

# METHODS FOR MEASURING CUSTOMER SATISFACTION

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## Introduction

This paper is the result of the confluence of a number of trends and events. The first is the rising interest in using customer satisfaction as a way to drive organizations to be more responsive to the market. These trends are well reflected in journals such as the *Journal of Product Innovation Management* and the *Journal of Marketing Research*. Increasingly companies are realizing that long term survival is tied to delivering valued products that satisfy customers' needs. As the environment in which they operate becomes more competitive, utilities are increasingly paying attention to the role of customer satisfaction in customer choices of products and its role in attaining and retaining customers.

A second event that focused our attention on customer satisfaction were the comments from a lay person who read a series of program evaluation reports. The lay person kept asking, why, if the programs were only modestly successful (in terms of the program delivery of services to customers and in terms of impacts), did customers express such high levels of satisfaction with the programs.

A third event was that as a firm we began to look much more carefully at the satisfaction data from studies in the energy field as well as those outside the energy field. Every study we looked at seemed to report fairly high levels of customer satisfaction. We began to joke with colleagues about the "iron law of customer satisfaction," that 80% of the customers will tell you that they are satisfied or very satisfied with products or services 95% of the time. When confronted with satisfaction questions, survey respondents generally give high ratings. Indeed, as we reviewed program after program, a program has to be nearly a complete and utter disaster before the average or median ratings will even approach mid-scale or go below it.

A final event had to do with personal experience with a provider's products and the provider's customer satisfaction survey. We recently purchased Internet services for one of our offices from an Internet service provider with a national reputation but a regional service territory. In our first encounter with this provider, we discovered that the firm provided support for only one operating system even though another operating system accounted for 40% of all users and more than half the usage according to national surveys.

We further discovered that instead of providing a seamless array of product options, the provider had segmented the market into residential and business customers. Apparently without much research, the provider assumed that the needs of these two segments were different. The

provider failed to recognize that both residential and small business customers may have internal networks that they want connected to high speed dial-up. The residential options were limited to single user dial-up and did not allow customers to connect networks. Small businesses customers had to purchase a full connect option with a minimum of five computers in order to get networking service.

When a survey firm hired by the provider called to find out about customer satisfaction, the survey focused entirely on post-transaction service delivery to the exclusion of pre-transaction contact and questions about product offerings. The survey did not allow us to tell that provider that we liked the people, we believed that the staff was trying hard, but the information they provided and their products really missed the mark. We are certain that the survey taker was confused with our responses and we are also reasonably certain that the analysts will place our responses among the outliers at which point they will be ignored. Variations on this sad tale seem to be fairly common.

These illustrations point to a series of important questions. What is customer satisfaction? What does it mean to get a high customer satisfaction score? How can we interpret customer satisfaction? Does having highly satisfied customers really result in customer retention? What are the best ways to measure customer satisfaction? And, how can the results of customer satisfaction surveys be interpreted so that products and services can be improved.

## What Is Customer Satisfaction?

Customer satisfaction is about relationships. It is about the relationship between a customer and a product or service. It is about the relationship between the customer and the provider of a product or service. And, it is about the relationship between the provider(s) of a product or service and their product or service.

Customer satisfaction is the degree to which a customer *perceives* that an individual, firm or organization has effectively provided a product or service that meets the customer's needs in the context in which the customer is aware of and / or using the product or service. Satisfaction is not inherent in the individual or the product but is a socially constructed response to the relationship between a customer, the product and the product provider / maker. To the extent that a provider / maker can influence the various dimensions of the relationship, the provider can influence customer satisfaction.

A key element of customer satisfaction is the nature of the relationship between the customer and the provider. Relationships vary in a number of dimensions. Relation-

ships may be confined to a single transaction or they may involve multiple transactions. Transactions can be episodic or represent a continuing series of evenly spaced interactions. A relationship may revolve around a single commodity or multiple products and services. The parties to a relationship can view a relationship as being purely instrumental (as a means to an end) or the relationship can have a strong affective component. The transactional aspects of a relationship range along a continuum from relationships that are ill defined and largely unstructured in which the process and content of the transaction are open to negotiation, to highly formalized transactions that follow rigidly defined rules specifying the exact content and structure.

Customer satisfaction is also about the parties in a relationship. Parties to products and services relationships (customer and provider) have histories. Those histories may be differentially known to the parties in a transaction. Parties to a transaction may have an image. A product or service may be associated with a brand. Usually the parties' knowledge of each other is asymmetric both in terms of the amount of knowledge and in terms of the specific knowledge.

