



QUIRK'S

Marketing Research Review

An indexing approach to brand equity

This is the second part of a two-part series that concentrates on alternative tools helpful in evaluating a set of opinion and/or judgmental attributes often used in selecting suppliers. Part 1, "Evaluating P-E gap analysis," which appeared in the June 2006 issue, presented the results of examining the difference or gap between performance and expectations of the set of attributes as they applied to a respondent's most-often used supplier (attribute importance also was taken into consideration); the resulting model was called a P-E gap analysis. This article introduces an indexing approach based on derived importance leading to a perceptual map of the set of suppliers, an indicator of brand imagery.

The project was based on a survey among life science and medical professionals that addressed emerging technologies, tested reactions to new product concepts, measured brand awareness and loyalty, and assessed advertising effectiveness. For a complete description of the overall project scope and data source

refer to the earlier article.

Better indicator

Asking respondents to state the importance of product attributes can lead to ambiguous results because so often, many of the attributes are deemed as being equally important. To get a more accurate picture of what is truly important, determining derived importance (versus that stated in the set of importance questions) can give a better indicator of what is really important. For the study, and with a focus on the supplier most often used, respondents were asked their opinion toward a series of product, service and brand features (attributes) using questions designed to obtain their impression regarding importance, expectations, and how they felt about the supplier's performance (see following question examples) along with an overall satisfaction question. It has been found that the collective usage of these three question categories gives a much better indication of what drives overall satisfaction and thus a stronger indicator of "true" impor-

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tance.

Each respondent was asked to rate a series of attributes using a seven-point Likert scale ranging from a "low" rating to a "high" rating using the following type of questions. (The questions were presented in a grid fashion with the attributes sectioned by category as row elements and the three rating scales as column elements. Alternative presentations were tested and no discernable difference in technique was found.)

Very High Rating			Very Low Rating			
7	6	5	4	3	2	1

Previous studies have identified the following features as important to other life science researchers. When considering your Primary Supplier's [noted in an earlier question] ability to provide [such product or service], how IMPORTANT to you are

Attributes	Supplier				
	A	B	C	D	E
Overall, how satisfied are you with [Supplier]?	6.0	6.1	5.7	5.8	5.9
Automation (e.g., bar coding)	6.1	6.2	5.8	5.9	6.2
Guaranteed minimum yields	5.8	5.9	5.5	5.5	5.9
Size ranges available	5.9	5.9	5.7	5.9	5.9
Guaranteed purification levels	6.0	6.0	5.7	5.9	6.0
Large-scale synthesis offered	5.8	5.9	5.6	5.9	5.9
Purification options available	5.5	5.5	5.2	5.4	5.5
Easy-to-label/identify	5.8	5.7	5.5	5.8	5.8
QA/QC documentation	5.9	5.9	5.5	5.7	5.8
Quality of raw materials	6.0	6.0	5.7	5.9	6.0
Lot-to-lot consistency	5.8	5.8	5.4	5.7	5.8
Range of synthesis scales offered	6.1	6.0	5.7	6.1	6.1
Easy-to-handle/manipulate	5.9	5.9	5.6	5.8	5.9
Variety of formats offered (e.g., tubes, plates)	5.8	5.8	5.6	5.6	5.8
Variety of modifications offered	5.0	5.1	5.3	5.4	4.9

each of the following?

How we expect a company to perform may differ from how they actually perform. How high or low are your EXPECTATIONS for each of these features when purchasing [such product or service] from your Primary Supplier?

As we mentioned in the previous question, how we expect a company to perform may differ from how they actually perform. How well is your Primary Supplier PERFORMING based on your experiences when purchasing [such product or service] from this company?

Common methods used to develop derived importance include bivariate correlation and regression analysis. For the former, the correlation coefficient between each independent variable (opinion set of importance questions) and the dependent variable (overall satisfaction) is an indication of derived importance, whereas for the regression approach, the level of importance is based on the beta coefficient (if mixed independent variable data types then the standardized beta), taking level of significance into account. This is often called the cause/effect or key driver model. Additionally, the response scale would be interpreted as interval for purposes of the regression model.

