

From Needs-based Segmentation to Objectives-Based Segmentation

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ABSTRACT

The purpose of this paper is to provide a framework for developing objective-based segmentations for use in energy marketing applications. It will describe the concept and methods of objective-based segmentation in detail. Specific steps for building the segmentation and developing applications tools will be discussed. Note that the examples provided are based on proprietary client assignments; therefore, they are presented in broad form and specific findings cannot be disclosed. However, general examples of how applications have resulted in increased revenue and reduced marketing costs will be cited.

Introduction

In 1985, the Electric Power Research Institute (EPRI) commenced the Customer Preference and Behavior project, which resulted in the well-known EPRI residential and business CLASSIFY segmentation models and tools. The CLASSIFY segmentations were evaluated and updated 1994-1995 by the same consulting group commissioned by EPRI to develop the original CLASSIFY (Finkbeiner & Lineweber 1994, 1995b). The CLASSIFY approach was revolutionary in that it shifted the focus of market segmentation from customer characteristics (demographic and firmographic) and supplier criteria (e.g., sales channel and kilowatt-hour sales) to customer needs and, in doing so, pioneered "needs-based segmentation" approaches (Berrigan & Finkbeiner 1997).

Since its development, the CLASSIFY approach has been the industry standard for electric utility market segmentations. CLASSIFY was primarily designed, and most effectively used, for the development and marketing of DSM programs and, conversely, load-building/shaping programs like lighting, motors and electric food-service equipment sales. Traditionally, utility marketing relied upon direct sales and mass-marketing channels -- account executives servicing assigned commercial/industrial accounts, and bill-insert and media communications for mass business and residential customers. Those channels were generally adequate, given the nature of DSM programs and energy-related sales in an environment of monopoly status within fixed-boundary service territories.

Deregulation raises new challenges and places new demands on energy suppliers' marketing capabilities. With competition, suppliers will need to develop strategies to retain their most valued customers and to acquire customers outside their traditional boundaries. They will diversify their offerings to include a broader portfolio of value-added services in addition to their commodity products. They will need strategies and tactical approaches for acquiring and retaining commodity and value-added service customers both within and outside their territories, for cross-selling value-added services to commodity customers and vice-versa, and for winning back high-value lost customers.

Development and implementation of effective marketing strategies and tactical approaches in the deregulated environment require a market segmentation with capabilities beyond the traditional "needs-based" approach of the CLASSIFY model. Certainly, customer needs must be part of any market segmentation if the supplier is to develop and market offers that appeal to customers.

However, the segmentation must be more than solely needs-based, for the problem with solely needs-based segmentations is that they often are not predictive of key customer behaviors of strategic interest. For instance, the CLASSIFY model can provide insights into some categories of value-added services that would appeal to customers, but is not likely to be predictive of switching behavior, account growth or cross-selling behaviors. Additionally, it will not adequately support prioritization of customers on the basis of current and potential value, nor do the CLASSIFY tools sufficiently facilitate identification and location of individual customers for direct sales and direct marketing applications.

In recognition of the need for an updated segmentation approach for the electric supplier industry, the consulting team who originally developed the CLASSIFY approach for EPRI and who updated it in 1994-1995 has developed innovative, "objective-based" segmentation techniques. "Objective-based" refers to the idea that the segmentation is structured around the supplier's strategic marketing objectives, while nevertheless incorporating customers' needs. These approaches have not been developed under EPRI sponsorship, but have incorporated the basis of the CLASSIFY approach along with techniques used in telecommunications and other industries, and have been applied to the development of market segmentations for energy utilities and their ESCOs.

While "objective-based" segmentation incorporates customer needs, it is grounded in three key principles that differentiate it from CLASSIFY and other purely needs-based segmentations:

- 1) Customer needs are incorporated into the segmentation to the extent that they are predictive of customer behaviors that are of key strategic importance. In this respect, segments are groups of customers exhibiting common needs that are linked to common behaviors -- e.g., specific patterns of usages, purchases, loyalty, etc. The behaviors of interest are defined in terms of the supplier's strategic objectives -- retention, acquisition, upselling, cross selling, etc.
- 2) In order to support prioritization of customers and prospects on value -- e.g., current or potential commodity and/or value-added service revenue/margin -- value dimensions are defined and incorporated into the segmentation. It is often useful to build a "two-tiered" segmentation, where the top tier is broadly defined "value-based" segments, and the second tier more granularly defined "market-management" segments.
- 3) Objective-based segmentation anticipates direct-sales and direct-marketing applications, and therefore incorporates into the design mechanisms for the development of predictive algorithms for customer/prospect prioritization and identification.

The remainder of the paper is organized in terms of the three key principles of objective-based segmentation described above.

