



## Note on the Voice of the Customer

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We address marketing through the 4Ps and the 5Cs. The 4Ps tell us that, to achieve our marketing goals, we must coordinate the tactics of product, promotion, price, and place. How we select each of the 4Ps depends upon data. In particular, we must understand the 5Cs of company skills, customers, competition, collaborators and context.

In this note I address how we get information about customers, who they are and what they want. This information is critically important to design products that customers want to buy, to design advertising and other promotion that communicate those aspects of products and services that are important to customers, and to design the right pricing strategy so that customers feel they are getting value for the price paid. Although we call the methods “voice of the customer (VOC),” they have also been used to understand the wants and needs of an organization (voice of the em-

ployee) and the wants and needs of both the channel of distribution and the upstream supply chain (voice of the collaborators).

The VOC is a hierarchical set of "customer needs" where each need (or set of needs) has an assigned priority which indicates its importance to the customer. Our first use of the VOC in 15.810 was in positioning. By understanding the dimensions of competition, we were able to identify how to differentiate our brands to achieve "local monopolies." We saw another use of the VOC in the House of Quality, where product characteristics were designed to satisfy customer needs. Using the VOC is important for many cases in 15.810. Southwest Airlines 1993 is best analyzed if you first list customer needs, and the importance of those needs, by customer segment. We will see the VOC again in branding, e.g., the Keller, Sternthal, and Tybout reading, where the brand strategy is set to communicate both points of difference and points of parity. The VOC also helps us understand the brand associations that are critical to good advertising copy. Even in one of our "channels" cases, Aravind, we will want to know the needs of Aravind's customers.

This note is a brief summary of the material contained in a *Marketing Science* article published by Abbie Griffin and John Hauser.<sup>1</sup> Abbie is a former 15.810 TA who is now a professor at the University of Illinois and editor of the *Journal of Product Innovation Management*. We begin with a description of the goal – a definition of the voice of the customer.

## **The Voice of the Customer**

There are four aspects of the VOC – customer needs, a hierarchy, priorities, and segmentation.

### **Customer needs**

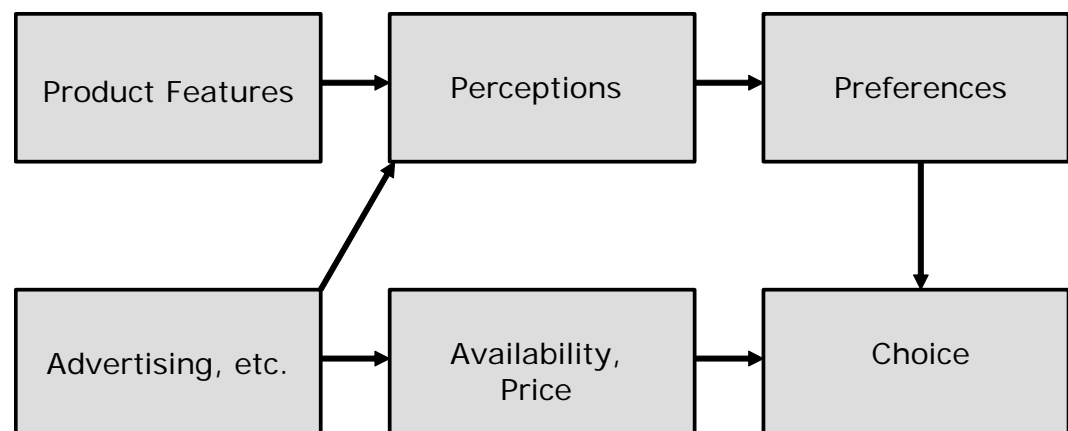
A customer need is a description, in the customer's own words, of the benefit to be fulfilled by the product or service. For example, when describing lines on a computer monitor a customer might want them "to look like straight lines with no stair-step effect." Note that the customer need is not a solution, say a particular type

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<sup>1</sup>Griffin, Abbie and John R. Hauser (1993), "The Voice of the Customer," *Marketing Science*, 12, 1, (Winter), 1-27.

of monitor (XGA, Megapixel, flat screen, flat panel, etc.), nor a physical measurement (number of noticeable breaks in the line), but rather a detailed description of how the customer wants images to appear on the monitor.

The distinction between physical measurements and customer needs has proven to be one of the keys to the success of marketing tactics and is related to the “lens” model which states that customers see the world through the lens of their perceptions (their needs). As we discussed in the product-development session, the lens model says that customer choose (buy a product or service) if they prefer the product and it is available. However, preferences are based on how customers perceive the world. This may or may not be totally accurate. It is based, of course, on the product’s features, but it is also based on the image created by advertising, packaging, word of mouth, social context, etc. Marketing is an integrated activity that attempts to design the product (physical features) and the marketing to influence customer perceptions. Within the context of the lens model, the voice of the customer identified the dimensions of customer perceptions (customer needs) and how customers form preferences with respect to those needs (importances of those customer needs). The voice of the customer might also identify how advertising, etc. affects perceptions, availability, and perceived price.



