

Steps on the Path to Loyalty: An Assessment of ENERGY STAR[®] Brand Equity Indicators

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ABSTRACT

As a key tool of energy efficiency market transformation efforts, it is important to understand how the ENERGY STAR[®] label is performing over time. CEE and the sponsors of the ENERGY STAR surveys have long recognized the possibility that the cumulative effects of efforts to publicize the label might result in new challenges to tracking label performance and monitoring the results of program administrators' publicity efforts. They have also recognized that the survey could do a better job of measuring brand equity. This paper identifies and reviews existing indicators of ENERGY STAR label performance and value; explains the thinking behind new questions designed to measure brand equity that were added to the 2005 survey; assesses these questions for their potential as indicators; and offers suggestions for consideration in the design of the next ENERGY STAR survey. The results show that good indicators are already in place for measuring label awareness, understanding, and differentiation, though only in the latter indicator is there much room for growth. The paper identifies some of the more promising attitudinal indicators of consumer feelings about the brand, loyalty, and perceived value of labeled products, and identifies an approach to improve the direct measure of loyalty.

Introduction

ENERGY STAR is a government-backed labeling program designed to help businesses and individuals identify products that offer superior energy efficiency. Established in 1992 by the U.S. Environmental Protection Agency (EPA), this voluntary program identifies and promotes energy-efficient products to reduce greenhouse gas emissions and save money for consumers and businesses. In 1996, EPA partnered with the U.S. Department of Energy (DOE) to administer the ENERGY STAR label for particular product categories. The label can be found on a wide variety of qualified products, including major appliances, office equipment, lighting, home electronics, new homes, and commercial and industrial buildings.

ENERGY STAR partners with more than 8,000 private and public sector organizations to deliver the information and tools that organizations and consumers need to choose energy-efficient solutions and management practices (ENERGY STAR 2006). Among its partners are retailers, manufacturers, and utilities and other administrators of publicly funded energy efficiency programs. For many of these efficiency program administrators, the ENERGY STAR label is a key tool in their efforts to transform markets to favor more energy-efficient products.

As part of their energy efficiency programs, program administrators provide a wide variety of marketing support for the ENERGY STAR label, including announcements in utility bills, point-of-purchase sales materials, advertising, and public information spots. As administrators of systems-benefit charge and other public funds, they are required to report energy savings or other program progress indicators to their states' regulators for efforts of this type. In 2000, the Consortium for Energy Efficiency (CEE) and many of its members that administer efficiency programs pooled resources to begin collecting time series data on public

awareness and understanding of the ENERGY STAR label.¹ This information is used by CEE members in their reports to regulators. It is also helpful to the ENERGY STAR program, which can better manage its publicity campaign for the label and provide better support to its many partners if it has access to timely, appropriate information regarding the public's perception of the ENERGY STAR label.

The results of the previous five iterations of CEE's ENERGY STAR Household Awareness Survey firmly show that the message of the ENERGY STAR label is clear enough for consumers to correctly interpret the label's meaning. For example, in 2005, 59 percent of respondents demonstrated a "high" understanding of the label, and 70 percent of respondents showed at least a "general" understanding of the label's meaning, up from 37 percent and 49 percent, respectively, in 2000 (U.S. EPA 2006; CEE 2006). Previous analyses of the time series data have established that promoting the label works: label awareness and understanding are consistently higher in areas with high, sustained levels of publicity activities, i.e. where efficiency program administrators and other ENERGY STAR partners have actively publicized the label for an extended period (Nevius, Goldberg & McNamara 2002; Nevius & Feldman 2004). Promotions through point-of-purchase materials have also been shown to be an effective reinforcement mechanism for heightening awareness among consumers who report having shopped for energy-using products in the year prior to being surveyed (Nevius & Feldman 2004).

Thus far, then, previous years' survey results show that the label is achieving some significant measure of what EPA and DOE intended: to identify and promote high efficiency versions of products. To ensure that the label continues to perform effectively, and that those responsible for promotional efforts have the information they need to improve their work, monitoring of the label's performance needs to continue. The considerable advances made since 2000 in public awareness and understanding of the label, however, make it unlikely that awareness or understanding will rise a great deal higher without a massive budget increase.

CEE and the sponsors of the ENERGY STAR surveys have long recognized the possibility that the cumulative effects of efforts to publicize the label might result in new challenges to tracking label performance and monitoring the results of program administrators' own publicity efforts. They have also recognized that the survey could do a better job of measuring brand equity. This paper identifies and reviews existing indicators of ENERGY STAR label performance and value, explains the rationale behind new questions in the 2005 survey designed to measure brand, and assesses these questions for their potential as indicators of brand performance and value.

