Prior to the detailing of the specific interviewing techniques, two of the most common problems encountered in laddering and the general type of tactics required to counter the situation will be reviewed. An understanding of these basic issues will provide a necessary basis for learning the more detailed techniques to be presented later in the article.

1. *The Respondent Really Does Not “Know” the Answer.* When asked why a particular attribute or consequence is important to them, the respondent often cannot articulate a “ready” reason. This lack of previous thinking of the reason underlying why the lower level construct is important can be dealt with by asking what would happen if the attribute or consequence was not delivered. Essentially this is negative laddering. The “nonconscious” reason (preferred in the Mean-End approach to the psychoanalytic “subconscious”) is then typically discovered by the respondent imagining the negative, resulting from the absence of the given construct, and then relating that back to what must be delivered if that negative is to be avoided.

Another general class of probing to avoid blocks on the part of the respondent is to change or rephrase the question in a situational context, much like the more concrete method illustrated earlier for initially eliciting distinctions. By discussing the issue in this manner, an answer is typically “discovered” due to the ability to concretize the issue at hand and deal with specific circumstances.

2. *Issues That Become Too Sensitive.* As the respondent is taken through the laddering process, that is, moved upward through the levels of abstraction, the dynamics of the interview become more and more personal. Reaction to the continued probing “Why is that important to you?” question about sensitive issues can vary from “waffling” (redefining the question at an equal or lower level) to stating “I don’t know,” silence, or even formulating extraneous arguments as an attempt to talk around the issue. Also, the respondent can manifest avoidance behavior by attaching negative or adverse characteristics to the interviewing process or to the interviewer.

Basically, three techniques can be employed to deal with respondent blocks due to sensitive issues. The first involves moving the conversation into a third person format, creating a role-playing exercise. The second, and most dangerous option, is for the interviewer to reveal a relevant personal fact (typically fabricated) about him/herself that makes the respondent feel less inhibited by comparison. The third, and most common, is to make a note of the problem area and come back to the issue when other relevant information is uncovered later in the interview.

Techniques. Each of the following techniques will be illustrated by using one common product class, wine coolers, for purposes of simplicity. A short definition of each technique will be presented. Then verbatim transcriptions are shown to give a more complete example of the laddering process. Summary ladders are detailed to illustrate the content classification by level of abstraction (A/C/V). Note that each ladder is contained within the HVM depicted in Figure 1.

1. *Evoking the Situational Context* (*). Laddering works best when respondents are providing associations while thinking of a realistic occasion in which they would use the product. It is the person that is the focus of study, not the product. Therefore, it is essential to elicit from respondents the most relevant occasions for product consumption and to use these as the focus of the interview.

Interviewer: You indicated that you would be more likely to drink a wine cooler at a party on the weekend with friends, why is that?

Respondent: Well, wine coolers have *less alcohol* than a mixed drink and because they are so *filling* I tend to drink fewer and more slowly.

Interviewer: What is the benefit of having less alcohol when you are around your friends?

Respondent: I never really have thought about it. I don’t know.



Summary. The reader will no doubt notice the similarity of these techniques to other qualitative interviewing approaches. The purpose here has been to demonstrate their use in laddering and to show how the ladders *per se* emerge from the interviewer-respondent interaction.

After spending a fair amount of time on one ladder without closure to a higher level, it becomes necessary to either terminate further discussion or proceed on to another ladder and circle back later. If one attribute or consequence ceases to become mobile, it is of no benefit to continue the laddering process with it because time is limited. The more familiar the interviewer becomes with the techniques and procedures, the better the interviewer is able to judge if an outcome can be reached in the line of questioning. By moving on to another subject, the respondent is given time to think more about the issue. The respondent may have a block and the shift can sometimes resolve the problem.

The central idea is to keep the focus of the discussion on the person rather than on the product or service. This is not an easy task because typically at some point the respondent realizes that the product seems to have disappeared from the conversation. Unfortunately, there are situations where techniques and procedures are unable to produce a means-ends chain. The respondent may be inarticulate or simply unwilling to answer. It also takes a length of time for the interviewer to test all the techniques and develop a personal style that can produce ladders. As with any qualitative technique experience becomes the key.

Typically, two or three ladders can be obtained from roughly three-fourths of the respondents interviewed. Approximately one-fourth of the respondents, depending on the level of involvement in the product class, cannot go beyond one ladder. The time required from distinctions to final ladders varies substantially, of course, but 60 to 75 minutes represents a typical standard.

Analysis

Content Analysis. As over-viewed earlier, the initial task of the analysis is to content-analyze all of the elements from the ladders. The first step is to record the entire set of ladders across respondents on a separate coding form. Having inspected them for completeness and having developed an overall sense of the types of elements elicited, the next step is to develop a set of summary codes that reflect everything that was mentioned. This is done by first classifying all responses into the three basic A/C/V levels and then further breaking down all responses into individual summary codes (see Table I for wine-cooler codes).

Obviously, one wants to achieve broad enough categories of meaning to get replications of more than one respondent saying one element leads to another. Yet, if the coding is too broad, too much meaning is lost. The key to producing consistency in this stage, as in all content analysis, is reliability checks across multiple coders.