Each of the parties to a relationship operates from a culture with a world view. They come to a relationship with some level of knowledge about the product, service and relationship and some concept of their role and their partner's role in the transaction. The parties in a transaction have a sense of their own as well as the other party's status, abilities, capabilities, image, knowledge and a host of other attributes.

Customer satisfaction is grounded in reality and mediated by perception. Of the two, perception is probably more important. To paraphrase W. I. Thomas' famous dictum, things that are perceived to be real, are real in their consequences. In the realm of customer satisfaction, the objective situation and the perceived situation may be quite different. A customer's satisfaction with a product and the delivery of the product may differ markedly from the actual quality of the product and its delivery. Customers may express high levels of satisfaction with poor products and services and low levels of satisfaction with high quality products well delivered. Changing levels of customer satisfaction may require changing customers perceptions as much as changing the objective nature of a product or relationship.

The product also is fundamental to expressions of customer satisfaction. Products have a series of objective characteristics which are perceived by users and which influence satisfaction (ref. 10). In relation to other products, products have relative advantage (or disadvantage). They have some level of compatibility with the socio-cultural and physical environment in which they are to be used. Appearance is an important aspect of compatibility. Products may be observable or hidden. A user may be able to try a product or not. They may be simple or complex.

Products and services also have use characteristics. They may be used at different intensities, different frequencies, with different consequences.

Finally, there are the needs of the customers and providers. In any relationship, each party is attempting to satisfy some set of needs. The needs of the parties may be known or hidden. Needs are almost always asymmetric, that is, the set of needs for each of the parties is different. Relationships that fill the needs of both parties are more likely to result in expressions of satisfaction than needs that meet just the needs of one party or the other.

### **Before Measuring Customer Satisfaction You Need to Know Why You Are Measuring It**

The first question associated with any effort to measure customer satisfaction is, why measure customer satisfaction? A flip answer is, it's important! The assumption is that satisfied customers will buy more services and products or recommend products and services to others. Many of us assume that satisfied customers will continue with a company. The fact is that satisfied customers leave companies every day. Some people will switch for a small change in price while others will stay with a firm regardless of price.

A more interesting reason for measuring customer satisfaction is that it provides an organization with motivation and information that allow it to adapt to the future. Customers change and their satisfaction with relationships change. By constantly assessing satisfaction with relationships and understanding what motivates satisfaction, an organization can identify how it needs to change its methods of dealing with customers, its products, and its internal organization.

There are many other reasons to measure customer satisfaction. An organization may want to know levels of customer satisfaction in order to retain or build market share. An organization may want to enter a market and may need intelligence about customer satisfaction within that market. If the goal of the organization is to become the market leader, the organization will have to understand what it needs to do to satisfy the broadest possible customer base. If the goal is to improve the bottom line, the organization may want to pick a niche and focus on products and services that satisfy customers in that market niche.

### **Customers Are Not A Black Box**

When organizations measure satisfaction they often approach the problem as if customers are homogeneous even though they know that they are very different. Part of the science of understanding customer satisfaction is to recognize customer differences and to take the differences into account when measuring satisfaction.

## Customer Satisfaction Cannot Be Understood With A Single Question

Perhaps the point about customers is best made by examining a customer segmentation scheme. Table 1 presents the segments and the descriptors for one residential segmentation model. In this segmentation scheme “young professionals” choose quality over price while “penny pinchers” chose price over quality. The “conservative blues” are brand buyers with conservative buying habits. “Cautious couples” focus on what they need and the “wary widows” have routinized buying habits. “Frantic families” have incomes that allow them to make purchases in order to avoid hassles.

For a moment, consider the implications of the scheme for customer satisfaction. Young professionals are going to be looking for providers who provide high quality products and are more likely to be satisfied with providers who stock such goods. Cautious couples will be most satisfied with providers who can provide products that meet their basic functional needs. Penny pinchers are most satisfied with price. Wary widows are likely to look for a provider that has what they want in order to minimize the hassles and manage the routine. Conservative blues are more likely to be satisfied with providers who stock brand names. If customers are viewed as homogeneous, it is difficult to create customer satisfaction. This is why hotel holding companies create brands and designers create labels. Utilities likely will need to learn how to do this also.