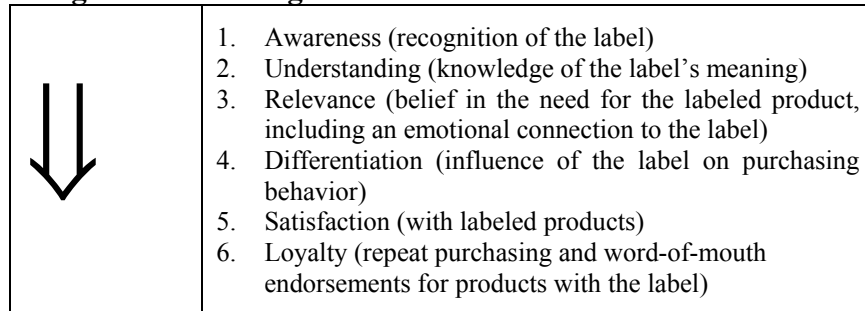
Background

One way to develop an approach to measuring brand equity is to identify metrics that are anchored in a guiding theoretical context, and which hold out hope as predictors of desired

¹ The following organizations have sponsored CEE ENERGY STAR Surveys: Alliant Energy, Bonneville Power Administration, Cape Light Compact, Connecticut Light & Power, Energy Center of Wisconsin, KeySpan Energy Delivery, Long Island Power Authority, MidAmerican Energy Company, Midwest Energy Efficiency Alliance, National Grid USA, New Hampshire Electric Co-op, New York State Energy Research & Development Authority, New Jersey Board of Public Utilities, Nevada Power, Northeast Utilities (WMECO), Northwest Energy Efficiency Alliance, NSTAR Electric, Pacific Gas & Electric, Sacramento Municipal Utility District, San Diego Gas & Electric, Southern California Edison, Southern California Gas, United Illuminating, Unil Corporation, Wisconsin Department of Administration, and Xcel Energy.

outcomes. To help identify and operationalize indicators for use in brand equity measurement, CEE and the survey sponsors relied on two models of brand-building or brand equity measurement. One model was the ENERGY STAR label’s “branding continuum” (Figure 1). It lays out the anticipated stages through which consumers are expected to go as they move from becoming aware of the label to becoming loyal, repeat purchasers of labeled products.

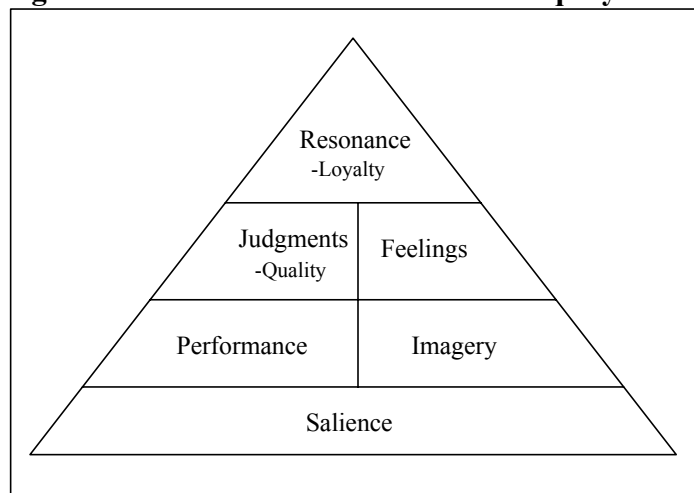
Figure 1. Branding Continuum for ENERGY STAR Label



(Source: Julie Colehour, Colehour+Cohen, Seattle, WA. Used with permission of ENERGY STAR.)

Indicators were also based on a popular model from the field of marketing, Keller’s “Customer-Based Brand Equity model” (2001; 2003). This model offers a series of dimensions to maximize equity-building, and describes brand equity indicators based on these. A version of Keller’s model that shows both the main dimensions and selected subdimensions relevant to measuring ENERGY STAR brand equity is shown in Figure 2.²

Figure 2. The Customer-Based Brand Equity Model



(Source: Adapted from Keller 2003)

These two models overlap conceptually in several ways. Salience in Keller’s model is essentially recognition of the label, or Awareness from the branding continuum. Feelings in Keller’s model are the emotional reactions to the label, which is very similar to the concept of an emotional connection to the label that is part of the Relevance stage of the branding continuum.

