Customer Value and Competitive Position

William J. Feuss

We've talked about it at Alliance meetings. It's the theme of today's leading undergraduate text in marketing, Armstrong and Kotler, 9th edition. Two Alliance partners – Alcatel-Lucent and AT&T – were pioneers in it. But what precisely is Customer Value, how can it be quantified, and how can it be applied to improving competitive position?

To begin, Customer Value has a middle name, Perceived. Customer-perceived value is a customer's evaluation of the extent that a product or service that he or she actually purchased is worth what he or she paid for it. Why is it important? At the individual level, there is some evidence that value perceptions drive purchase decisions. At the aggregate level, however, there is abounding evidence that relative perceived value

Where did Customer Value come from? Some history might be helpful. At least since the 1970s AT&T had conducted customer-satisfaction surveys, largely for the purpose of regulatory reporting. While the highest-level measure of the survey was overall satisfaction, not perceived value, the surveys contained underlying measures of customers' evaluations of more detailed aspects of their telecommunications prod-

The PIMS (Profit Impact of Marketing Strategy) Principles. A major step was the company's abandonment of the construct of overall satisfaction in favor of the following question (Feuss, 2003): How would you rate [Insert Vendor]'s [Insert Product] on being worth what you paid for it?

Notice something subtle about the above question. The company was no longer sampling just its own customers. It was sampling the markets in which it operated. In other words, its surveys, which were administered blindly, captured not only the evaluations of its customers, but also the evaluations of its competitors' customers. Hence, the company could now assess the performance of its products and services relative to those of its competition. Specifically, the company began to calculate relative perceived value, the ratio of AT&T's value rating to that of its competition.

> *Customer-perceived value is a customer's evaluation of the extent that a product or service that he or she actually purchased is worth what he or she paid for it...*

drives market share. When this finding was established at AT&T, in the late 1980s and early 1990s, it received the attention of the highest levels of senior management because of the well-supported finding that market share drives profitability (Buzzell & Gale, 1987).

Because it uses post-purchase, aggregated data, what is now called Customer Value Analysis is directly applicable to strategic planning. Strategic planning affects Research and Development (R&D) via its resource-allocation process. In addition, the criteria for the evaluation of proposed R&D projects can include the likelihood to improve customers' perceptions of overall quality and value, and thereby their likelihood to increase market share.

ucts and services. After AT&T's divestiture of its Bell Operating Companies in 1984, it became clear that these surveys were not very useful. The overall-satisfaction ratings had no correlation with market share. While AT&T earned consistently high ratings in customer satisfaction, it was losing customers (Kordupleski, 2003).

In the late 1980s and early 1990s, Raymond Kordupleski led a team of researchers that worked toward the development of more useful customer surveys – surveys that indicated where market share was headed and provided insight into how to improve the company's competitive position. The early efforts were characterized by trial and error, but they became more structured after Kordupleski read Buzzell & Gale's book,

Survey data are generally assumed to be interval scaled; that is, they lack a meaningful zero. Therefore, the division of interval-scaled data is technically inappropriate. Nevertheless, the less-than-totally informed calculation of this ratio, representing relative perceived value, resulted in the discovery of a leading indicator of market share in several of the markets in which AT&T operated. In about 1992, the company gave this ratio a name, Customer Value Added (CVA). Statistically, perceived value behaves as if it is a weighted average of customers' perceptions of overall quality, and their perceptions of price competitiveness. If we conduct a survey that contains the appropriately worded questions for perceived value, overall quality, and price-competitiveness, and

we regress value on quality and price, we obtain the following equation:

$$Value = b_0 + b_1(Quality) + b_2(Price) \pm e$$

Where:

    b_0 is the intercept,

    b_1 represents the weight for Quality,

    b_2 represents the weight for Price,

    and e is the error term.

Similarly, overall quality behaves as if it is a weighted average of its industry-specific main attributes. Perceived price-competitiveness is assumed to be negatively correlated with actual price; that is, as actual price decreases, perceived price competitiveness improves. These relationships hold for both absolute measures (i.e., sample means) and relative measures (i.e., ratios).