We frequently find organizations attempting to assess customer satisfaction by asking a single question or perhaps a few questions. Sometimes this question or series of questions is repeated through time in a series of surveys. The result is often a graph of a time-series, usually of mean customer satisfaction scores, that shows fluctuations in this single measure of customer satisfaction or series of measures of satisfaction.

The basic difficulty with this approach is that organizations learn very little about satisfaction. Organizations hope that the time series will show values of satisfaction that remain constant or increase. In reality, the values often fluctuate up and down. It is not unusual to see changes that are within the margin of sampling error and to have organizations claim that they are making progress in customer satisfaction.

Also, it is not unusual for survey response rates to change. More than a few companies tracking satisfaction have had the experience of seeing average satisfaction scores decline as survey response rates increase.

**Table 1. Segmentation scheme for residential customers (ref. 11)**

<p><b><i>Young Professionals</i></b></p> <ul style="list-style-type: none"> <li>• Younger, single, upscale males</li> <li>• Oriented to quality over price, try new things and evaluate each purchase on its own merit</li> <li>• Represent 9% of the U.S. population</li> </ul> <p><b><i>Cautious Couples</i></b></p> <ul style="list-style-type: none"> <li>• Older group</li> <li>• Focused upon what they need rather what they want</li> <li>• Generally, buying behavior is practical and not desire-driven</li> <li>• Represent 16% of the U.S. population</li> </ul> <p><b><i>Penny Pinchers</i></b></p> <ul style="list-style-type: none"> <li>• Price shopper segment</li> <li>• Price over quality and selection of service and generics over brands</li> <li>• Tend to be downscale, single women</li> <li>• Represent 10% of the U.S. population</li> </ul>	<p><b><i>Frantic Families</i></b></p> <ul style="list-style-type: none"> <li>• Convenience oriented</li> <li>• Family life and income make it necessary and possible to minimize hassle</li> <li>• Represent 24% of the U.S. population</li> </ul> <p><b><i>Conservative Blues</i></b></p> <ul style="list-style-type: none"> <li>• Middle-aged, middle American families</li> <li>• Conservative buying habits, rely on experience, reputation, and long-term success.</li> <li>• Brand buyers and American-made buyers.</li> <li>• Represent 18% of the population.</li> </ul> <p><b><i>Wary Widows</i></b></p> <ul style="list-style-type: none"> <li>• Tend to be older, retired, widowed women more likely to live in apartments and mobile homes.</li> <li>• Buying behavior is resistant to change, convenience-driven, and routinized.</li> <li>• Represent 22% of the U.S. population</li> </ul>
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Now, we might ask a fundamental question, what does an organization learn by tracking a single satisfaction measure or even a series of measures. It is difficult to assign meaning to a satisfaction score. Is a 8.0 a high score on a ten point scale? How about an 8.5? Is a 7.0 a low score? If you look at Table 2 and the scores for the five programs cited there, you see that a 4.0 and 4.2 are the low average scores, 4.3 is the middle score and a 4.5 and a 4.7 are the high scores. The table illustrates a case in which the mean score for each of the programs is at least "somewhat satisfied."

From a manager's perspective, just knowing the average satisfaction is not very useful. It may tell the manager how an organization is doing in relation to past levels of customer satisfaction. That is, it may answer the question of whether the organization is doing a better or worse job with customers than previously, but it does not give a manager any hints about useful actions. For example, the manager may want to know if there is some level of customer satisfaction where most of the customers are likely to be retained. The manager may also want to know if there is some level of customer satisfaction below which customers, seeing a price advantage for some similar product, will move to the other product. Alternatively, a manager needs to know what can be done to improve satisfaction. A single score or a small number of scores cannot tell

a manager this. The manager needs more information than a simple satisfaction analysis can provide.