² For a more complete description of the model and its subdimensions, see Keller (2003).

In both, loyalty is the pinnacle or endpoint of the model. As Keller explains, ‘the strongest brands will be those to which consumers become so attached and passionate that they, in effect, become evangelists on their behalf’ (Keller 2001:17). Loyalty to the ENERGY STAR label and purchasing of labeled products, then, are the desired outcomes that robust indicators of brand equity should ideally be able to predict.

Methods

The CEE ENERGY STAR survey has been fielded annually since 2000. Starting in 2001, the survey was fielded to a random sample from a panel of households via Internet or webTV. The panel was designed to be representative of the U.S. population. The 2005 survey was fielded using the same methodology as in the years 2001-2004. The sample was designed and weighted to result in valid national results for 2005 and comparisons against previous years’ data. As in previous years, the sample was stratified into categories of message saturation or publicity, including “high publicity”³ and “low publicity.”⁴ For details on the data collection methodology, including sample sizes and response rates, and results for individual questions, see the 2005 survey report (U.S. EPA 2006).

CEE and the survey sponsors designed a series of experimental questions for the 2005 survey in order to operationalize indicators of brand equity based on the models described above as they apply to the ENERGY STAR label. Table 1 shows how the stages of the branding continuum and dimensions of the customer-based brand equity model were operationalized, and the number of years each question has been asked. For five of the six steps in the branding continuum, questions asked in previous years of the survey already provide reasonable, direct measures; with one exception, these were not supplemented in the survey. New questions were developed to operationalize the following items from the two models: Performance and perceived Quality of ENERGY STAR-labeled products; Satisfaction with products purchased; and Feelings or Relevance. Three attitudinal questions to measure loyalty that were suggested in Keller’s work were also adapted to the ENERGY STAR label as an additional measure of this important element of brand equity.

Analyses of the data were undertaken based on the assumption that the measures of loyalty and self-reported purchasing of ENERGY STAR-labeled products are essentially brand equity or value outcomes. Thus, a relationship between any of these outcomes and a variable lends credence that the variable may indeed be measuring some aspect of brand equity. Not every one of the variables examined lends itself to such an analysis. The variables for which longitudinal data are available do not, since in each case one of the variables was a prerequisite for the other. (E.g., respondents had to recognize the label in order to be categorized as having purchased a labeled product.) These variables were instead examined over time and by level of publicity to see how much room might be left for growth and if greater publicity of the label mattered. The new attitudinal questions were examined by whether or not respondents reported having purchased ENERGY STAR-labeled products in the year prior to the survey, and were subjected to factor analysis to determine if any of the latent variables hypothesized to underlie them emerged from the data, or if other logical factors emerged. A series of exploratory

³ Areas in which utilities or other organizations have based a publicity or rebate program on the ENERGY STAR label, and this effort included a minimum degree of promotion for at least two years.

⁴ Areas with no other ENERGY STAR promotions beyond the national-level efforts conducted by the EPA/DOE.

regression analyses were conducted to examine the possibility of predictive relationships among all the variables, selected demographic characteristics, and the measures of loyalty. An attempt was also made to identify relationships among the attitudinal variables, selected demographic characteristics, and self-reported purchasing of ENERGY STAR-labeled products.

Table 1. Measurement of Brand Equity/Performance Variables in the 2005 ENERGY STAR Survey

	Based on:		Years in Survey
	Branding Continuum	Keller	
Model Stages or Dimensions Measured			
Performance			
Q16A. ENERGY STAR-labeled products provide me with more benefits than products without the ENERGY STAR label.		√	1
Q16B. All new products use energy just as efficiently, whether or not they have the ENERGY STAR label.		√	1
Q16J. ENERGY STAR-labeled products deliver what they promise.		√	1
Quality (a subdimension of Judgments)			
Q16C. ENERGY STAR-labeled products offer better value than products without the label.		√	1
Q16M. I don't find any real difference in performance between products with the ENERGY STAR label and those without the label.		√	1
Q16K. ENERGY STAR-labeled products do not meet my needs.		√	1
Satisfaction			
WQC. In general, how satisfied are you with each of the following products you purchased? (mean of responses)		√	1
Loyalty			
Measured via attitudinal questions, as a subdimension of Resonance:			
Q16D. I prefer to purchase ENERGY STAR-labeled products whenever I can.		√	1
Q16E. I would not go out of my way to purchase ENERGY STAR-labeled products.		√	1
Q16L. I consider myself loyal to ENERGY STAR-labeled products.		√	1
Measured directly:			
W10A. How likely are you to recommend ENERGY STAR-labeled products to a friend? (existing question)		√	5
Feelings (Keller) or Relevance (branding continuum)			
Q16F. Buying ENERGY STAR-labeled products makes me feel like I'm helping to protect the environment for future generations.	√	√	1
Q16I. Buying ENERGY STAR-labeled products makes me feel like I'm spending extra money for nothing.	√	√	1
Q16G. Buying ENERGY STAR-labeled products makes me feel like I'm acting responsibly.	√	√	1
Q16H. Buying ENERGY STAR-labeled products makes me feel like I'm contributing to society.	√	√	1
Salience (Keller) or Awareness (branding continuum)			
Measure of aided recognition (label awareness)	√	√	6
Understanding			
Open-ended measure of label understanding	√		6
Differentiation			
OQ8. For each of the ENERGY STAR-labeled products you purchased, how much did the ENERGY STAR label influence your purchasing decision? (mean of responses)	√		5