Importantly, the goal at this level of the analysis is to focus on meanings central to the purpose of the study, remembering that it is the relationships between the elements that are the focus of interest, not the elements themselves. For example, “avoids the negatives of alcohol” in Figure 1 is a summarization of several more detailed elements (namely, not too fired, not too drunk, don’t say dumb things, and don’t get numb). If all those separate elements were given separate codes it is likely that none of the relations between them and other elements would have very high frequencies, and they would not appear in the HVM.

Once the master codes are finalized, numbers are assigned to each. These numbers are then used to score each element in each ladder producing a matrix with rows representing an individual respondent’s ladder (one respondent can have multiple ladders and thus multiple rows), with the sequential elements within the ladder corresponding to the consecutive column designations. Thus the number of columns in the matrix corresponds to the number of elements in the longest ladder plus any identification or demographic codes. (See the Appendix for the hypothetical score matrix representing one ladder for 67 respondents from which the HVM in Figure 1 was constructed.)

It is this “crossing over” from the qualitative nature of the interviews to the quantitative way of dealing with the information obtained that is one of the *unique* aspects of laddering and clearly the one that sets it apart from other qualitative methods. This summary score matrix, then, serves as the basis for determining the dominant pathways or connections between the key elements as well as providing the ability to summarize by subgroup (e.g., men only).



Table 1
Summary Content Codes for Hypothetical Wine Cooler Example

	Values
(20)	Accomplishment
(21)	Family
(22)	Belonging
(23)	Self-esteem

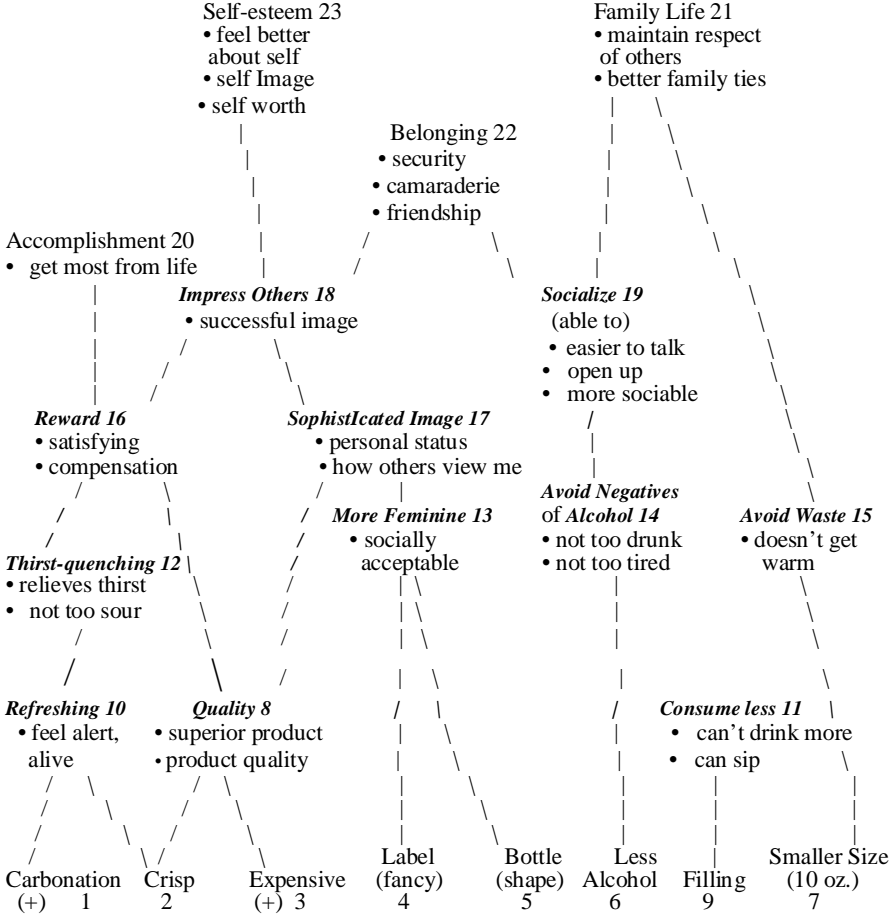
	Consequences
8)	Quality
9)	Filling
(10)	Refreshing
(11)	Consume less
(12)	Thirst-quenching
(13)	More feminine
(14)	Avoid negatives
(15)	Avoid waste
(16)	Reward
(17)	Sophisticated
(18)	Impress others
(19)	Socialize

	Attributes
1)	Carbonation
2)	Crisp
3)	Expensive
4)	Label
5)	Bottle shape
6)	Less alcohol
7)	Smaller

The Implication Matrix. Two research issues remain; constructing hierarchical maps to represent respondents' ladders in the aggregate; and determining the dominant perceptual segments represented in the overall map of aggregate relations. To accomplish this, the next step is the straightforward one of constructing a matrix which displays the number of times each element leads to each other element (operationally defined at this level as which elements in a given row precede other elements in the same row). Such a matrix will be a square matrix with a size reflecting the number of elements one is trying to map, usually between 30 and 50. Two types of relations may be represented in this matrix: direct relations and indirect relations.