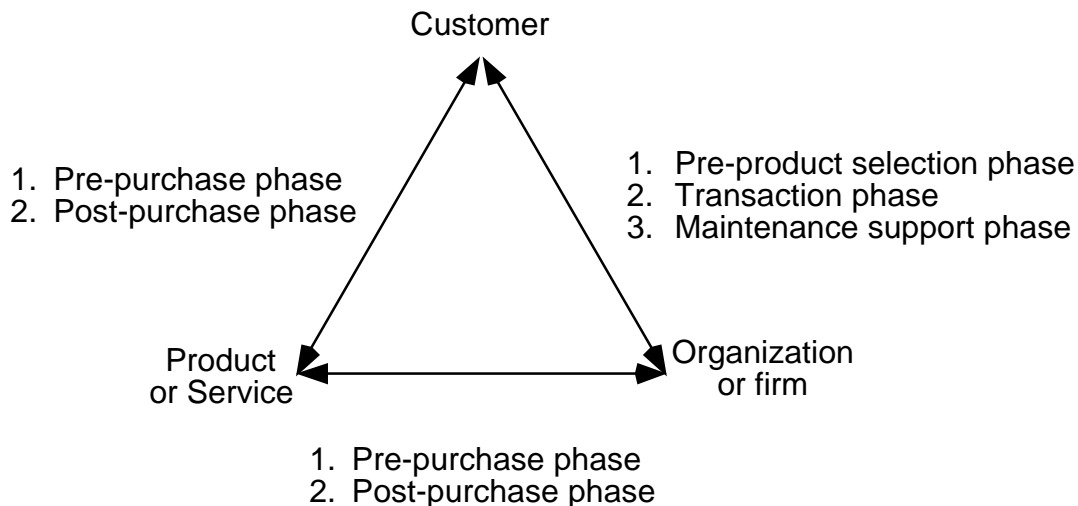
### A Model For Analyzing Relationships To Extract Motivators Of Customer Satisfaction

To really understand customer satisfaction requires identifying the elements of the customer - provider - product relationship that drive perceptions of satisfaction for the target audience. Products and situations differ and the nature of the relationships between customers, products and providers vary. In order to understand customer satisfaction, we need to get at the underlying relationships. We developed a simple model to aid in doing this. The model is used to identify the aspects of a customer / product / relationship that may be important.

The model is shown in Figure 1 and the accompanying table, Table 3. Like most models this contains some simplifying assumptions. For example, it is assumed that the product and service provider is a single entity, In reality, a product service provider may be several agents, a network or a system. For simplicity we have also assumed a single product or service but many customer provider relationships revolve around multiple products or services.

**Table 2. Example of scores on satisfaction**

	Mayville / Horicon Percent	Merrill Percent	N.E.W. Percent	New London Percent	Viroqua Percent
Very satisfied	72	68	38	41	39
Somewhat satisfied	27	20	48	34	56
Neither satisfied or dissatisfied	0	7	13	13	4
Somewhat dissatisfied	1	2	1	1	1
Very dissatisfied	0	2	0	0	0
Average for a five point scale	4.7	4.5	4.2	4.0	4.3



**Figure 1. Model for analyzing customer satisfaction relationships.**

If the target of the satisfaction measurement effort is the customer, then the model should be used from the customer's perspective. If the target of the measurement effort is employee satisfaction, then it needs to be used from the employee's perspective. The questions in Table 3 have been written assuming the customer perspective. Also we have not attempted to be exhaustive. The model and the table are designed to be suggestive.

The analysis of the underlying relationship can start with any of the three relationships. To illustrate the tool, we will use the customer / provider relationship. The goal is to identify underlying factors in the relationship that drive satisfaction.

In the model, the customer / provider relationship is broken into three phases. There is the pre-product selection phase in which the customer may interact with a provider seeking information about the product and the provider may target customers and provide them information, shape customer awareness or develop a brand image. There is the transaction phase in which the customer and the provider arrive at an agreement or contract concerning the purchase and the conditions of the purchase. There is the post transaction phase in which there may be a commitment to provide information and support for the product including warranty and replacement services.

Column 1 of Table 3 describes the consumer / provider relationship and identifies these three phases. Listed under each phase is a series of questions which identify features of that aspect of relationship with which a customer may be more or less satisfied.

A researcher may compare the questions in the table to a specific customer / provider / product relationship to help identify elements that are important. Once that is done, the researcher can construct measures of satisfaction.

## Constructing Measures of Satisfaction

There are a number of factors to be considered in constructing a measurement scale. A typical phrasing for a satisfaction question is, "On a scale of 1 to 10, where "1" is very dissatisfied and "10" is very satisfied, how would you rate product or service X." Upon seeing such a question several issues come immediately to mind. Why a 10 point scale? Why not a 5, 6, or 7 point scale? What does a "9" mean? What is the difference between a "7" and a "9". Does a "9" mean the same thing every time?

There is a very large literature on scaling methods. The major points of contention are:

- whether a scale should have a mid-point
- the number of points or categories to be used in a scale
- the meaning of the scale

### Should Scales Have A Mid-Point?

A scale with an even number of categories, for example, a 10 point scale (i.e., 1 to 10), has no integer that is exactly half way. The middle of the scale is 5.5. When a scale with an even number of categories is used, the respondent is forced to show a disposition one way or the other when choosing a middle category. In other words, the respondent has to be slightly satisfied or slightly dissatisfied. With a scale with an even number of points it is not possible for the respondent to be "neither satisfied or dissatisfied."