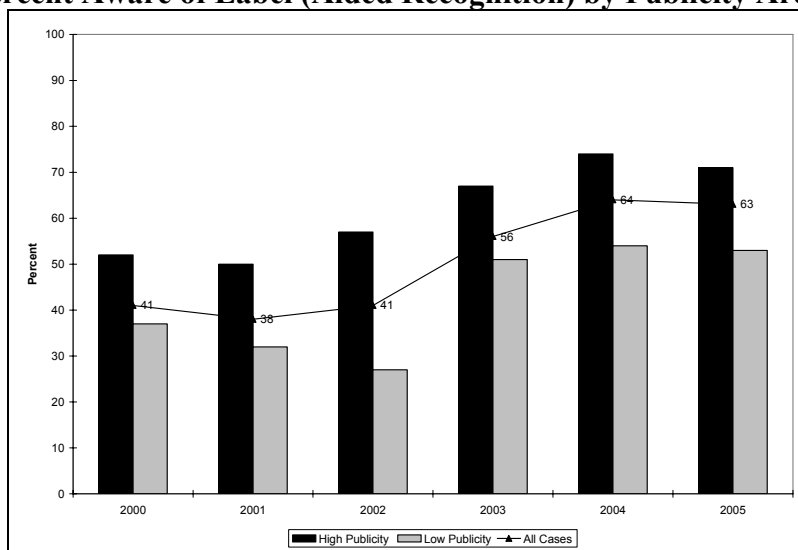
Results

Trends in Direct Measures and Relationships with Publicity Levels

Awareness. Figure 3 shows label awareness (as aided recognition) by publicity from 2000 to 2005. At the national level, awareness increases from 41 percent in 2000 to 64 percent in 2004, and remains statistically unchanged in 2005. For all six years of the survey, awareness is

significantly higher in high-publicity areas than in low-publicity areas (at a minimum, $p < 0.01$ each year). The flattening of the curve supports the survey sponsors' concern that awareness may be reaching the maximum that can be expected given the relatively limited funding that ENERGY STAR and its partners have to spend on publicity.

Figure 3. Percent Aware of Label (Aided Recognition) by Publicity Area, 2000-2005



Understanding. Figure 4 shows high understanding of the label by publicity category from 2000 to 2005. High understanding rises steadily in all six years of the data, from a low of 37 percent in 2000 to a high of 57 percent in 2005. Again, the differences in high understanding between high- and low-publicity areas vary in expected ways for all survey years, and this difference is statistically significant each year ($p < 0.001$). Since 2002, high understanding of the label has risen more slowly in low-publicity areas than in high-publicity areas, and high understanding in high-publicity areas flattens at 65 percent for both 2004 and 2005. This suggests that ENERGY STAR may be reaching the maximum likely level of high understanding that is achievable given limited publicity budgets.

High understanding of the label was compared by whether or not respondents were ENERGY STAR “purchasers”: i.e. whether or not they had reported purchasing a labeled product in the 12 months prior to the survey. As Figure 5 shows, for the years in which there is a statistically significant difference in understanding by purchasing ($p < .05$ for 2001 and $p < .005$ for 2004), a greater percent of those with high understanding of the label reported having purchased a labeled product.

Differentiation. The means of differentiation, or self-reported influence of the label, was calculated for the years 2001 to 2005. Self-reported influence was modest (with means between 2.7 and 2.4, or between “slightly” and “somewhat” influenced) and relatively flat throughout all five years. Clearly, there is still room for label influence to grow.