Knowing customer needs is critical to both product development and marketing. For example, if a product-development team focuses too early on solutions, they

might miss creative opportunities. A computer-monitor team might be tempted to focus on the size of the monitor or the shape. However, readability might also depend on the ambient room light and reflections, the colors that the software designer chooses, the ratio of the height of small letters to that of capital letters, and even the style of the typeface (serif or sans-serif, proportional or fixed, etc.). All of these design attributes interact with the size and shape of a monitor to affect the customer need of "easy to read text." Some may be less costly and more effective, some may be synergistic with changing the monitor's size and shape, but all should be considered before a final design is chosen for the monitor.

Discussions with customers usually identify 100-200 phrases that might be considered an articulation of customer needs. Such phrases might include basic needs (what a customer assumes a monitor will do), articulated needs (what a customer will tell you that he, she, or they want a monitor to do), and exciting needs (those needs which, if they are fulfilled, would delight and surprise the customer). It is extremely important that these customer needs be stated in the customers' own words.

### **Hierarchical structure**

The average marketing manager cannot work directly with 100-200 customer needs. He or she needs a simpler structure that focuses both strategy and tactics. For example, the perceptual maps that we have already seen tend to have a relative few dimensions. Most of our examples included two dimensions, but perceptual maps can have as many as ten primary dimensions. The "voice of the customer" structures customer needs into a hierarchy of primary, secondary, and tertiary needs. Primary needs, also known as strategic needs, are the two-to-ten top-level needs that are used by the team to set the strategic direction for marketing. Primary needs that are plotted on the perceptual map and used in strategic differentiation.

Each primary need is elaborated into three-to-ten secondary needs. (Secondary needs are also known as tactical needs.) Secondary needs indicate more specifically what the marketing manager must do to satisfy the corresponding primary (strategic) need. For example, if clarity of a monitor is the primary need, then the secondary needs tell the team how the customer judges clarity, say by the crispness of the

lines, the ability to distinguish detail on all parts of the screen, the ability to read graphically generated text, and the ability of the user to see what he (she) will get on hard copy. These tactical needs help the marketing team focus its efforts on those more-detailed benefits that fulfill the strategic direction implied by the primary need.

The tertiary needs, also known as operational needs, provide detail so that engineering, R&D, and, perhaps, the advertising agency, can develop detailed product characteristics or advertising copy that satisfy the primary and secondary needs. For example, a customer may judge the crispness of a line (a secondary need) by the following tertiary needs: the lack of a stair-step effect, the ability to distinguish lines from background images and text, and the ability to distinguish among individual lines in a complex drawing, etc.

For example, a voice-of-the-customer analysis of MIT Sloan students identified the following fifteen tactical needs structured into five strategic needs. They were:

### **Brand**

1. The business school has wide-name recognition (e.g., known worldwide).
2. The business school is highly rated by independent publications (e.g., US News & World Report).

### **School Experience**

3. Students at the business school have a strong sense of community.
4. The business school has a collaborative atmosphere.
5. Students are satisfied with their overall experience.

### **Academics**

6. The business school has a reputation for strong academics.
7. The business school is known for innovative research.

### **Teaching**

8. The business school faculty are excellent teachers who are good at communicating complex material.
9. The business school professors have practical business experience.
10. Classes have a balance between theory and real-world application.

### **Career**

11. The business school graduates have a high employment rate.
12. The business school has Career Services that will help me in many aspects of my career search.

13. The MBA degree from this business school continues to pay back on investment long after graduation (e.g., salary increases).
14. A wide selection of companies and industries that recruit at the business school meet my interests.
15. The business school has an active, organized network of successful alumni

### **Priorities**

Some customer needs have higher priorities for customers than do other needs. The marketing manager uses these priorities to make decisions which balance the cost of fulfilling a customer need with the desirability (to the customer) of fulfilling that need. For example, the strategic decision on whether to provide or communicate improved clarity (of a monitor) depends upon the cost and feasibility of fulfilling clarity and the priority to the customer of clarity relative to the customer's other needs. For the VOC, these priorities apply to perceived customer needs rather than product features or engineering solutions. Although conjoint analysis methods are sometimes used, this note will review the direct measures that are more common with respect to perceived needs.

For example, an on-line survey of potential students yielded the following importance weights for the fifteen secondary needs identified for MIT Sloan.