Principle # 1: Incorporating Needs that are Predictive of Strategically Important Customer Behaviors

As discussed earlier, CLASSIFY is a general-purpose segmentation, and was developed to support a variety of "traditional" utility marketing initiatives, such as DSM programs and outdoor lighting sales. Appropriately, CLASSIFY encompasses a broad range of customer needs including household/business needs, energy-related needs, and attitudes toward suppliers. Because of its

breadth of coverage, CLASSIFY proved in its day to be a powerful tool for developing value-propositions and positioning statements. However, that same broad coverage resulted in complaints about CLASSIFY's inability to "predict" customer behaviors, like purchasing or using specific energy products: *"It doesn't tell me who buys space heaters."*

In defense of CLASSIFY, the model was never designed to predict behaviors, but to uncover customer needs that, when used in product development and positioning, enhance offer appeal. It was built on the basic premise -- which few will dispute -- that value propositions are more successful when they address customer needs. The basic CLASSIFY application is to take a technology and to build a product around it based on customer needs. For instance, space heaters become comfort machines. While the model can't explain who bought space heaters in the past, or necessarily predict who will buy them in the future, it can point to comfort-seekers and provide guidance on how to sell space heaters to them. Not the most efficient marketing technique by today's standards, but far better than what utilities had been doing before CLASSIFY -- essentially, guesswork. Moreover, the approach worked well in a non-competitive environment with unrestricted access to customers, and where the main objectives were to generate incremental revenue and meet DSM targets while lowering marketing costs.

In today's competitive environment, the stakes are higher and the marketing job more difficult. Customer acquisition and retention are near-universal objectives among suppliers. At the same time, access to customers and prospects -- from both a regulatory and practical standpoint -- is more restricted. New sources of high-margin revenue, generally through the sale of value-added services, are a necessity to offset declining commodity revenues and margins due to customer defection and competitive pricing. Clearly, there is a need for a market segmentation tool that will not only support value-proposition development with an understanding of customer needs, but that will be both predictive and explanatory of customer behaviors. In other words, marketers need to know who will switch providers and why, and who will purchase value added services and why. They need tools for efficiently identifying their target audiences and then focusing their marketing efforts on those audiences. Objective-based segmentation was developed to meet those needs.

In the simplest terms, if the strategic objective is customer retention and/or acquisition, then the segmentation focuses on customer needs and behaviors related to supplier selection and relationship. Most important, the segmentation dimensions must be predictive of loyalty/switching behavior, so that segments are measurably differentiated both on their likelihood of switching suppliers and their reasons for switching (or not switching). Similarly, if the objective is value-added service sales, then the segmentation focuses on customer needs and behaviors related to service purchases. Segments must be differentiated on their likelihood of purchasing services, the size of the opportunity they represent and the types of opportunities for service sales that they represent.

An obvious implication of this approach is that multiple objectives require multiple segmentations -- there is no "general" segmentation that supports multiple strategic objectives. For instance, given the two broad strategic objectives discussed -- retention/acquisition and value-added service sales -- two distinct segmentations would be required. However, as discussed later, multiple segmentations are best developed within a common value-based framework that facilitates prospect prioritization on multiple criteria.

To summarize: unlike CLASSIFY, objective-based segmentation makes no attempt to cover the breadth of customer business/household and energy needs. Rather, it focuses on the needs that are predictive of customer behaviors that are critical to meeting the supplier's strategic objectives. In doing so, it helps that marketer target specific segments that are likely to behave in a predictable manner. For instance, a marketer might want to identify customers who are open to switching

suppliers, but who are relatively price insensitive and prone toward loyalty if their servicing requirements are met. Or a marketer might seek to identify customers who are likely to purchase multiple household enhancement services from a single supplier. In either example, the marketer will require sufficient detail about the customers' needs to support value-proposition development and positioning (potentially of the brand and/or specific offers). Although the basic concept of objective-based segmentation is simple, its execution is more complicated. How are "needs that are predictive of customer behavior" actually identified and incorporated into the segmentation? The answer is best provided by a detailed example. Therefore, the remainder of this section describes an actual approach used to develop the needs measures used in an objective-based loyalty/switching segmentation. This example was selected because it is likely to be of interest to most energy suppliers. The approach requires four steps (Leon 1998). The first two steps identify and operationalize the needs that are input into the segmentation. The third and fourth steps ensure that the needs are predictive of loyalty/switching behavior.

Step 1: Initially Identifying Needs Related to Potential Loyalty/Switching Behavior

The first step in building an objective-based loyalty/switching segmentation is to develop a firm understanding of customers' needs, assumptions, requirements, concerns and expectations with respect to switching and supplier choice. Generally, this is best initially achieved via qualitative research (focus groups and/or individual-depth interviews). The outcome of this first step is a set of hypotheses regarding customer needs that will drive loyalty/switching potential and supplier selection.