Satisfaction. A measure of product satisfaction was included for the first time in 2005. Respondents who reported having purchased any products in the 12 months prior to the survey were asked “In general, how satisfied were you with each of the following products you purchased?” Response categories ranged from “very dissatisfied” (1) “very satisfied” (5). The

mean response for all ENERGY STAR-labeled products purchased was 4.5; for all unlabeled products, it was 4.2. This difference is statistically significant at the $p < .05$ level. The only product category with enough purchasers of both labeled and non-labeled products for statistically significant differences to be meaningful was windows. The means of satisfaction for those who had purchased ENERGY STAR-labeled windows was 4.7, versus 3.5 for those who had purchased unlabeled windows ($p < .05$) (U.S. EPA 2006).

Figure 4. Percent High Understanding of Label by Publicity Area, 2000-2005

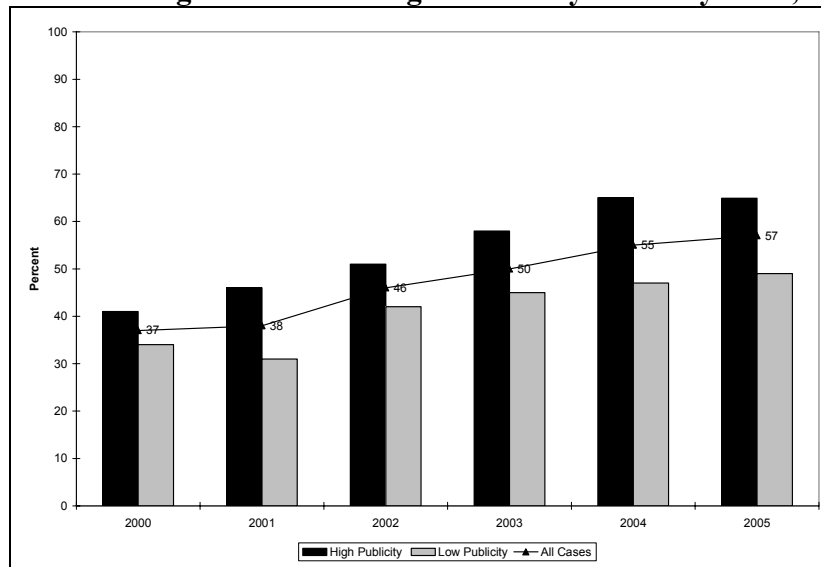
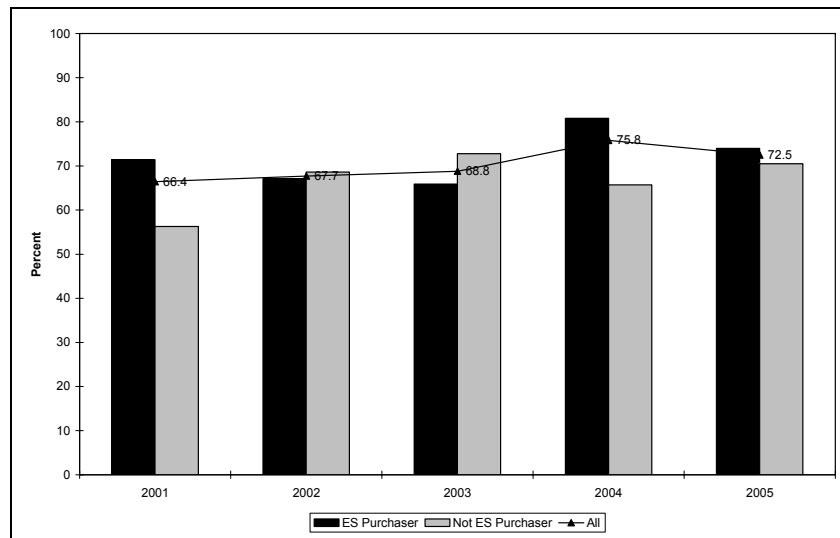


Figure 5. Percent High Understanding of the Label by Purchasing of Labeled Products



Loyalty. The means of the direct measure of loyalty, or self-reporting willingness of respondents to recommend ENERGY STAR-labeled products to a friend, was calculated for the years 2001 to 2005. In 2001, the mean was 2.2; it slowly but steadily drops to 1.9 in 2005. (The response categories run from 1, for “very likely” to recommend to a friend, to 4, for “not at all likely.” As with differentiation or self-reported influence, lower values are more desirable.) This represents a

gradual improvement in loyalty since the first year the question was asked. However, with the mean of loyalty hovering between “somewhat likely” and “very likely” to recommend labeled products, there does not appear to be much room for further growth in this indicator as it is currently measured.