The recommended language for the overall quality question is very similar to that used in J. D. Power & Associates Initial Quality Survey (Power, 2008; Feuss, 2003): How would you rate the overall quality of [Insert Vendor]'s [Insert Product]? Similarly, the survey should include the following question: How would you rate [Insert Vendor]'s [Insert Product] on being competitively priced? A ten-point rating scale, where 1 means poor and 10 means excellent, has proven to be best for this type of research. The identification of industry-specific attributes and recommendation of language for them are beyond the scope of this paper. Let it suffice to say that these questions should be short, tested for clarity, and few in number.

What Drives Value Perceptions?

There is much theoretical and empirical support for the hierarchal structure of the attributes that form perceptions of value (Zeithaml, 1988). The following example, relative to carrier-grade network equipment, was easily derived from information in a paper by Clark, Cleveland, Denby and Liu (Not Dated) that is available from a Bell Laboratories web site (see Figure 1).

The percentages X and Y indicate the relative importance of quality and price in the formation of customers' value perceptions. Technically, they are normalized, standardized betas derived from the previously mentioned regression analysis. Percentages A through F are derived from the regression of

**Figure 1 – Alcatel-Lucent's Value Model**
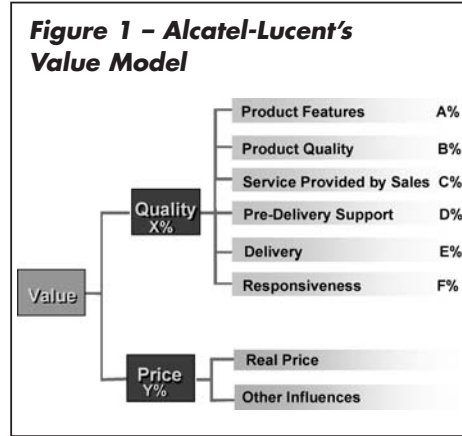
overall quality on its formative, industry-specific attributes, and they provide insight into the relative importance of each attribute.

Knowledge of both the relative importance and the company's level of performance on each attribute can help the firm allocate its scarce resources towards areas where innovation and improvement efforts would most likely enhance its competitive position.

We now shift our discussion from importance to performance; specifically, the performance of your company in relation to its competitors.

Knowing Your Competitive Position
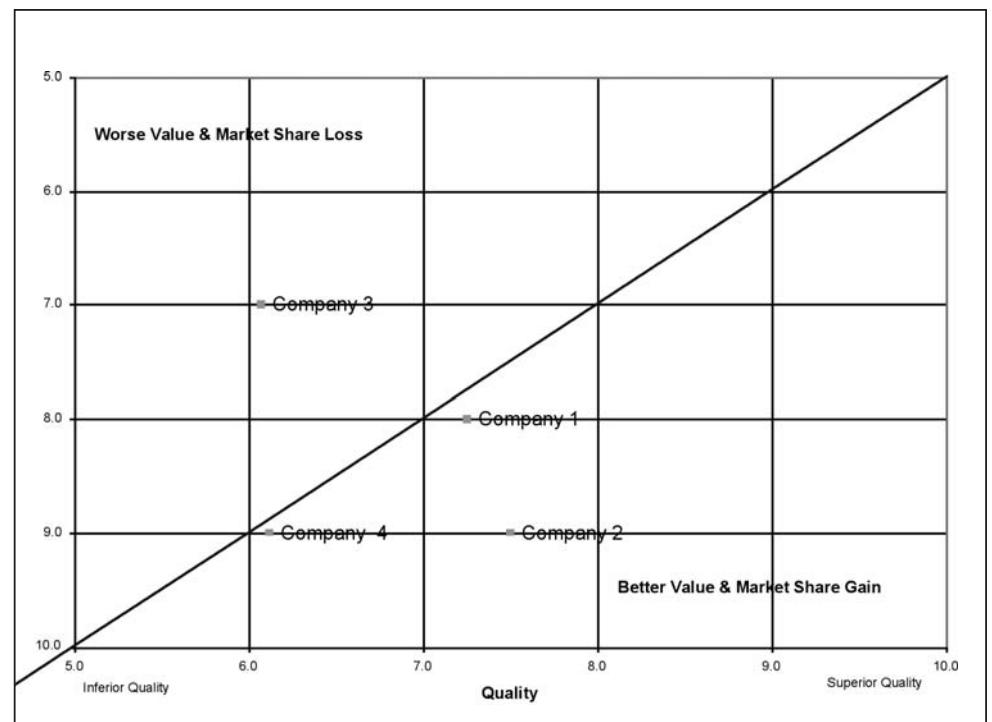
Knowing your competitive position is the first step toward improving it. In the featured article of the November 2007 issue of Harvard Business Review, Richard