Hypothetical Hierarchical Value Map of Wine Cooler Category



Direct relations refer to implicative relations among adjacent elements. The designations of (A) through (E) for the elements refer simply to the sequential order within the ladder. That is, given our wine cooler example:

- Belonging (E)
- able to socialize (D)
- avoid negatives of alcohol (C)
- consume less (B)
- filling (A)

The A-B (“filling—consume less”) relation is a direct one as is B-C, C-D, and D-E. However, within any given ladder there are many more indirect relations, A-C, A-D, A-E, B-D, and so forth. It is useful to examine both types of relations in determining what paths are dominant in an aggregate map of relationships among elements. Without examining indirect relations, a situation might exist where there are many paths by which two elements may be indirectly connected but where none of the paths are represented enough times to represent a significant connection. For example, there may be other paths by which “avoids negatives of alcohol” leads to “belonging.” Nevertheless, it is helpful to keep track of the number of times “avoids negatives of alcohol” ultimately leads to “belonging” when examining the strength of ladders as derived from the aggregate matrix of relations.

Another option in constructing the overall matrix of relations among elements is whether to count each mention of a relationship among elements that an individual respondent makes or to count a relation only once for each respondent, no matter how many times each respondent mentions it. Given the previous ladder as an example, if “filling —consumes less” leads to



several higher level associations for a given individual, do you count that indirect relation as many times as it occurs, or just once per respondent? The significance of an element is in part a function of the number of connections it has with other elements, which argues for counting all mentions, but it does distort the construction of the map where there are surprisingly few (to those not familiar with this research) connections between elements in the overall matrix. Often, of all the cells having any relations, only one-half will be mentioned by as many as three respondents.

Table 2 presents the row-column frequency matrix indicating the number of times directly and indirectly all row elements lead to all column elements. The numbers are expressed in fractional form with direct relations to the left of the decimal and indirect relations to the right of the decimal. Thus “carbonation” (element 1) leads to “thirst-quenching” (element 12) four times directly and six times indirectly. More precisely, this means that four respondents said carbonation directly leads to thirst-quenching, whereas two respondents sequentially related the two elements with another element in between.

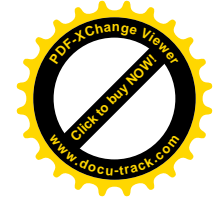
Constructing the Hierarchical Value Map. In filling in the implication matrix, individual respondent’s ladders are decomposed into their direct and indirect components (see Table 2). In constructing the HVM, “chains” have to be reconstructed from the aggregate data. To avoid confusion, the term “ladders” will refer to the elicitations from individual respondents; the term “chains” will be used in reference to sequences of elements which emerge from the aggregate implication matrix.

To construct a HVM from the matrix of aggregate relations, one begins by considering adjacent relations, that is, if $A \rightarrow B$ and $B \rightarrow C$ and $C \rightarrow D$, then a chain A-B-C-D is formed. There doesn’t necessarily have to be an individual with an A-B-C-V ladder for an A-B-C-D chain to emerge from the analysis. A HVM is gradually built up by connecting all the chains that are formed by considering the linkages in the large matrix of relations among elements. The most typical approach is to try to map all relations above several different cutoff levels (usually from 3 to 5 relations, given a sample of 50 to 60 individuals). The use of multiple cutoffs permits the researcher to evaluate several solutions, choosing the one that appear; to be the most informative and most stable set of relations. It is typical that a cutoff of 4 relations with 50 respondents and 125 ladders will account for as many as two-thirds of all relations among elements. Indeed, the number of relations mapped in relation to the number of relations in the square

Table 2
Summary Implication Matrix*

	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 Carbonation	1.00		10.00		4.06				.01	.14		.04			.06	.04
2 Crisp	3.00		4.00		.04				.04	.03	.04	.01			.07	
3 Expensive	12.00								2.04	1.01	1.09		1.06		.05	.05
4 Label	2.00					2.02				2.04	.02		.01		.02	.03
5 Bottle shape	1.00	1.00			2.02					1.03					.02	.03
6 Less alcohol		1.00			1.00		5.00		.01		.01	1.01		.04	.01	
7 Smaller				1.00			.01	3.00				.01		.02	.01	
8 Quality						3.00		1.00	4.00	4.03	4.04	.01	3.02		.09	.04
9 Filling				4.00			.04						1.03		.03	.02
10 Refreshing					10.00	1.00			5.10	.01	.06		.04		.05	.02
11 Consume less							5.00					.04		.02	.03	
12 Thirst-quenching									14.00		.08		.06		.04	.04
13 More feminine										7.00	.02				1.03	.04
14 Avoid negative											1.00	5.00		4.01	.04	
15 Avoid waste														2.00		
16 Reward											11.00		8.00		.06	1.05
17 Sophisticated											4.00	1.00	1.00		4.02	5.03
18 Impress													1.00		10.00	9.00
19 Socialize														3.00	5.00	
20 Accomplishment																
21 Family																
22 Belonging																
23 Self-esteem																