**Table 3. Elements of Customer / Provider, Provider / Product, Customer / Product Relationships**

<b>Customer — Provider Relationship</b>	<b>Provider — Product Relationship</b>	<b>Customer — Product Relationship</b>
<b>Pre-product selection phase</b>	<b>Pre-product selection phase</b>	<b>Pre-product selection phase</b>
Did the customer find it easy to establish contact with the firm?	Does the provider have the product in stock?	Did the customer understand the key advantages of the product?
Was the customer able to establish his / her desired kind of relationship?	Is the provider able to offer the full range of options?	Was the initial price right in relation to similar products?
Was the customer able to get desired information?	Are models available for display?	Was the customer satisfied with the brand of the product?
Was the information helpful?	Are models displayed?	Was the customer satisfied with the image of the product?
Was the customer able to understand the information?	Does the provider have literature / videos for the product?	Does the product provide the features the customer desires?
Was the information competently presented?	Has the provider trained staff so that they are knowledgeable about the product?	Are there too many features?
Were the company representatives attentive to the customer's needs?	Do staff understand the relative advantages of the product? Do they know about compatibility issues?	Was the customer satisfied with the simplicity of product use?
Did the customer believe that the presentation of information was fair and accurate?	Is the provider staff trained to present information effectively?	Is the product compatible with the customer's environment?
Did the nature of the interaction meet the customer's expectations?	Do staff have a positive attitude toward the product?	Is it the right size and shape?
<b>Transaction completion phase</b>	Is pricing for the product competitive with similar brands and models?	Is it compatible with existing systems?
Was the provider polite?	<b>Post-transaction phase</b>	Was the customer satisfied with their observation of the product or product demonstration?
Were the terms of the transaction clear?	<i>Installation</i>	Was the customer satisfied with trials of the product?
Was the customer able to ask transaction related questions of the provider?	Is there a product quality check before delivery to the customer?	<b>Post-transaction phase</b>
Were questions answered quickly?	Is installation available?	Was the customer able to use the product right away?
Was the person completing the transaction knowledgeable about the transaction process and the products involved?	Are the installers well trained?	Was the customer able to learn the operation of the product quickly?
Was the transaction perceived to be simple or was it complex involving multiple parties?	Is there an installation quality check list?	Was the documentation good?
Was the transaction completed in a time-frame commensurate with the expectations of the customer?	Is satisfactory operation after installation verified?	Did the documentation explain the operation of the product?
<b>Post Transaction Phase</b>	Are installers trained to be respectful of customer property?	Did it answer the customer's questions?
<i>Delivery / Installation</i>	When installation problems arise are explanation and alternative services offered?	Did it explain things
Did the customer understand what the installation would require?	Are installers trained to train customers?	Was the customer satisfied with operation of the product relative to expectations?
Was the customer able to get installation done on the customer's schedule?	<i>Operational support</i>	Were there features of the product that did not work as expected?
	Are staff prepared to provide operational training?	
	Can it be done in a timely way?	
	Are staff trained to trouble shoot?	
	Are staff informed about idiosyncrasies that may be perceived as problems?	

<p>Were the number of interactions required to accomplish the installation minimal?          Were the installation services comprehensive or did the customer have to act as a general contractor for the installation?          Did the installers have the right parts and equipment at the time of installation          Was the installation accomplished efficiently?          Was the customer satisfied with the level of knowledge of the installers?          Was the installer's attitude satisfactory          Was the installer's dress satisfactory          Was the installer's language satisfactory</p>	<p><i>Consumables</i>          Does the product require consumables?          Were consumables supplied at the time of delivery?          Are the consumables readily available?          Are they in stock?          Can staff identify other locations where a customer may locate consumables?          Can staff show a customer how to install consumables?</p>	<p>Was it as quiet as expected?          Did it complete its operations in the expected time?          Was the customer satisfied with the results of using the product?          Was the customer satisfied with the installation?</p>
<p><i>Payment billing / schedule</i>          Does the customer understand when the payments will be due?          Is that schedule satisfactory with the customer?          Does the customer understand the bill?          Are the customer's expectations about the bill and the amount of the bill in line with each other?          Is the customer satisfied that the bill is accurate.          Does the bill come to the customer in the desired way?          Are the payment options satisfactory?          Is the customer able to determine who to call about billing questions?          Is the customer satisfied that he or she can quickly get answers to billing questions?          Are referrals of billing questions timely and accurate?          Are account representatives polite and courteous?</p>	<p><i>Maintenance / Warranty</i>          Are there clear policies about non-working returns?          Do staff know how to deal with non-working returns?          Is staff available to maintain the product?          If not, are maintenance referrals available?          Are repair staff well trained?          Are parts in stock?          Are staff trained to deal with customers in difficult circumstances?          Can timely appointments be established?          Are staff trained to leave the general environment in good condition?          Are staff trained to explain repair needs to the home/owner?</p>	
<p><i>Service</i>          Was the customer satisfied that she or he knew how to initiate a service inquiry?          Was the customer able to make service arrangements quickly with a minimum of referral?          Was the response timely?          Did the response minimize the requirements on the customer?</p>		