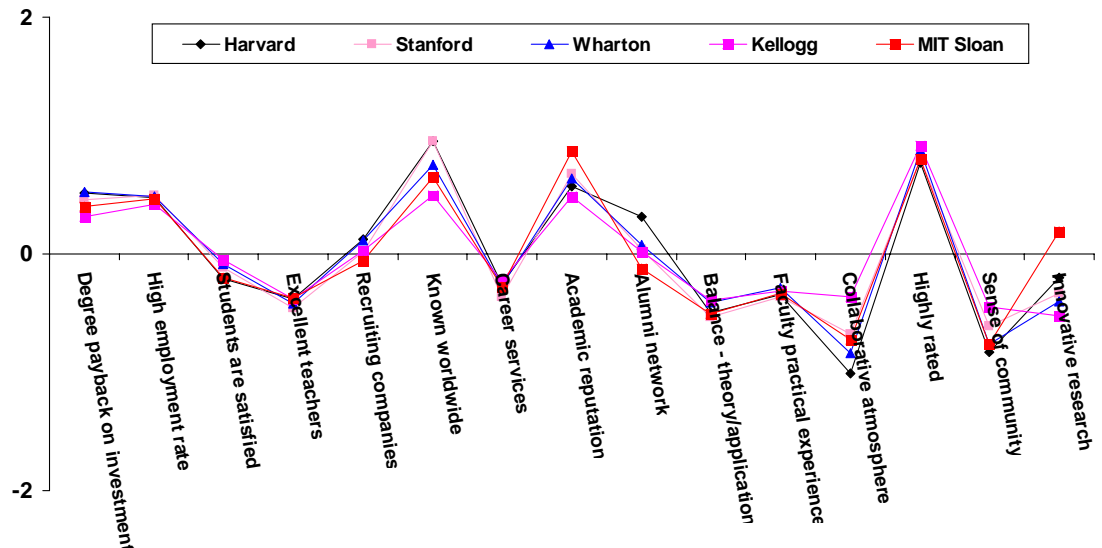
### Customer Perceptions of Performance

Customer perceptions are a formal market-research measurement of how customers perceive products that now compete in the market being studied. If no product yet exists, the perceptions indicate how customers now fulfill those needs. (For example, existing patterns of medical care serve as generic competition for health maintenance organization. Automobile and bus transportation serve as generic competition for Southwest Airlines.) Knowledge of which products fulfill which needs best, how well those needs are fulfilled, and whether there are any gaps between the best product and "our" existing product provide further input into marketing decisions.

Customer perceptions are often displayed via a "snake plot," so-called because each product "snakes" across the page. These data are often obtained via a questionnaire in which each respondent rates each product (that they consider) on each of the secondary customer needs. Because different customers make use the ratings scales

differently, we often “standardize” these ratings.<sup>2</sup>

For example, when prospective students were asked to rate MIT Sloan, Stanford, Harvard, Wharton, and Kellogg, we obtained the following snake plot.



## Segmentation

Not all customers have the same needs. If there is significant variation in customer needs, in their hierarchies, or in their priorities, it is important to obtain a VOC for each segment. In practical terms, the basic descriptions of the customer needs (the phrases) are often relevant for every segment, as is the hierarchy. Segmentation, known as benefit segmentation, is often done by identifying clusters of priorities. For example, in the Tylenol case discussed in the note on defensive marketing strategy, there was a segment of the market that cared about gentleness and a segment of the market that cared about effectiveness. These segments may or may not line up with demographic variables, but they can be identified directly if we measure priorities for each and every customer (respondent) in a market research study.

At the time that this note was written, the segmentation for the MIT Sloan study was still underway. When it is complete, data will be posted on SloanSpace.

<sup>2</sup> We do this by subtracting the each respondent’s mean rating (over all products and scales) from their ratings and then dividing by the standard deviation for that respondent (over all products and scales).



## Identifying Customer Needs

Identifying customer needs is primarily a qualitative research task. In a typical study between 10 and 30 customers are interviewed for approximately one-hour in a one-on-one setting. For example, a customer might be asked to picture him- or herself viewing work on a computer. As the customer describes his or her experience, the interviewer keeps probing, searching for better and more complete descriptions of how he or she views data, images, video, or anything else, how he or she works with those images, working conditions, ambient lighting, etc. The goal is to experience the experience of the customer. Sometimes the interviews take place at the site where the customer uses the product – for example, we have done interviews on oil-drilling platforms for manufacturers of oil-drilling equipment.

The interviews are called “experiential,” because they focus on the customers’ experiences or their speculations about future experiences. In the interview the customer might be asked to voice needs relative to many real and hypothetical experiences. The interview ends when the interviewer feels that no new needs can be elicited from that customer. Interviewers might probe for higher-level (more strategic) needs or for detailed elaborations as in the laddering and means-ends techniques. Other potential techniques include benefit chains and repertory grids. While many applications use one-on-one interviews, each of these techniques can be used with focus groups and with mini-groups of two-to-three customers.