* No relations exist between the attribute elements.



implication matrix can be used as an index of the ability of the map to express the aggregate relationships. There are (naturally enough) a tremendous number of empty cells and quite a few relations which are mentioned only once. Again, in establishing a cutoff level, one may count only the direct linkages in any cell or one may count the total number of linkages, direct or indirect,

To actually construct a HVM from the series of connected pairs, one must literally build up the map from the chains extracted from the matrix of implicative relations. Considerable *ingenuity* is needed for this task, with the only guideline being that one should try at all costs to avoid crossing lines. This discipline provides a coherence to the map and adds considerably to its interpretability. The criteria for evaluating the ability of the overall map to represent the data is to assess the percentage of all relations among elements accounted for by the mapped elements. The reader will note that Figure 1 also contains both the significant direct and indirect relations among adjacent elements.

Before constructing the HVM from the data in Table 2, it is necessary to point out the types of relations which might exist among elements. Five types of relations are of note:

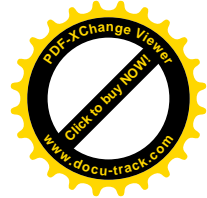
- A-D Elements mapped as *adjacent* which have a high number of *direct* relations.
- N-D Elements mapped as *nonadjacent* which have a high number of *direct* relations.
- A-I *Adjacent* elements which have a high number of *indirect* relations but a low number of direct relations.
- N-I *Nonadjacent* elements which have a low, non-zero number of direct relations but a high number of *indirect* relations.
- N-O *Nonadjacent* elements which have a low (or *zero*) number of indirect relations.

An illustration of these five types will help make clear the consideration process required in the construction of the map.

The first type of relationship, A-D, is the most common and represents the standard basis typically used in constructing the map. However, even when only the strong pairwise linkages are summarized, a certain degree of simplification can be gained from folding in consistent elements. For example, 10 respondents directly associated “carbonation” (1) with “refreshing” (10) producing a strong linkage. And, “carbonation” (1) and “thirst— quenching” (12) have four direct relations and six indirect relations producing a separate yet related linkage. In this case, one option would be to map two lines, 1-10 and 1-12. Another option which permits essentially the same interpretation is to map 1-10-12 in which both are embedded. In effect the “carbonation-thirst-quenching” (1-12) relation is a “N-D” type as described above, because these elements are mapped nonadjacently even though they have a high number of direct relations.

The possibility exists that some relations would not be considered to be positioned adjacently because of a low number of direct relations, yet because of a high number of indirect relations this positioning appears reasonable (A-I). To illustrate, “fancy label” (4) and “bottle shape” (5) are each linked directly to “more feminine” (13) twice, which is below the cutoff value chosen to construct the HVM. However, both elements have two indirect relations with “more feminine” in addition to their two direct relations. It would seem reasonable to position both elements adjacently to “more feminine,” omitting the element or elements which come between them and “more feminine.” In the case where there are a number of diffuse paths between two elements such that no path is dominant, as was rather simply demonstrated here, it is often useful to omit the minor relations and just map the dominant path.

If a chain is representative of several individuals’ ladders, the elements in that chain will be characterized by a high number of indirect relations among nonadjacent relations—although such nonadjacent elements will not necessarily have any direct relations (the “N-I” relation). This is the type of relationship which characterizes a Guttman scale. For example, “reward” (16) leads to “self-esteem” (23) one time directly, but five times indirectly. If “reward” did not ultimately lead to “self-esteem,” even though it does lead to “impress others” (18), and “impress



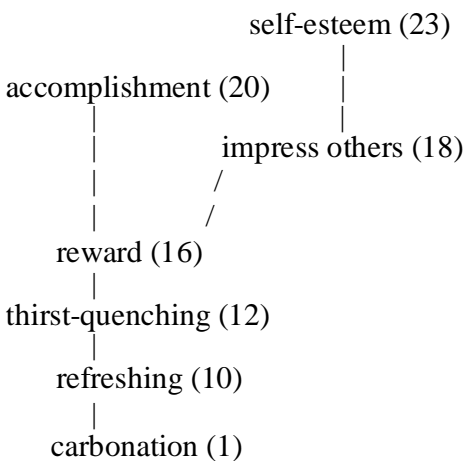
others” leads to “self-esteem,” we would certainly not characterize the “reward-impress others-self-esteem” chain (16-18-23) ~s a strong one. Thus, the “N-I” relations, even though they are not plotted, are important determinants of the quality of the chains depicted in the HVM.

The last category of relations, nonadjacent relations which have low or no indirect or direct relations (N-O), deserves careful consideration because of an artifact in the way the HVM is constructed. As an example, “crisp” (2) does not appear in any respondent’s ladder with either “accomplishment” (20) or “self-esteem” (23); however, it does have seven indirect linkages with “belonging” (22). The common aspects of the “carbonation” (1) path and the “crisp” path account for the HVM being drawn in this manner.