When a scale has an odd number of categories, the respondent can choose a middle category, for instance “4” on a scale of “7”. There are three categories below the mid-point and three above. By choosing the middle, the respondent does not have to exhibit any tendency in one direction or the other. In other words, the respondent can be “neither satisfied or dissatisfied.” Initially, the argument about whether or not to have a middle category was driven by the concern that people would avoid making a commitment and gravitate to the middle category.

At least in satisfaction research, there is no evidence that people gravitate to the middle. In fact, the typical response pattern is to overwhelmingly pick positive values rather than negative ones. Most distributions of customer satisfaction have a negative skew which means there is a clustering of responses around values of high satisfaction.

Table 2 presents data from five surveys (refs. 3, 5, 6, 8, 12). The average satisfaction rating on a 5 point scale for the five programs was between 4 and 5. When the programs are compared, the differences in satisfaction between the programs are in the percentages of respondents choosing the “very satisfied” and “somewhat satisfied” categories. Notice that almost no respondents indicated they were somewhat dissatisfied or very dissatisfied. This is a typical pattern of response for a “standard” satisfaction question and the pattern holds regardless of the number of points in the scale.

### **How Many Points In A Scale?**

The argument about the number of points to use in a scale has basically revolved around two issues, the number of discriminations people can make and the ability to discriminate sources of satisfaction.

Faced with the task of judging a series of objects on some criterion and then organizing the objects into like categories, most people will organize objects into seven or fewer categories. Many people will use only three, four or five categories to group a set of objects. Some people will create seven categories and a few may divide the objects into even more groups. Researchers have concluded that most people will make only seven or fewer meaningful distinctions. Based on this, many researchers have argued that the number of points in a scale should be limited to seven or fewer.

However, some satisfaction researchers argue that more than seven categories should be used. Their contention is that the compact response sets of 5, 6, or 7 point scales limit the potential variability of response and this in turn limits the ability to apportion the underlying variance to different determinants of satisfaction. These satisfaction researchers have tended to use 10 point scales. The argument is that the 10 point scales place less constraint on variability of response than scales using fewer categories do and that this aids the analysis of the sources of satisfaction.

The authors have observed that with reasonable sized samples, all the values on a 10 point scale are almost always used. However, just as with the 5 point or 7 point scale, most respondents choose values representing high degrees of satisfaction. Very few choose values representing dissatisfaction and it is most unusual for the average scale score to be below six on a 10 point scale.

### **What Do Scales Mean?**

A key issue in satisfaction research is the meaning respondents assign to scale values. In the case of the five point scales in Table 2, respondents were told the category meanings and reminded of them several times during the survey. An important reason for attempting to assign clear meaning to responses is to reduce the positive bias that satisfaction scales exhibit.

In telephone surveys, assigning clear meanings to categories becomes more difficult when the number of categories increases. The recitation of the categories takes additional time and the sheer number of categories can cause confusion for respondents. When 7 and 10 point scales are used in telephone surveys, the responses are almost never defined for the respondent because of the logistics of reading the categories. On a written survey, the meaning of 10 point scales can be illustrated by placing the categories across the page. Even so, there is strong tendency in written surveys to define the end points but not the middle categories.

Although it helps, assigning categories of meaning to responses in satisfaction questions does not fully eliminate the skew in the responses. Even with clear meanings assigned to the responses, the 5 point scales used to generate the data in Table 2 still show the skewed response patterns.