While it is tempting to simply ask customers, “What are your needs?”, customers often have difficulty listing their needs. It is much better to infer customer needs from experiential interviews or observation.

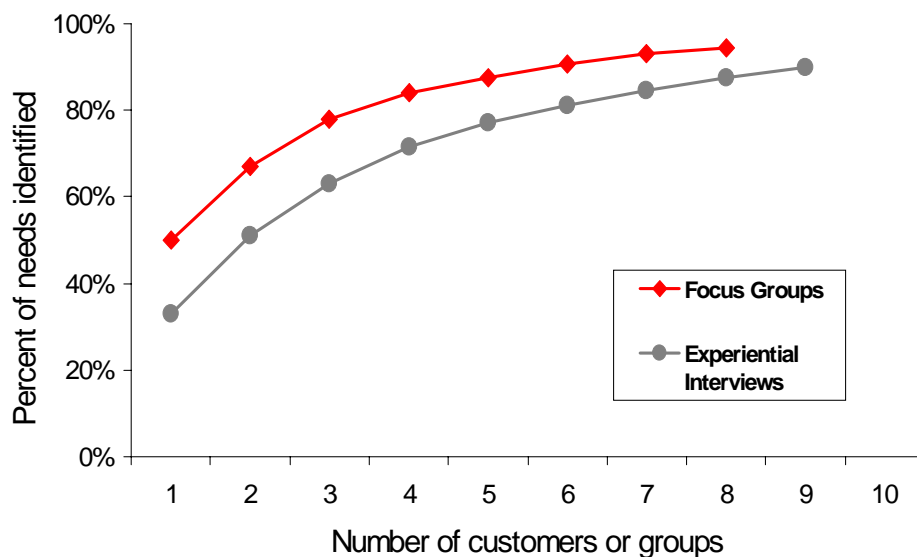
### **Focus Groups vs. One-on-One Interviews.**

Many market research firms advocate group interviews based on the hypothesis that group synergies produce more and varied customer needs as each customer builds upon the ideas of the others. A concern about focus groups is that “air-time” is shared among the group members. If there are eight people in a two-hour group then each person talks, on average, for about 15 minutes.

An interesting comparison of focus groups vs. one-on-one interviews was

done by two Sloan students (Silver and Thompson 1991). The product category was a complex piece of office equipment. The marketing team obtained customer needs from eight two-hour focus groups and nine one-hour interviews. (The data were collected by an experienced, professional market research firm.) The entire set of data was analyzed by six professionals to produce a combined set of 230 phrases that might be considered customer needs. The students reanalyzed the data to determine, for each customer need and for each group or individual, if that group or individual voiced that need.

Figure 1 plots the data. On average, a single one-on-one interview identified 33% of the 230 needs. Two one-on-one interviews identified 51% of the customer needs. The average is taken over all combinations of two interviews.



**Figure 1. Comparison of Focus Groups and One-on-One Interviews**

The data in Figure 1 suggest that while a single two-hour focus group identifies more needs than a one-hour one-on-one interview, it appears that two one-on-one interviews are about as effective as one focus group (51% vs. 50%) and that four interviews are about as effective as two focus groups (72% vs. 67%). As one manager said when he examined the data, an hour of interviewing is an hour of interviewing independently of whether it comes from a one-on-one interview or a focus group. If it