Composite and individual models

This study sought an indicator of brand equity or imagery and used regression analysis to develop derived importance as described

above. A composite (overall) model as well as individual models for each supplier in the study (Table 1) were determined.

Next, a method of rank ordering based on an indexing scheme was conducted for each attribute across suppliers relative to the attribute's overall result (Table 2). Thus, when comparing each supplier's individual beta coefficient (per attribute) to the overall coefficient an index or ratio between the two can be derived that shows a relative positioning of each attribute by supplier. This index can then rank ordered and summed. When summing the attribute indices supplier-by-supplier, the supplier with the highest overall index has the highest brand equity (taking the sign into consideration). From this, a perceptual mapping of these results would display the brand position of the different suppliers.

Attributes	Supplier					
	Overall Parameter Beta (n=1033)	A (n=293)	B (n=281)	C (n=124)	D (n=78)	E (n=149)
Automation (e.g., bar coding)	0.143	0.165	0.256	0.170	0.073	0.374
Guaranteed minimum yields	0.112	0.104	0.128	0.104	-0.042	0.039
Guaranteed purification levels	0.140	0.127	0.131	0.064	0.281	0.062
Large-scale synthesis offered	0.058	0.130	0.004	0.008	-0.072	-0.053
Purification options available	0.059	0.059	0.040	0.126	0.071	0.097
QA/QC documentation	0.054	0.127	0.103	-0.126	-0.020	-0.098
Quality of raw materials	0.058	-0.001	-0.010	0.173	0.132	0.139
Range of synthesis scales offered	0.073	0.095	0.039	-0.023	0.131	0.222
Variety of formats offered (e.g., tubes, plates)	0.099	0.096	0.135	0.243	-0.035	0.162
Variety of modifications offered	0.079	0.054	0.007	-0.043	0.222	0.182

Note: Dependent variable is overall satisfaction for primary supplier; independent variables are the set of importance opinion attributes

Table 1 displays an example of the mean results by supplier for overall satisfaction and the series of attributes in the survey. The results are presented in Table 2. Table 3 displays the resulting indices that are used to depict derived brand equity and shown in Figure 1.

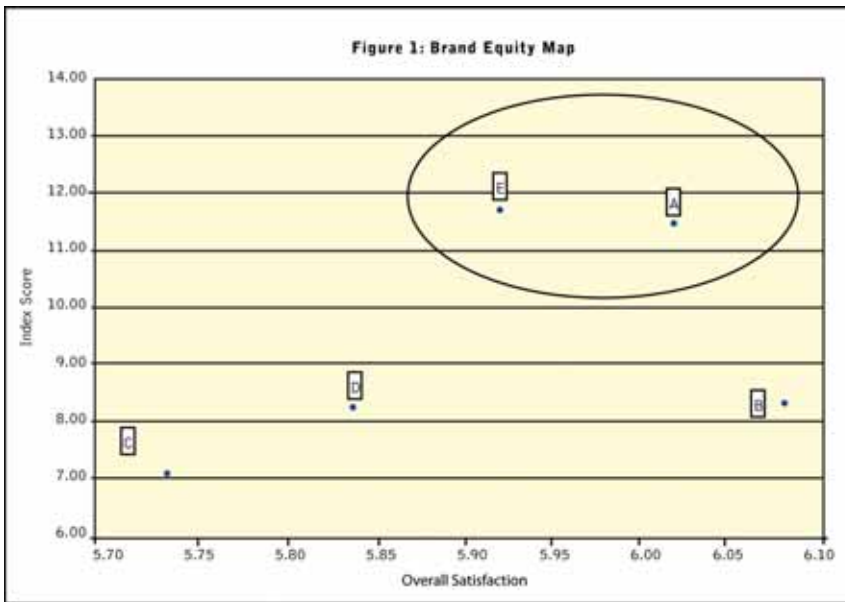
Table 2 shows the result of the regression model for derived importance (set of statistically significant attributes); the larger the absolute value of the beta coefficient the more important the attribute. Overall, automation stands out (0.143). The same holds true for Supplier B (0.256) and several others, whereas for Supplier D, guaranteed purification levels (0.281) is key.