Merchant and Duffor (ref. 8) argue that an effective way to reduce the skew is to reword satisfaction questions so that they deal with performance expectations. An example of their suggested rewording might be, “did company XYZ perform much better than expected, somewhat better than expected, etc., etc.?” Merchant and Duffor demonstrate that scales built in this way result in response patterns that are more normally distributed.

However, the issue remains one of meaning. We argue that the reason that the distributions of responses differ between a standard satisfaction question and the performance expectations question is that the meaning of the questions is different.

We need to ask why there is a positive bias in satisfaction questions. The explanation is probably to be found in the work of Leon Festinger (ref. 4) or Darryl Bem (ref. 1). An individual receiving or purchasing a product or service makes a choice. When asked, the individual will express some level of satisfaction or dissatisfaction with the choice. If the individual expresses dissatisfaction, that implies that the individual made a poor choice and the in-



dividual's self-perception of the choice behavior is likely to be negative. However, individuals typically want to view their own behaviors as being positive. A negatively perceived behavior conflicts with the desire to view one's behavior as positive. This conflict between perceptions is called "cognitive dissonance."

Festinger argues that individuals strive to reduce cognitive dissonance. In the case of the purchase of a product or service, the purchase action is not easily reversed. However, the individual can easily alter his or her evaluation of the action. Based on Festinger's work, we would expect people to have a positive bias in assessing products and services.

Bem's theory is a variation on this same theme. He argues that beliefs arise out of actions (rather than the other way around). Thus, rather than arguing that people have a need to minimize cognitive dissonance, he argues that people look at their behaviors and decide what their beliefs are on the basis of their behaviors. In short, someone who purchases a product or service will rationalize their satisfaction with it. Either Festinger's or Bem's theory leads us to the logical inference that there should be a positive bias in satisfaction questions.

Either theory also can be used to demonstrate that the performance expectations question will result in a distribution of responses that is more nearly normally distributed. If a person reports that the performance of the product or firm deviates widely from his or her expectations, then the individual is reporting that they did not judge a situation well. In order to reduce the potential for cognitive dissonance, the individual is likely choose a response that indicates the product more or less met their expectations. From a Bemian perspective, an individual would look at their behavior and conclude that since they have purchased the product or service it must be meeting their expectations. Whichever theory one chooses, one would expect a bias toward meeting expectations.

Ultimately the bottom line is that asking the standard satisfaction question will result a response set with a positive bias. A 5, 7, or 10 point scale will work almost equally well. There is probably some small advantage to a 10 point scale in that it may allow for a better apportioning of the variance.

Until the implications of changing the satisfaction question to a performance expectations question can be investigated more thoroughly, it is advisable to continue using the standard satisfaction question. The key to understanding customer satisfaction is to identify those elements of satisfaction which explain the variance. If the question is changed, the variance to be explained is almost certainly different and the factors that explain it may be different or weighted differently. It has not yet been demonstrated that the same factors explain performance expectations and satisfaction.

## A Method For Identifying The Drivers Of Satisfaction

One of the keys in analyzing satisfaction is to identify the "drivers" of satisfaction. Drivers of satisfaction are the specific underlying factors that cause more general measures of satisfaction to go up and down. With our model we are suggesting that overall satisfaction is a function of at least three relationships, customer / provider, provider / product, and customer / product relationship. To truly understand customer satisfaction, we need to understand how each of these factors contributes to overall satisfaction.

A linear model of customer satisfaction model might be expressed as follows:

$$S = a + b_1C_s + b_2P_s + b_3D_s$$

where:

S = overall customer satisfaction;

C<sub>s</sub> = an estimate of satisfaction with the customer / provider relationship

P<sub>s</sub> = an estimate of satisfaction with the customer product relationship; and,

D<sub>s</sub> = an estimate of the product provider relationship.

By assessing the contribution of each variable to the explained variance we can judge the relative importance of the three basic factors .

Each of the three basic relationships can be represented similarly. For example, satisfaction with the customer / product relationship is a function of satisfaction with the pre-product selection relationship, the transaction relationship, and satisfaction with the post-transaction relations. In other words,

$$C_s = a_c + b_{1c}R_{c1} + b_{2c}R_{c2} + b_{3c}R_{c3}$$

where:

R<sub>c1</sub> = an estimate of the customer satisfaction with the pre-product selection phase;

R<sub>c2</sub> = an estimate of customer satisfaction with the transaction phase; and,

R<sub>c3</sub> = an estimate of customer satisfaction with the post transaction phase.