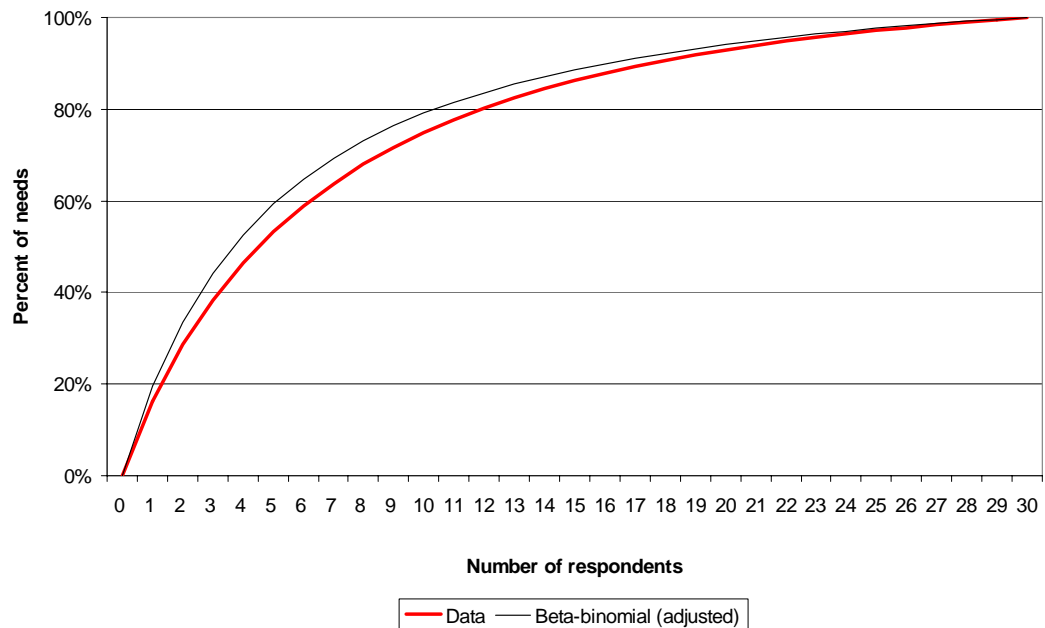
is less expensive to interview two consumers for an hour each than to interview six-to-eight customers in a central facility for two hours, then Figure 1 suggests that one-on-one interviews are more cost-efficient. At minimum, Figure 1 suggests that group synergies do not seem to be present in this data.

### **How many customers?**

We would like to know how many customers need be interviewed to identify most of the customer needs. Besides intellectual curiosity, there are many reasons to seek an answer to this question. First there is the monetary cost. While the field costs per interview are moderate, analysis costs are quite high. It is typical for some managers to observe each interview and for four or more team members to read each transcript. One major US firm estimates that the typical out-of-pocket costs for 30 interviews are only \$10-20,000 but that the implicit team costs include over 250 person-hours to observe the interviews, read the transcripts, and summarize the customer needs. Even based on a low estimate of \$100 per person-hour (fully-loaded) for professional personnel, this means that the total costs per interview are in the range of \$1-2,000. If you multiply this by 5-10 segments (typical in a complex product category) and 5-10 major product lines within a firm, then the cost savings of setting a policy of 20 customers per segment rather than 30 customers per segment can be substantial. Firms seek to balance the cost of additional interviews with the benefits of identifying a more complete set of needs.

Abbie Griffin, as part of her MIT Ph.D. thesis, interviewed 30 potential customers of portable food-carrying and storing devices (coolers, picnic baskets, knapsacks, bike bags, etc.). The interviews were transcribed and each interview was read by seven analysts. The needs were merged across analysts and customers and redundancy was eliminated to obtain a core list of 220 needs. She recorded which customers and which analysts identified each need. Naturally, some needs were mentioned by more than one customer. For example, 38 needs were identified by one customer out of thirty, 43 needs were identified by two customers out of thirty, 29 needs by three customers out of thirty, etc. One need was identified by 24 of the thirty customers.

To calculate how many needs we would have expected to obtain from interviewing fewer customers, she considered all possible orderings of the thirty customers and determined the average percent of non-redundant needs she would have obtained from  $n$  customers for  $n = 1$  to 30. (Note that we are temporarily defining 100% as that obtained from 30 customers. We address missing needs below.) Because the number of possible orderings,  $30!$ , is a very large number, she randomly sampled 70,000 orderings. The results, plotted in Figure 2 as "observed," show that interviewing 20 customers identifies over 90% of the needs provided by 30 customers.



**Figure 2. Percent of Total Needs Identified that Were Identified by  $n$  Customers**

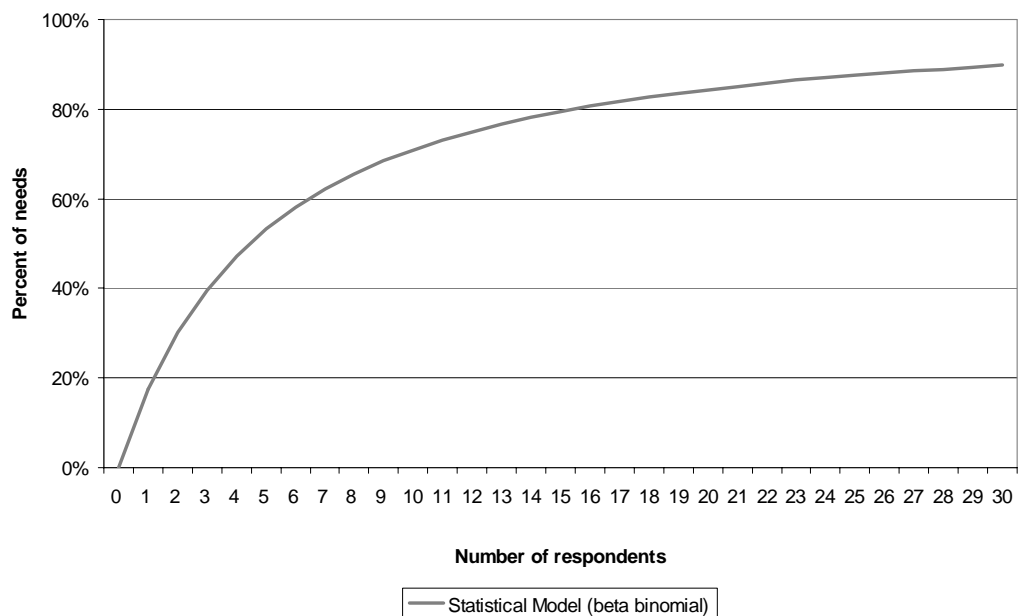
To generalize to more than thirty customers we need a model. The model is used widely in marketing. It is called the “beta-binomial model” and is used primarily to summarize probabilistic consumer behavior. For example, in triangle taste tests the beta-binomial model is used to compare actual data to the data that would have been obtained had respondents simply guessed.<sup>3</sup> Basically, we use the beta-binomial model to estimate how many needs would have been obtained had we interviewed in-