Relationships between Attitudinal Variables and Brand Equity or Value Outcomes

The means of the individual attitudinal questions were compared by whether or not respondents were ENERGY STAR purchasers. As expected, for questions that were worded to be favorable to the label, agreement was consistently higher among “purchasers”; for questions worded unfavorably, agreement was consistently lower among purchasers. The differences were statistically significant at the $p < .005$ level in every case.

The mean response of all respondents to the attitudinal questions varied from 2.3 to 3.7 on a scale of 1 (“strongly disagree”) to 5 (“strongly agree”). The mean response to favorably worded questions for “purchasers” ranged from 3.3 to 3.9. The mean response of this group to unfavorably worded questions varied from 2.0 to 2.7. These results suggest that if any of these questions are kept as indicators going forward, there should be room for continued progress on each.

Correlations between the direct measurement of loyalty (willingness to recommend labeled products to a friend) and the attitudinal questions—between .31 and .52 in most cases—also were all in the expected direction, with higher negative correlations between favorably worded attitudinal questions and willingness to recommend the label (indicating greater willingness to recommend) and the opposite for unfavorably worded questions.

A factor analysis was run on the attitudinal questions to determine if the subset of latent variables around which they were designed would emerge. Clear, easily interpreted factors would help in determining which questions are more promising indicators of various aspects of brand equity. The use of factor scores from the factors, rather than individual attitudinal questions, would also help in determining which variables to use in the regression analyses.

The hoped-for factors—performance, quality, loyalty, and feelings—did not appear in any of the wide range of possible factor analysis solutions examined. A series of exploratory factor analyses also did not yield easily interpreted factors. A basic problem underlying the factor analysis was that several questions loaded on multiple factors.

A series of three questions—W16F, G, and H, three of the four questions designed to measure feelings or relevance—consistently loaded together on the same factor (although mixed with other variables that rendered the factor results uninterpretable) and were highly correlated (with R-values of .674 or higher). A reliability analysis was conducted on these variables. With a Cronbach’s alpha of .869, it was decided to sum these three variables into an index for use in regression modeling. This reduced the number of attitudinal questions for analysis from 13 to 11.

Exploratory regression analyses were performed using the two measures of loyalty—the direct measure asking about willingness to recommend ENERGY STAR-labeled products to a friend, and the most direct of the attitudinal variables, W16D—as dependent variables. In addition to the questions listed in Table 1, a series of demographic characteristics that logic or previous experience would suggest might have the potential to affect purchasing were also included. These were publicity area, household size, respondent age, household income, respondent gender, dwelling type, home ownership, and education. A binary variable was also added that indicated whether or not the respondent was aware that the U.S. government awarded

the ENERGY STAR label. For each model there were two runs, one with and one without the additional questions originally designed to measure loyalty. Since the ratio of independent variables to cases was high (about 5 cases per variable) and the analysis was exploratory, the regressions were conducted via backwards elimination. Given the low ratio of cases to independent variables, the results should be interpreted with caution.

Regression on the direct measure of loyalty, including the other attitudinal questions designed to measure loyalty, yielded a series of demographic characteristics, understanding of the label, and several attitudinal measures as predictive variables. The demographic characteristics were degree of publicity, home ownership, respondent gender, age, and dwelling type. The attitudinal measures were the feelings/relevance index, W16A (“ENERGY STAR-labeled products provide me with more benefits than products without the ENERGY STAR label”), and W16E (“I would not go out of my way to purchase ENERGY STAR-labeled products”). While W16A was originally proposed as a measure of product performance, on its own it is perhaps more accurately interpreted as a measure of product value, suggesting that perceived value of labeled products may also affect loyalty to the label. With the attitudinal measures of loyalty excluded from the analysis, W16I (“Buying ENERGY STAR-labeled products makes me feel like I’m spending extra money for nothing”), which was originally designed to be part of the feelings/relevance index but on its own is probably also better interpreted as perceived product value, emerged as predictive of the direct measure of loyalty. The results with the attitudinal loyalty questions included suggest that W16E is performing as an indicator of loyalty, despite the ambiguous factor analysis results, and that feelings/relevance (W16F, G and H) and perceived product value (as measured by W16A and I) may indeed be useful as indicators of brand equity.