D'Aveni wrote: "Whenever I've asked senior executives to map the positions of their company's key brands and those of key rivals, we end up confused and dismayed (D'Aveni, 2007)." This need not be the case. A key tool of Customer Value Analysis, the value map, makes clear a company's competitive position, and it can serve as the basis for strategic planning discussions.

The value map was devised by economist Bradley Gale and was first published in 1985 (Gale & Klavans, 1985). It was brought to the attention of a larger audience in the landmark book, *The PIMS Principles* (Buzzell & Gale, 1987). The cross-sectional value map shown in *Figure 2* is an updated version of the original value map that was used by AT&T and Nortel at the turn of the century (*Hafiz & Hendricks, 2001*). It is called a cross-sectional value map because it reflects the results of a cross-sectional analysis of a single period (e.g., quarter) of survey data.

The diagonal line of equal (or fair) value on the value map is an isoquant that shows how customers trade-off price for quality. More importantly, it partitions the competitive landscape into two diagonals. Firms that intentionally position themselves in the lower right diagonal tend to capture the market, and those who find themselves in the upper left diagonal tend to either go out of business, or get acquired. The deriva-

tion of the isoquant from the results of the regression of value on quality and price (originally done by Khalid Hafiz, unpublished) is beyond the scope of this paper.

The coordinates for each company's competitive position are its mean survey ratings for (perceived) overall quality and price competitiveness. Note that, unlike the original value map, the scale of the y-axis on the cross-sectional value map is inverted to reflect the previously mentioned and well-supported assumption that perceived price-competitiveness is negatively correlated with actual price.

- The results of tests of significance of the differences between the company's performance levels and those of the competition, both individually and in the aggregate, in the "Diff" column

- The results of tests of significance, in the delta (Δ) column, that compare current performance to prior-period performance, and indicate whether a company's perceived performance has improved, deteriorated, or remained statistically unchanged

In *Figure 3*, Company 1 is the company that is sponsoring the analysis. The "All Others"

How Do You Improve Competitive Position?

In 1950, W. Edwards Deming taught the Japanese that they could "capture the market by providing better quality at a lower price" (Deming, 1986, p. 3). That's how companies like Toyota, Wal-Mart, Costco and Procter & Gamble do it. Perhaps during the current economic crisis, it's time to either read or re-read Out of the Crisis, a book that Deming wrote with the aim of "trying to keep America from committing suicide" (Yates, 1992).

Page four of that book contained the famous Figure 1 that Deming used in Japan as a starting point for its reconstruction. We might well consider its many messages more deeply. Below as Figure 4, with permission of the publisher, is Deming's famous Figure 1 (Deming, 1986, p. 4).

The three key tools of Customer Value Analysis are the value map, the value model, and the competitive-comparison table.

How do we interpret the value map? In the above example, we infer that companies 1 and 4 are providing fair value. Company 2 is providing superior value, and it will likely gain market share at the expense of its competitors. Company 3 is in trouble. Perhaps it will go out of business, or get acquired.

In making these inferences, we assume that the differences among companies are statistically significant.

The third key tool of customer value analysis, the competitive comparison table, allows us to test our assumptions. It contains three main elements:

- The mean performance ratings of a company and its competitors on value, quality, price, and the underlying attributes of overall quality

column contains the results for its competition at the aggregate level. Companies 2, 3, and 4 contain the results for each of its key competitors. All statistical tests are relative to Company 1. A plus sign (+) in the "Diff" column indicates whether Company 1's rating is significantly better than the competitor on an attribute, a minus sign (-) indicates that it is significantly worse, and it is blank if there is no significant difference between the ratings.

The delta (Δ) column contains an upward arrow if the current average rating for the attribute is (statistically) significantly higher than the rating from the previous period of time. The arrow points downward if the perceived rating is significantly worse, and the column is blank if there is no statistical difference between current and prior-period performance.