<sup>3</sup> In a triangle taste test, respondents are given three samples and asked to identify which of the two samples are the same. Only those respondents who can identify a difference are asked for their pref-

finitely many respondents. As Figure 2 indicates, the beta-binomial model, adjusted so that 30 respondents imply 100%, fits the actual data quite well. Figure 3 plots the beta-binomial model for the data suggesting that thirty consumers were sufficient to identify over 90% of the customer needs.

Figures 2 and 3 were based on early VOC applications. Subsequent applications developed more efficient interviewing methods and the interviewers became better at drawing out customer needs. With today's interviewing methods, twenty respondents should be sufficient in most product categories. Indeed, we have seen some durable product categories where ten respondents articulated almost 98% of the customer needs. It is amazing how much we can learn from in-depth interviews with so few customers.

Naturally, these results apply to each segment in the market. If the segments are quite different, we may need 10-20 interviews per segment.



**Figure 3. Predictions from Statistical Analysis**

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erences. Such taste tests are well-known because of the Pepsi-vs.-Coke cola wars.

### **How many analysts?**

There is a beta-binomial curve for analysts just as there is for respondents. On average, a given analyst cannot identify all of the customer needs that are contained in a set of transcripts. It appears to be a truism that we all see the world (and respondent transcripts) through different perspectives. Thus, today, it is important that more than one analyst (usually at least three analysts) read and summarize the customer needs. It is just too easy for a single reader to miss some critical points.

### **Structuring Customer Needs**

The key decision in terms of developing a hierarchy of customer needs seems to be whether the hierarchy can be developed entirely by the marketing team or whether the customers themselves need to participate in providing data with which to infer the customer-need hierarchy. We demonstrate the two alternative approaches by discussing group-consensus processes and customer-sort processes.

#### **Group Consensus Process**

The group consensus process uses the marketing team to impose structure on the customer needs. The advantage of a consensus process is that it assures group buy-in to the structure; the disadvantage is that there is no assurance that the team's structure represents how customers think about their needs or make decisions. For example, one consensus process is known as "affinity charts."

To create an affinity chart each team member is given a roughly equal number of cards, each card bearing one customer need. One team member selects a card from his (her) pile, reads it aloud, and places it on the table (or wall). Other members add "similar" cards to the pile with a discussion after each card. Sometimes the card is moved to a new pile; sometimes it stays. The process continues until the group has separated all the cards into some number of piles of similar cards, where each pile differs from the others in some way. The team then structures the cards in each pile into a hierarchical tree diagram with more-detailed needs at lower levels, and more-tactical and strategic needs at the upper levels. To select a higher-order need, say a secondary need, to represent a group of tertiary needs, the group can either select from among the tertiary needs or add a new card to summarize the group of relevant tertiary needs.

Throughout the process the team can rearrange cards, start new piles, or elaborate the hierarchy.

### **Customer Sort and Cluster Process**

In a customer-sort process, customers are given a deck of cards, each bearing one customer need. They are asked to sort the cards into piles such that each pile represents similar needs and differs from the other piles in some way. The number of piles and the exact definition of similarity is left unspecified. After completing the sort, each respondent is asked to choose a single need from each pile, called an exemplar, which best represents the customer needs in the pile. From the sort data we create a “co-occurrence matrix” in which the  $i$ - $j$ -th element of the matrix is the number of respondents who placed need  $i$  in the same pile as need  $j$ . We also label each need with the number of times it was chosen as an exemplar.