Regression on the attitudinal measure of loyalty, W16D, yielded one demographic characteristic and several attitudinal questions as predictive variables. Household income and feelings/relevance emerged as predictive both with and without the other loyalty measures included. With the other loyalty measures included, W16E and another measure from the original loyalty battery, W16L (“I consider myself loyal to ENERGY STAR-labeled products”) emerged as predictive. This again lends support to W16E as a promising attitudinal measure of loyalty despite the factor analysis results, and suggests the same for W16L. With the attitudinal loyalty questions excluded, W16I also emerged as predictive, again lending support to the idea that this measure of perceived product value may be a useful indicator of brand equity.

An attempt was also made to run a logistical regression with the binary purchasing variable as the dependent variable and the attitudinal variables, understanding of the label, and selected demographic characteristics as the independent variables. (Variables not asked of those who had not purchased products were excluded.) This proved impossible given the ratio of non-purchasers to the number of independent variables. A logistical regression using the variables that emerged above as predictive of loyalty (i.e. label understanding, household size, respondent age, household income, respondent gender, dwelling type, home ownership, education, feelings/relevance, W16A, E, I, and L) was run. This combination of variables yielded a probability of correct prediction of 66 percent—better than mere chance. In the time available for exploratory logistic regression, the author was unable to find a better logistical regression solution. This result at least lends credence to the findings above regarding attitudinal variables with more promise as indicators of brand equity.

Discussion

The analysis of awareness over time and by publicity category show awareness of the label increasing steadily, getting quite high in areas with more publicity, but perhaps beginning to flatten generally. The analysis of understanding shows a similar pattern. These findings lend support to the survey sponsors' concerns that aided awareness may soon reach a plateau (at least in areas of high publicity) given the amount of funding available for publicity of the label.

Differentiation, or self-reported influence of the ENERGY STAR label on purchasing, shows a small degree of movement in a direction favorable to the ENERGY STAR label over time, but the differences from year to year are so small that they are probably not statistically significant. The trend at least shows that there is room for this indicator to grow.

The analysis of product satisfaction shows on average greater satisfaction with ENERGY STAR-labeled products purchased by respondents than with non-labeled products. This is an important finding from the perspective of the branding continuum, as the relationship with purchasing lends support to the logic behind the continuum as a model of brand building for the ENERGY STAR label, and to the product-level measure of satisfaction as having promise as a good indicator of differentiation. This finding also underscores the importance of product quality to the label, and of ENERGY STAR's continued dedication to raising the bar on quality. (For example, the current specification for compact fluorescent light bulbs requires manufacturers to participate in and fund independent third-party testing of ENERGY STAR-labeled bulbs.) Unfortunately, without a considerable increase in the number of cases collected, there will be very few occasions on which it will be possible to determine via this question if a quality problem exists for specific categories of ENERGY STAR-labeled products.

The trend over time in the direct measure of loyalty is also promising, and suggests slow but steady growth in willingness to recommend labeled products to a friend. The importance of willingness to recommend products as a measurement of the value accrued to a brand is underscored by the work of Reichheld (2003). Reichheld argues that this type of question is the only necessary indicator of success and the best predictor of growth in the market—at least in the case of service-oriented brands such as those of car rental agencies. While the ENERGY STAR label is not a service-oriented brand, Reichheld's approach to measuring and analyzing willingness to recommend a product or brand to a friend could be of value to CEE and the survey sponsors in making the question more useful going forward, given how little room for improvement is left taking the current approach. Reichheld advocates measuring loyalty via this type of question using a 10-point scale, rather than the four-point scale currently used by CEE, and tracking change over time in the percentage of those who give responses of 9 or 10 as “promoters” in a measurement of “net loyalty.”⁵ The purpose of this approach is to avoid interpreting tepid responses as though they were strong, or being misled by socially desirable responding. If CEE and the survey sponsors decide to change to a response scale similar to Reichheld's for this question, it should be done in such a way as to make it possible to back-code answers to match the earlier four-point scale so that the benefit of the time-series will not be lost.