In constructing the HVM in Figure 1 from the data in Table 2, the most efficient way is ~o start in the first row for which there is a value at or above the arbitrary cutoff level you have chosen. Using a cutoff of 4, the first significant value is “carbonation— refreshing” (1, 10) with a value of 10.00 indicating 10 direct relations and 0 indirect relations between these two elements. Next, one would move to the tenth row to find the first value at or exceeding the cutoff value. It can be seen in Table 2 that “thirst quenching” (column 12) is the first significant value. Thus, the chain has grown to “1-10-12.” Continuing in the same manner the chain would next extend to “reward” (1-10-12-16), then to include “impress others” (1-10-12-16-18), and, lastly, to include “belonging” (1-10-12-16-18-22).

Having reached the end of the chain, one goes back to the beginning to see if there are other significant relations in the same rows of the matrix which already have been inspected. For example, inspecting the first row indicates that “carbonation” is connected to “thirst-quenching,” “reward,” and “impress others”—all elements which are already included in the chain. In addition, “carbonation” is linked to “accomplishment” and “self—esteem” (20 and 23). A similar pattern will be observed when links with “thirst-quenching” (12) are inspected.

However, when “reward” (16) is inspected, it should be noted that moving across to column 20 in row 16, another significant relation is found. Thus another chain with common links to the original chain is plotted (1-10-12-16-20). And, “impress others” (18) also is linked to “self-esteem” (23), producing the family of chains shown below:



The next step is to move to the second row and start the process over again. It will be seen that “crisp” has one set of connections which are identical to “carbonation” and thus could be plotted (and is so plotted in Figure 1) next to “carbonation.” “Crisp” also has connections to “quality” (8), and thus a new chain is started. It can be seen by inspecting Table 2 that “expensive” (3) has 12 direct connections with “quality.” Starting with a “3-8” chain, “quality” (8) is connected to “reward” (16) four times, so we can include a line between “quality” and “reward,” thus yielding a “3-8-16” chain. “Quality” also leads to “sophisticated image” (17) four times directly and four times indirectly for a total of eight connections; therefore, we can connect these two elements in the HVM. In scanning row 17 of Table 2 it can be seen that “sophisticated image” has 11 direct linkages with “impress others,” so that these two elements can be connected in the HVM.

In a similar fashion, “fancy label” and “bottle shape” (4 and 5) have two direct and two direct



linkages with “more feminine” (13), and that “more feminine” has seven direct linkages with “sophisticated image” (17). Examination of rows 6, 7, 9, 11, and 14 (less alcohol, smaller size, filling, consume less, and avoid negatives of alcohol) have linkages only with “able to socialize” (element 19). Thus in Figure 1, it is only “able to socialize” that links up with any elements on the left side of the HVM. It is only at the values level, “belonging,” that the right side of the map is connected to the elements of the left side.

The goal of mapping these hierarchical relations is to interconnect all the meaningful chains in a map in which all relations are plotted with no crossing lines (which in almost all studies is possible). This results in a map which includes all relevant relations and yet is easy to read and interpret. The HVM in Figure 1 accounts for 94.5 percent of all the direct and indirect relations contained in the 67 ladders from which it was developed.

Having plotted all relations, it is desirable to look at all elements in the map in terms of the numbers of direct and indirect relations they have with other elements, both in terms of other elements leading into them and in terms of their connections to higher order elements. Table 3 presents the sums of the direct and indirect relations for each element. For example, “belonging” (22), at the values level, is the element which has the most elements leading to it. Thus, it might be seen as the core value in terms of importance to the product class. In addition, three other elements are noteworthy for having a high frequency of elements leading from them as well as into them, namely, “reward” (16), “impress others” (18), and “quality” (8). Indeed, the quality — > reward —> impress others —> belonging chain can be seen to have a high number of relations among its respective elements.

Determining Dominant Perceptual Orientations. Once a hierarchical value map is constructed, one typically considers any pathway from bottom to top as a potential chain representing a perceptual orientation. For example, in Figure 1 the total number of unique pathways between elements at the attribute level and elements at the values

Table 3
Summary of Direct (XX) and Indirect (YY) Relations for Each Element (XX.YY)

Code	To	From
1	15.35	0.00
2	7.23	0.00
3	17.30	0.00
4	6.14	0.00
5	5.10	0.00
6	6.60	0.00
7	4.05	0.00
8	19.23	9.00
9	5.12	0.00
10	16.26	16.00
11	5.09	5.00
12	14.22	15.00
13	6.09	6.04
14	10.05	10.05
15	2.00	4.01
16	20.11	25.33
17	15.05	15.15
18	20.00	21.40
19	8.00	8.11
20	0.00	14.25
21	0.00	9.12
22	0.00	20.56
23	0.00	15.37

level is 23, any or all of which warrant consideration. To more fully understand the strength of the chains, the intra-chain relations can be summarized and evaluated. The portions within Table 4 demonstrate this process. Table 4 includes detailing of the relations for four chains within



and “thirst-quenching” have four and six indirect linkages, respectively, and “reward” has eight direct linkages with “accomplishment.” In all, the chain accounts for 51 direct relations among elements and 46 indirect relations.