To develop a structured hierarchy from the customer-sort data, market researchers use a statistical method known as “Wards’ cluster analysis” to cluster the co-occurrence matrix. The exemplars then provide the names of the clusters. The details of Wards’ method are available in most statistical packages such as SPSS or SAS. (MIT has a site license for SAS and SPSS; they are both on the Sloan Lab machines.) The basic idea is that similar needs are placed together into a tree structure. The primary needs are at the top of the tree, the secondary needs are further down, and the tertiary needs form the roots of the tree. Exactly where to cut the tree, that is, when a division of a primary need becomes two secondary needs rather than two new primary needs, requires judgment combined with information from the statistical analyses. The exemplars provide valuable guidance in making these judgments.

Table 1 compares the top levels of the group-consensus-chart and customer-sort hierarchies for food-carrying devices. Abbie Griffin first considered the number of secondary and tertiary needs and the number of exemplars within each primary grouping. The customer-sort technique provide a more even distribution. Usually, an even distribution makes it easier to assign responsibilities. She next considered whether the exemplars provided the labels naturally or whether new labels had to be created. Such labels summarize the categories but are not directly from the customer-

need phrases. Twenty-seven labels were added to the group-consensus chart by the development team (247 total needs) while only ten labels were added to the customer-sort hierarchy (230 total needs). This means that more of the customers' semantics are used directly in the primary and secondary levels of the customer-sort hierarchy.

Customer-sort Diagram	Team-sort Diagram
attractive, good-looking	
convenient	container utility
works well	convenient
right size	physical characteristics
maintains food temperatures	container price
carries many things	thermal characteristics
easily movable	

**Table 1 Group-consensus vs. Customer-sort Food-Carrying-Device Hierarchies**

The most interesting comparison is based on qualitative impressions. The two hierarchies were shown to executives at firms which use the voice of the customer in their product-development and marketing processes. In all cases, including the team that did the consensus chart, the managers judged that the customer-sort hierarchy provided a clearer, more-believable, easier-to-work-with representation of customer perceptions than the group-consensus charts. Only one of the five group-consensus primary groupings is specific to the category (not generic), while four of the seven customer-sort groupings are specific to the category. The qualitative reaction from the managers seemed to be summarized by: "The group-consensus chart is a good systems-engineering description of the problem while the customer-sort hierarchy is really the customer's voice."

This comparison is typical. Customers tend to sort customer needs into hierarchies that represent how they use the product. Whenever we have done internal



sorts, the teams members usually sort the needs to represent how they build the product or how the firm is organized. It is hard to quantify the advantage of a customer-based hierarchy, but if you really want the voice of the customer, it appears to be important that customers be involved in the sorting process. While this may seem obvious, I continue to be amazed at the number of firms who use team-sort processes as short cuts to customer-sort processes.

One argument that has been advanced in favor of the team-based consensus charts is that they result in greater team buy-in to the hierarchical structure. Recent applications of customer-sort and customer-consensus structures have addressed this issue by having the team complete the customers' task in parallel with the customers. As the marketing team sorts the cards, each member begins to ask him- or herself: "I sort the cards like this, but how would the customer sort the cards?" Indeed, while the customer instructions state that there is no right or wrong answer, the marketing team begins to realize that for marketing strategy and tactics there is a right answer – how the customer sorts the cards.

### **Measuring Or Estimating Priorities**

One of the most-studied issues in marketing science is the methods by which firms can estimate customer priorities. We do not review all of these methods here, but rather demonstrate examples of the types of measurements that are used successfully when identifying priorities with respect to perceived customer needs. For greater detail on conjoint analysis, see "Note on Conjoint Analysis."

#### **Example Methods**

We illustrate three methods with data collected by one of the largest and most-sophisticated consumer products firm – a firm that is known as a leader in marketing and marketing research. This firm measured or estimated customer's importances for 198 customer needs using three different methods:

- 9-point *Direct-rating* scale in which customers answered for each need "How important is it or would it be if: ...?"
- *Constant-sum* scale in which customers allocated 100 points among the seven primary needs, then allocated 100 points to each set of secondary needs within

each primary-need group, and finally allocated 100 points among each set of tertiary needs within each secondary-need group.

- *Anchored* scale in which customers allocated 10 points to the most important primary need and up to 10 points to the other six primary needs. Similarly up to 10 points were allocated to secondary needs corresponding to each primary need and to tertiary needs corresponding to each secondary need. Figure 4 provides an example of an anchored scale. (These primary needs are illustrative only and are disguised relative to the true product category.)