The comparison of means of responses to the attitudinal questions by self-reported purchasing behavior, and the relatively high correlations of these questions with the direct

⁵ “Net loyalty” is computed by subtracting the percentage of survey respondents who report that they are less than likely to recommend the company or product (i.e., rated 5 or lower on a 10-point scale) from the percentage most likely to do so (rated at 9 or 10 on the scale).

measure of loyalty, are helpful in showing that relationships do indeed exist between the direct measures of desired brand equity or value outcomes and the attitudinal questions, and that the relationships are in the direction expected. While the factor analysis results were not very helpful in reducing the number of variables for use in multiple regression analysis, they do point to the need to hone the attitudinal questions further. Since the purpose of brand equity indicators is to track changes in perceptions of brand value over time it seems appropriate to choose a few individual attitudinal questions to commit to tracking via the survey going forward. Admittedly, measuring an attitude via just one or two individual questions poses the danger of biased results due to question wording and direction. However, if the questions are being used as simple trackers of change over time, such issues may not be so important.

The regression analyses suggest that certain attitudinal variables have greater predictive value with respect to brand equity outcomes than others, and so should be given more weight when CEE and the survey sponsors decide which attitudinal variables to keep in the survey. Specifically, these are W16A and I as measures of perceived ENERGY STAR product value; W16D, E and L as attitudinal measures of loyalty; and one or more of the questions W16F, G, and L as measures of feelings about the label, or relevance.

Conclusions

CEE and the sponsors of the 2000-2005 ENERGY STAR surveys have long recognized the possibility that the cumulative effects of efforts to publicize the label might result in new challenges to tracking label performance and value and monitoring the results of program administrators' own publicity efforts. This paper identified and reviewed existing indicators of ENERGY STAR label performance and value, explained the thinking behind new questions added to the 2005 survey, and assessed these questions for their potential as indicators.

Clearly, reasonably good indicators are already in place for measuring label awareness and understanding, even if growth in these is slowing or may have stalled. A good indicator is also in place for measuring differentiation, or self-reported influence of the label, and there remains plenty of room for growth in the latter indicator.

With the direct measure of loyalty already at very high levels, taking the measurement approach suggested by Reichheld could improve this indicator's sensitivity and value. Including one or more of the attitudinal loyalty questions identified as predictive of purchasing behavior could also help make the survey's measurement of loyalty more robust.

The analysis presented here suggests that feelings or relevance and perceived value of ENERGY STAR-labeled products, as measured by one or more of the attitudinal questions, offer some predictive power with respect to ENERGY STAR brand loyalty, and thus should be considered for use as indicators of brand equity going forward.

Finally, the fact that satisfaction, relevance, and other previously unmeasured steps of the branding continuum were related to either loyalty, self-reported purchasing, or both, lend support to the logic of the branding continuum and its usefulness as a model of building ENERGY STAR brand loyalty.

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References

- [CEE] Consortium for Energy Efficiency. 2006. "Understanding of the ENERGY STAR Label, 2000-04." Available online: <http://www.cee1.org/resrc/facts/table2.pdf>. Boston, Mass.: Consortium for Energy Efficiency.
- ENERGY STAR. 2006. "History of ENERGY STAR." Available online: http://www.energystar.gov/index.cfm?c=about.ab_history. Washington, D.C.: U.S. Environmental Protection Agency and U.S. Department of Energy.
- Keller, K. L. 2001. "Building Customer-Based Brand Equity: A Blueprint for Creating Strong Brands." Working Paper, Report Number 01-107. 2005. Cambridge, Mass.: Marketing Science Institute
- Keller, K. L. 2003. *Strategic Brand Management: Building, Measuring, and Managing Brand Equity*. 2nd ed. Upper Saddle River, New Jersey: Prentice Hall.
- Nevius, M. J. and Feldman, S. 2004. "Shopping for an Education: The Added Value of Point-of-Purchase Materials." In *Proceedings of the 15th National Energy Services Conference and Exposition*. Clearwater, Florida, December 6-8. Jupiter, Florida: Association of Energy Services Professionals.
- Nevius, M. J., Goldberg, M. L. and M. McNamara. 2002. "ENERGY STAR Survey 2001: Implications for the ENERGY STAR Program and Program Partners." In *Proceedings of the ACEEE Summer Study*, 8: 65-76. Washington, D.C.: American Council for an Energy-Efficient Economy.
- Reichheld, F. F. 2003. "The One Number You Need to Grow." *Harvard Business Review*, (81) 12: 46-54.
- [U.S. EPA] United States Environmental Protection Agency. 2004. *National Awareness of ENERGY STAR for 2004: Analysis of CEE Household Survey*. March. Washington, D.C.: EPA Office of Air and Radiation, Climate Protection Partnerships Division.
- . 2006. *National Awareness of ENERGY STAR® for 2005: Analysis of CEE Household Survey*. May. Washington, D.C.: EPA Office of Air and Radiation, Climate Protection Partnerships Division.