Part B of Table 4 shows the “carbonation— self-esteem” chain. This chain accounts for more direct relations than does the chain in Part A of Table 4. It is also longer, having more elements in it. In general, the linkages among elements at the bottom of this chain have fewer linkages with the elements at the top of the chain. “Refreshing” has only two indirect linkages with “self-esteem.”

In Part C of Table 4, a chain is shown that has fewer elements and accounts for far fewer relations. It can also be seen that “less alcohol” is not strongly associated with “socialize” or “belonging.” Such a weakness, as indicated by the lack of associations respondents are making between these elements, might represent an opportunity for a campaign to strengthen this tie (in the beer category this indeed is what the L.A. brand has done in its advertising in the low-alcohol segment of that category).

Part D of Table 4 shows that, whereas “bottle shape” and “more feminine” are linked to “sophisticated image,” there is not a strong association with “impress others.” This may suggest more of an internal orientation while the “expensive— quality” association with “impress others” is quite strong and may be reflective of an external orientation.

Applications

Accordingly, consideration can now be made of the options available to the researcher who uses the laddering approach and is faced with the challenge of applying the results to the solution of some marketing problem. The HVM obtained through the laddering procedure offers several particularly valuable types of information. It can serve as a basis for: (1) segmenting consumers — with respect to their values orientations for a product class or brand; (2) for assessing brands or products in a fashion similar to the use of more traditional ratings; (3) evaluating competitive advertising; and (4) as a basis for developing advertising strategies.

Segmentation. The goal of segmentation schemes is to classify respondents with respect to some aspect of their behavior, attitudes, or dispositions in a way that helps us understand them as consumers. The values orientations in a person’s ladder may serve as the basis for classification, or the researcher may group these values at a still higher level. It is also possible to include attribute-value connections in the segmentation scheme. Once a segmentation scheme has been developed, respondents’ brand-consumption behavior or reactions to advertising may be assessed.

Table 5 includes a summary by attribute and value for respondents whose ladders extended to the values level. “Belonging” was included in the most ladders, with “self-esteem,” “accomplishment,” and “family life” following in decreasing order of frequency (nine ladders did not reach the values level and thus are omitted from this analysis). The values can be grouped at a higher level using “achievement” and “social” as higher-level value orientations. An equal number of subjects fall into each of these two values-level orientations.

One could also include the attribute-value connections in the segmentation scheme, assessing them at the levels used in the HVM or in grouping them as shown in Table 5 into marketing-mix components. In this example, the attributes “less alcohol” and “filling” are linked to social values, whereas “price” is tied more closely to achievement values. “Packaging” attributes are equally divided, although “size” is identified with social values, not achievement values.



Table 5

Ladder Frequencies for Attribute-Value Linkage

	Achievement		Total (29)	Social		Total (29)
	Accomplishment (14)	Self-esteem (15)		Belonging (20)	Family life (9)	
Physical attributes	6	4	10	10	7	17
Carbonation	6	4	10	0	0	0
Crisp	0	0	0	7	0	7
Less alcohol	0	0	0	1	4	5
Filling	0	0	0	2	3	5
Price	7	5	12	5	0	5
Packaging	1	6	7	5	2	7
Label	1	3	4	2	0	2
Shape	0	3	3	2	0	2
Size	0	0	0	1	2	3

Nine ladders did not reach the values level.

Respondent segments could be studied for brand-consumption differences and preferences and advertising reactions evaluated. These segmentation bases could be translated into larger scale research on brand usage and preference and advertising theme evaluation. That is, the findings from this research could become the basis for more traditional paper-and-pencil methods that more readily lend themselves to large-scale data collection.

Product/Brand Assessment Evaluation of a product or brand is another important marketing question for which the results of laddering research may be of use. It is advantageous to allow respondents to use their own frame of reference when providing their evaluations of a brand rather than some researcher-supplied attributes that may not be the subject's own. For many product categories or subclasses of categories, respondents are much more likely to make preference judgments at the consequence and values levels than at the attribute level (Reynolds, Gutman, and Fiedler, 1984; Reynolds and Jamieson, 1984).

A statistical approach, Cognitive Differentiation Analysis (CDA), has been developed (Reynolds, 1983; Reynolds and Sutrick, 1986) to enable researchers to determine the level of abstraction (attribute, consequence, or value) at which preference judgments are being made by consumers. This approach provides indices indicating the discrimination power of each of the descriptors with respect to a set of pairwise discrimination between stimuli. To collect data for this type of analysis, respondents are asked to sort or rate pairwise combinations of brands in the relevant product class according to their respective preference distance. Respondents are also asked to provide information on the extent to which the brands possess or satisfy the elements at each level of abstraction in their ladders. One appealing feature of this analytical method is that it only requires ordinal data—no interval scale properties are necessary.

This information not only allows a determination of the levels within a respondent's ladder at which preference is determined, but the overall index of the ladder allows the researcher to determine each respondent's optimal ladder. Results from CDA analyses have shown that people are not particularly good at recognizing their own most discriminating way of evaluating the brands within a product class, nor do they recognize the level of abstraction at which their judgments are being made (see Reynolds [1985] for a detailed summary of the method and the results). This suggests that researchers ought to be suspicious of self-report rating systems inherent in many attitude models and consumer surveys.