When thinking about choosing a laundry detergent, how important is it that the laundry detergent satisfies the following needs:

Cleans your clothes well	[     ]
Is safe and gentle for synthetic fibers	[     ]
Is good for the environment	[     ]
Clothes are ready to wear after drying	[     ]
It is easy to do the laundry	[     ]
My clothes smell fresh and clean	[     ]
Good value for the money	[     ]

**Figure 4. Example of an Anchored Scale**

Questionnaires were mailed to 5600 randomly selected consumers (1400 for each method plus 1400 who rated products on the customer needs). Response rates were very good (75-78%). (All recipients of the questionnaires were given a \$5 incentive. Those that responded in a week were entered in a lottery for \$100.) In addition, the constant-sum questionnaire was mailed to an additional 1400 consumers from a national panel. The response rate for that sample was 90%. The rank-order correlation of the importances as measured by the random sample and the panel sample was 0.995.

To test whether the importances made sense for setting priorities among prod-

uct-development programs, the professional product-development team in the consumer-products company created seven product concepts. Each concept was created to emphasize one of the primary customer needs while stressing that the other six customer needs would not be any better or worse than existing products. The concepts went through two pre-tests with actual consumers and were modified until the firm felt that they did indeed "stretch" the consumer needs. (The actual concept statements are proprietary. The winning concept ultimately led to a highly successful product.) Consumers were asked to evaluate the concepts by expressing their interest and preference for the concepts. Interest was measured by a 9-point scale. Preference was a rank ordering of the seven concepts. Table 2 indicates that consumers' interest and preference is highly correlated with the self-stated measures of primary needs.

	Anchored Scales (max = 10)	Constant Sum (sum to 100)	Directly Stated (1 to 9 scale)
Correlation with preference for con- cepts	0.93	0.93	0.89
Correlation with in- terest in concepts	0.96	0.96	0.96

**Table 2. Comparison of Three Methods to Set Priorities for Perceived Needs**

The direct, anchored, and constant-sum measures give similar rank-order results and each correlates with interest and preference. These results are typical. The scientific data to date suggest that any of the three scales could be used to measure importances for perceived needs. However, other data, not shown here, suggest that conjoint analysis is the better method when decisions are being made with respect to product features or physical characteristics rather than perceived needs.

### **Is frequency of mention a surrogate for importance?**

It is a reasonable hypothesis that customers will mention most those needs that are most important. If this were true, then we could save time and money by using frequency of mention as a surrogate for importance. Alas, the data do not support this hypothesis. High priority needs do not seem to be mentioned more often than low priority needs. It appears to be the case that we need to undertake formal market research surveys (or conjoint analyses) to provide priorities for the customer needs.

### **Segmentation**

Once data on priorities are obtained for each respondent, these priorities can be “clustered” to identify different “benefit” segments in the market. For example, a clustering of the customer needs for the laundry product might identify one segment that cares primarily about cleaning clothes, another that cares primarily about clothes being ready to wear without much effort, and a third that puts a high priority on product that are safe for the environment. Marketing managers can decide to target any or all of these segments.

In some cases, prior to undertaking a VOC, the marketing team might already have identified the segments of the market that they wish to serve. If marketing managers can identify segments by other means, they can then collect a VOC for each identified segment.

### **Today's Practice**

When VOC methods were first being developed, most product-development teams and most marketing teams felt that they needed detailed information on all levels of the customer-need hierarchy. Experience over the last fifteen years suggests that such detail is not necessary. Today, card sorts often begin with 100 needs rather than 200 needs and they focus on the primary and secondary levels of the hierarchy rather than all three levels. Teams tend to drill down to the tertiary level only for one or two high priority secondary needs. This focus greatly reduces the measurement burden on respondents and lowers the cost and time of marketing research. It appears to represent a reasonable tradeoff between completeness and feasibility.

## **Discussion And Summary**

The voice of the customer is critical to setting both marketing strategy and marketing tactics. Measurement is both feasible and practical. Today's methods excel at identifying customer needs, sorting these needs into a hierarchy, and providing priorities for the customer needs.

Scientific data and practice suggest interviews with 10-20 customers per segment should identify enough of the customer needs (in a customer segment) for marketing analysis. Both one-on-one experiential interviews and focus groups seem to be effective at identifying needs. Alas, group synergies expected from focus groups are often not present. Multiple analysts (at least 2-3) should analyze the transcripts.

While group-consensus charts are a popular method for obtaining a hierarchical structure, scientific data and experience suggest that different structures are obtained by analyzing customer-sort data. The customer-sort hierarchies seem to group the needs to reflect how the customer uses the product while team-consensus charts group the needs to reflect how the firm builds the product.

There are many means to identify priorities for perceived needs. Most measurement scales, if implemented carefully, are accurate in terms of predicting both preference and interest in potential product concepts. These priorities are valuable for product design, for selecting the advertising message, and for setting differentiation (segmentation) strategies.