Figure 4 – Deming's Figure 1
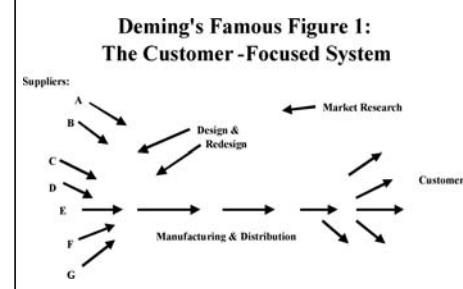
In this figure, the value-creation process begins with market research, which uncovers needs and opportunities, and informs R&D. This seems simple enough. In reality, however, it appears that most market researchers view their client as the marketing department, and that R&D tends to work independently in pursuit of scientific discovery. When we consider the failure

Figure 3 – Competitive Comparison Table

Attribute	Company 1	?	All Others	?	Diff.	Ratio	Company 2	?	Diff.	Company 3	?	Diff.	Company 4	?	Diff.
Value	7.6		7.5			1.0	8.3		-	6.5		+	7.6		
Price	8.0		8.3			1.0	9.0		-	7.0		+	9.0		-
Quality	7.3		6.6		+	1.1	7.5	?		6.1	?	+	6.1		+
Selection	7.1		6.2		+	1.2	7.0			5.8		+	5.7		+
Music	7.3		6.9		+	1.1	7.3			7.7			5.8		+
Promptness	7.2		6.6		+	1.1	7.9		-	6.0		+	5.9		+
Beverages	7.7		6.8		+	1.1	7.5			6.4	?	+	6.5		+
Food	7.2		6.4		+	1.1	7.3			5.9		+	5.9		+
Atmosphere	7.4		6.3		+	1.2	7.4			5.7		+	5.8		+
Convenience	6.4		6.6			1.0	7.8	?	-	5.9		+	6.1		

rates for new products, perhaps it would be beneficial to remind ourselves of the two necessary conditions for demand: 1) a need (or desire), and 2) the ability to pay for its satiation. Clearly, Market Research and R&D should work together more closely.

How quickly will our country and our companies emerge from the current economic crisis? It will probably take a long time. Perhaps the recovery time would be shorter if we accepted and understood Deming's teaching that the way to re-capture lost markets is by "providing better quality at a lower price." This is what providing superior Customer Value is all about.

The value map helps companies understand their competitive position. The value model identifies the drivers of value perceptions, and shows their importance in relation to each other. The competitive-comparison table shows companies how they are doing, relative to competition, in the specific areas that matter most to customers. Knowing where they stand, companies can begin to chart a course Out of the Crisis. ∎

The author is indebted to AT&T and Alcatel-Lucent for providing him with his grounding in Customer Value Analysis. Both companies were pioneers in the origination of this methodology, and contributed much to its evolution and its place in current industry practice.

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Implementing Customer Value Analysis

- Prepare a sampling frame for the entire market that your company serves, not just your own customers, and an appropriate plan for sampling it.

- Like J. D. Power & Associates, use Overall Quality, not Overall Satisfaction, as your measure of overall benefit.

- Use the recommended wording for perceived price competitiveness, instead of satisfaction with price.

- Implement the question on perceived value, using the recommended wording, to capture how customers trade-off price for quality, and to assess your company's competitive position.

- For each key attribute of overall quality, use language that is meaningful to both the customer and the company. In this way, you can more readily identify the features or business processes that would benefit from improvement or innovation efforts.

- Survey the market blindly. In other words, have a market research firm conduct the survey on your company's behalf without identifying your company as the survey's sponsor. The purpose of doing this is to obtain minimally biased performance evaluations for your company and its competitors.

- Know your company's competitive position, and inform the development of strategic plans to improve it, via the three key tools of Customer Value Analysis: the value map, the value model, and the competitive-comparison table.

About the Author:

William Fuess is Assistant Professor of Marketing at Ramapo College of New Jersey. He was an active participant in Alliance Roundtable meetings when he held the position of Director – Market Research & Analysis at AT&T Global Information Services. He received his Ph.D. in Interdisciplinary Science from Stevens Institute of Technology, where he was recipient of the Institute's Outstanding Dissertation Award in 2003 for "The Post-Purchase Impact of Brand Image."

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