The output from laddering, coupled with the unique analytical procedures it allows, provides researchers with a better understanding of the basis upon which consumers make distinctions between competing brands. Further, it provides a basis for developing a product space that is truly aligned with preference, as such spatial maps may be obtained using different levels of abstraction as a frame of reference. Too often product-planning decisions are based on discrimination differences and not preference differences. Consumers, given the means-end framework, are assumed to have multiple orientations that are triggered by a given occasional context (i.e., combination of situation and actors). Thus, if the means-end perspective is valid, preference would in most cases be multidimensional in nature. Therefore, the laddering approach provides a unique opportunity to understand the product class in the consumer's own context. This would seem to provide a good start for making decisions about products and brands.

Assessing **Advertising**. Another important use for the results obtained through laddering research is to uncover respondents' evaluations of advertising. Advertising is viewed differently

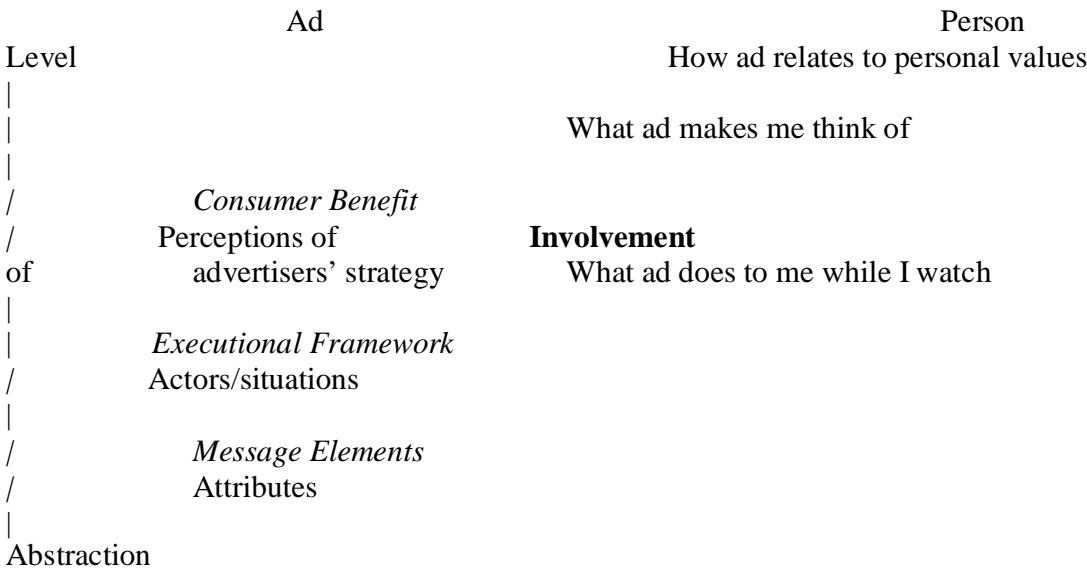


when perceived in the context of different levels of abstraction (attribute, consequence, and value). To accomplish this, after laddering, when respondents are sensitized to the complete range of their internal feelings about a product class, they are shown a series of ads and asked to rate them on the extent to which the ad communicates at each level and to provide some comment on why it does or does not communicate at that level.

Analysis of these comments leads to the construction of a series of statements reflecting their content. To further broaden the coverage of these statements, a model depicting an advertising research paradigm can be used (see Figure 2). This model (Reynolds and Trivedi) indicates the components of an ad in relation to levels of involvement the consumer may have with the ad. Fifty to sixty statements can be developed covering the advertising's message elements, executional frameworks, perceptions of the advertisers' strategy and involvement with the ad, involvement of the ad with the respondent's personal life, and the extent to which the ad taps into values at a personal level.

These statements can then be used to assess the relative communication at the various levels.

Figure 2
Advertising Research Paradigm Based on Means-End Chain Model and Hierarchical Value Structure Analysis





This can be accomplished, after a sensitizing laddering procedure, by showing ads and asking “if the following statement applies” to each respective ad. This process can be operationalized by a game-board approach (Gutman and Reynolds, 1987) where a triangle is provided to the respondent with each vertex representing a separate ad. The use of three ads is suggested as an attempt to avoid the respondent from becoming too much of an advertising expert. As each statement is read the respondent can record the applicability to one ad (recording the statement code at the respective vertex), or two ads (recording on the connecting line), or all three (recording in the middle of the triangle). If the statement does not apply to any of the three ads, a “not applicable” response alternative is also provided.

The resulting percentage endorsement of each statement for each advertisement provides a good indication of how the ad is viewed and the level at which the ad communicates. That is, some ads may communicate well at the attribute level but not at the consequence or values level. Conversely, other ads may communicate well at the values level but be weak at the attribute level. An effective ad in this context is defined as one which communicates across all levels, linking attributes to benefits and to personal values which often drive consumer decision-making.