On the other hand, the model finds that QA/QC documentation had relatively little importance (0.054, overall). Notice that this attribute's level of importance was much higher for Supplier A than for Supplier D, 0.127 compared to -0.020, respectively.

Table 3 shows the brand equity indices for each attribute across suppliers. Each index was derived using the overall beta coefficient for each attribute as the basis, and then comparing each supplier's beta to that base: The indices are the ratio between each attribute's beta within each supplier and the overall beta for that attribute. For example, from Table 2 and the attribute automation, the overall beta coefficient was 0.143 and for Sup-

Table 3: Index Table by Supplier

Attributes	Supplier				
	A (n=293)	B (n=281)	C (n=124)	D (n=78)	E (n=149)
Automation (e.g., bar coding)	1.149	1.787	1.185	0.509	2.605
Guaranteed minimum yields	0.921	1.142	0.927	-0.375	0.343
Guaranteed purification levels	0.911	0.935	0.458	2.006	0.440
Purification options available	0.995	0.672	2.124	1.190	1.639
QA/QC documentation	2.328	1.884	-2.314	-0.373	-1.807
Quality of raw materials	-0.013	-0.169	2.993	2.283	2.407
Large-scale synthesis offered	2.222	0.074	0.130	-1.232	-0.914
Range of synthesis scales offered	1.312	0.531	-0.323	1.802	3.057
Variety of formats offered (e.g., tubes, plates)	0.969	1.363	2.457	-0.358	1.640
Variety of modifications offered	0.677	0.084	-0.541	2.802	2.299
Index sum	11.471	8.303	7.096	8.254	11.709



plier A the beta was 0.165, giving an index of 1.149 (0.165/0.143). Thus, when a comparison is made to Supplier E's index (2.605), it suggests that automation was much more important to overall satisfaction among respondents who use Supplier E more often than among users of Supplier A. On the other hand, with an attribute index of 0.509 this attribute is less important to users of Supplier D.

Once all indices are derived, the

sum should give a composite indicator, an overall rating of brand equity based on the derived importance model. The higher this overall index the higher the perceived supplier (or brand) equity. These rank sums are found at the bottom of Table 3.

Also notice that the signs from the beta coefficients are carried forward and are interpreted in a similar fashion: A positive attribute/supplier index says that that at-

tribute has a direct cause/effect relationship on overall satisfaction and its brand equity, whereas a negative sign denotes an indirect relationship and then is deducted from the supplier's overall score.

Figure 1 shows the supplier positions, with overall satisfaction along the x-axis and the equity index along the y-axis. The findings indicate that, while a supplier's satisfaction rating might be high, when opinion attributes are taken into consideration there can be a shift in perception. That is, an indicator of brand equity has more to do with the cumulative effect of perceived opinion than simply satisfaction. The "ideal" positioning would be in the upper-right-hand quadrant, where both satisfaction and cumulative opinion are the greatest.

Though Supplier B has the highest overall satisfaction rating among this set of suppliers, its brand equity index (8.303) under this model's scenario is less than both Supplier A (11.471) and Supplier E (11.709).

Combination of methods

While there are various ways to determine and present brand imagery, the appeal here is that it utilizes a combination of well-known methods from traditional approaches, primarily derived importance, and then expands on that information to collectively estimate brand equity. One final note: While one might attempt to view the results as an indication of market share, this should be avoided. Just because a brand has high equity does not necessarily mean that it has high market share. | Q