Once again, the contribution that each of these variables makes to the variation in the customer provider relationships can be examined and the relative importance of each determined.

The step can be repeated an additional time to examine the importance of factors explaining each of the phases of the relationship.

### **An Example of identifying Drivers Of Satisfaction**

A one stage version of this procedure is nicely illustrated in a recent study for a Department of Energy organization (ref. 2). Overall satisfaction with how the organization's staff supplied general information was measured. Also, customers were asked to rate their interaction with staff during general information queries for courtesy, providing accurate information, willingness to follow-up, promptness in meeting promises, understanding the request, providing a timely response, and ease of initial contact.

When the overall staff satisfaction score was regressed on the factors contributing to satisfaction with staff, courtesy, willingness to follow-up, providing accurate information and promptness in meeting promises explained a significant amount of the variation in overall satisfaction. Understanding the request, providing a timely response or referral, and ease of making contact did not. Understanding the request and providing a timely response actually had mean ratings that were as high or higher than items which contributed to overall satisfaction. Without the multivariate analysis, these factors might have been considered more important than they were. It is not the absolute score that counts but whether there is an association between the overall satisfaction score and a component of that satisfaction. In other words, a change in a component of satisfaction has to be matched by a change (positive or negative) in overall satisfaction

### **Using Results To Drive An Organization**

How can the results in this example be interpreted and used? Three examples suffice to illustrate the point.

People who gave staff low overall satisfaction ratings believe that that staff understand their questions just as well as people who gave the staff high overall satisfaction ratings. Because the ratings in terms of understand requests are high, both types of customers believe their requests are being understood. Put differently, staff who respond to customers appear to understand what the customers want and the customers appear to be getting to those people right away. In other words, there is no association between overall satisfaction and understanding the request. That doesn't mean that understanding requests is unimportant it just means that changing it won't impact

overall satisfaction. If staff understanding of requests were to drop because of changes in policy or staffing, understanding requests might become a significant driver of satisfaction in future studies.

When compared to other components of overall staff satisfaction, the average satisfaction score for ease of making the initial contact was low. Here again, there is no statistical relationship between this variable and overall satisfaction. For this aspect of the service, the expectations for getting a quick response or the need for a quick response appear to have been equally low among those who gave high or low overall satisfaction scores.

To round out the example, people who gave staff high overall scores also were highly satisfied with willingness to follow-up on requests and the accuracy of information. Those who gave low overall satisfaction scores were less satisfied on either of these counts.

If this organization is to increase the overall satisfaction of customers it must focus on the drivers. It must make sure that personnel who deal with customers express a willingness to follow-up and that customers get accurate information. If this doesn't happen then overall satisfaction will not improve or even decline. If you are a manager in this organization, this says that you concentrate your improvement money, energy and resources on these factors. At the same time, you need to maintain the ability to understand customers' problems and maintain the ease of initial contact. Improving on these elements won't increase your overall satisfaction score but letting current levels of service slip may lead to a decline in satisfaction.

The important point to take away from this part of the discussion is that you have to change things that make a difference. Identifying things that make a difference requires determining which factors explain variance in overall satisfaction. Comparing raw means of measures of satisfaction is not a satisfactory way to do this..

### **Conclusions About Measuring And Managing Customer Satisfaction**

This paper defines a comprehensive scheme for measuring satisfaction and using the measurements to direct an organization

The first step is to recognize that customer satisfaction is about relationships and perceptions of relationships. Customer satisfaction is a complex multi-dimensional phenomenon. Measuring customer satisfaction not only involves measuring overall customer satisfaction but in identifying the drivers of satisfaction and measuring them as well.

Organizations cannot be all things to all people. It is important to identify who customers are. It is important to know which customers an organization wants to serve. Once this is done, an organization can focus on satisfying these customers.

Because customer satisfaction is about relationships, customer satisfaction has to be measured from the perspective of relationships. The model presented in this paper provides a basis for systematically identifying important relationships. There are three basic relationships, the customer / provider relationship, the provider / product relationship and the customer / product relationship. In turn, each of these relationships can be examined systematically to determine potentially important aspects of a relationship.

Once the underlying structure of relationships is identified, measures can be constructed to tap the structure of the relationship. The data should be analyzed using multivariate analysis techniques that clearly demonstrate which underlying factors drive satisfaction. Managers can then focus their efforts on improvements in areas which will make a difference rather than focusing on all areas.

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