Developing Advertising Strategy. Perhaps the major benefit of laddering is the insight it provides to advertising strategists. A definition of advertising communications which will permit advertising strategies to be developed from the HVM will be briefly discussed (see Reynolds and Gutman [1984] for a fuller discussion and illustration). The levels of abstraction framework, which underlie the formation of means-end chains, provide a basis for coordinating the results of laddering to advertising strategy development. That is, the perceptual constructs depicted in the HVM can be used as the basis for developing a strategy that will appeal to consumers with that particular orientation toward the product class.

Figure 3 shows the Means-Ends Conceptualization of Components of Advertising Strategy (MECCAS) in terms of five broad characteristics that correspond to the levels of abstraction conceptualization (Olson and Reynolds, 1983; Reynolds and Gutman, 1984). “Driving force,” “consumer benefit,” and “message elements” are directly coordinated to the values, consequences, and attributes levels of the means-end model. The executional framework relates to the scenario for the advertisement—the “vehicle” by which the value orientation is to be communicated. The specification of this tone for the advertisement is a critical aspect of strategy specification. It comes from an overall understanding of the way of perceiving the product class as indicated by a particular means-end path. As is apparent with this specification, added guidance can be given to creatives without infringing on their creativity.

The remaining and key aspect of advertising strategy specification is the concept of “leverage point.” Having all the other elements in mind, it is finally necessary to specify the manner by which the values-level focus will be activated for the advertisement, that is, how the values considerations in the advertisement are connected to the specific features of the advertisement. (Examples of advertising strategy specifications are not provided—the references cited above provide ample illustrations.)

Nonetheless, the advantages of being able to specify advertising strategy for all relevant parties—management, creatives, and researchers—can be reviewed. The strategy statement itself becomes a concrete way of specifying advertising strategy alternatives. These alternatives are linked to the chains which underlie them, and thus a direct connection exists between the strategy and the perceptual orientation of the consumer. Furthermore, the MECCAS model coupled with the results from the HVM facilitate the development of several (truly different) strategies for comparison and review. Lastly, when a strategy has been selected for execution, the MECCAS model provides for a better common understanding of what the final product should be. This obviously leads to the use of the MECCAS specification as the basis for evaluating the effectiveness of the advertisement.



Figure 3 Means-Ends Conceptualization of Components of Advertising Strategy

Driving Force The value orientation of the strategy: the end-level to be focused on in the advertising.

Leverage Point -The manner by which the advertising will ‘tap into,’ reach, or activate the value or end-level of focus; the specific key way in which the value is linked to the specific features of the advertising.

Executional Framework The overall scenario or action plot, plus the details of the advertising execution. The executional framework provides the “vehicle” by which the value orientation is communicated; especially the gestalt of the advertisement; its overall tone and style.

Consumer Benefit The major positive consequences for the consumer that are explicitly communicated. verbally or visually, in the advertising.

Message Elements The specific attributes, consequences, or features about the product that are communicated verbally or visually.

Summary

This article reviews and illustrates the technique of laddering both as an interviewing process and through subsequent analysis. It demonstrates the technique’s usefulness in developing an understanding of how consumers translate the attributes of products into meaningful associations with respect to self-defining attitudes and values. The underlying theory behind the method, Means-End Theory, is discussed, as well as the elements of the means-end chains representing the cognitive levels of abstraction: attributes, consequences, and values.

The interview environment necessary for laddering to take place is given special attention along with the particular probing techniques employed in the qualitative process of laddering. Basically, the respondent has to feel as if on a voyage of self-discovery and that the object of the trip is to revisit everyday, commonplace experiences and examine the assumptions and desires driving seemingly simple choice behavior.

Several specific interviewing devices are described for eliciting product distinctions from respondents that serve to initiate the laddering process, among them the use of triads, exploring preference-consumption differences, and examining how consumption differs by occasion. The value of the occasional context, providing a concrete frame of reference to generate meaningful distinctions, is emphasized. Other techniques ~or moving the laddering interview upward when blocking occurs are also discussed and illustrated.

The analysis of laddering data is detailed noting the critical difference between this methodology and more traditional qualitative research, namely, the primary output being (structurally) quantitative in nature in the form of a hierarchical value map (HVM). In this vein, the content analysis of ladder elements is positioned as an important step in this “crossing over” from the qualitative to quantitative.

Detailed attention is paid to the construction of the HVM from the implication matrix, which represents the number of direct and indirect linkages between the qualitative concepts elicited during the laddering process. Five types of relations among elements are discussed, and their respective implications for constructing a HVM are illustrated.

Having the HVM to work with, the next step in transforming the output of laddering into useful information for marketing decision-making is to determine the dominant perceptual orientations. That is, all potential pathways (connections among elements) must be examined to determine their relative strength of association. Two primary considerations are specified with



examples, namely, the number of relations among elements within the chain and the extent to which all elements are interconnected.

Lastly, the issue of applications is discussed referencing the key research problems of perceptual segmentation, determining the importance weights of the various components of the ladders, and the development and subsequent assessment of advertising from this value perspective. All of the application areas have in common that they depend on laddering's ability to draw out from the respondent the true basis for any meaningful connection they have to the product class.

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