In conducting the initial research, it is quickly discovered that different customers express very different assumptions and selection criteria with respect to supplier selection. Some are fearful of deregulation and nearly inert when it comes to selecting a supplier. Others look forward to choice and are motivated variously by expectations of lower prices, better customer service and a greater variety of products and services, ranging from appliance service contracts to green power to one-stop-shopping for home-improvement services. Some will patronize only local suppliers; others demand a national presence and track record in the industry, while still others will consider almost any type or brand of supplier. Clearly, the initial research must encompass a broad range of issues to ensure that key loyalty/switching drivers are included in the segmentation.

Step 2: Operationalizing Customer Needs Related to Loyalty/Switching Behavior and Supplier Choice

The next step is to operationalize the loyalty/switching drivers for quantitative (survey) assessment. These measures typically fall into five categories: 1) supplier characteristics (e.g., local, established, national brand, etc.); 2) commodity (e.g., bundled gas and electric, green power, clean power, etc.); 3) customer service (e.g., billing and payment options, customer service hours, on-line services, etc.); 4) value-added services (e.g., energy services, contractor services, communications, safety/security, etc.); and 5) incentives (e.g., sign-up rewards, loyalty programs, etc.).

Additionally, customer satisfaction and attitudes toward deregulation and retail choice – ranging from stark terror of failed grids to eager anticipation of benefits – shape switching propensities over and above price and other offer characteristics. Therefore, measures of customer satisfaction with the incumbent supplier and perceived benefits of and concerns about retail choice must be incorporated into the segmentation. Those measures should be detailed and reflect specific

areas of satisfaction/dissatisfaction, as well as specific concerns about and anticipated benefits of deregulation (e.g., price, service quality, reliability, etc.).

Step 3: Assessing Loyalty/Switching Potential across a Range of Price Points and Customer Requirements

The third step is to assess customers' likelihood of switching suppliers at various price points and to tie switching likelihood to their needs. Simply measuring their needs is not sufficient to predict how customers will react when confronted with offers that vary with respect to supplier, product, service and price, because customers make tradeoffs among their preferences when selecting an offer. For instance, one customer might be willing to pay more for green power or for a local supplier, while others might relax some requirements in exchange for greater savings. Rather, the needs must be tied analytically to the switching potential measures.

To build this analytic tie, customers first are asked their likelihood of switching to a supplier offering the exact same service at the exact same price as their current supplier. The results yield a "baseline" switching potential. Next, customers are asked their likelihood of switching to a supplier offering the exact same service as their current supplier, but at varying price points. Those measures yield price sensitivity, assuming no change of service. Customers are then asked to identify the supplier characteristics, commodity, customer service, value-added services and incentives (measures developed in Steps 1 and 2) they would require to switch suppliers at the price they currently pay for service, and again at various price points.

Step 4: Calibrating Loyalty/Switching Potential with Prior Cross-Category Switching Behavior

At this point we have sets of needs that are predictive of switching potential. But how do we know if our switching potential measures are predictive of actual behavior – that is, how do we know that the customers whom we predict to switch actually will? Given the immaturity of the market, it is difficult to calibrate the switching potential measures against actual behavior in the energy category.

For the present, the best solution is to incorporate prior switching behavior in non-energy categories into the segmentation. Although non-energy category behavior is not necessarily predictive of electric supplier switching, it is reasonable to assume that customers who have a history of switching behavior in other categories are more likely to switch electric suppliers than those who rarely switch in any category. This hypothesis is supported by the fact that switching behavior is often correlated across categories – that is, customers who switch in one category are more likely to switch in another. Therefore, it is most useful to have measures of prior switching behavior in a number of categories, and those categories should vary with respect to customers' overall likelihood of switching suppliers. For instance, customers more frequently switch long-distance companies than insurance companies.

It is worth noting that a variety of analytic techniques can be used to create the ties between the measures of customer needs, switching potential and prior switching behavior. We have tested factor analytic, regression and discriminant function techniques all with varying degrees of success. The important point is that a determination is made that the needs measures are indeed predictive of switching potential and are either directly or indirectly (through potential) predictive of prior behavior. Once that determination is made, all three sets of measure (needs, potential, behaviors) are used to define the segments. Again, a variety of statistical techniques, generally forms of cluster analysis, can be used to define the segments.

The segments derived are likely to be similar to those described in **Figure 1**. Note that the segments are differentiated along three dimensions – likelihood of switching suppliers, rationale for switching (or not switching) and prior switching behavior. And each of those three dimensions consists of a number of measures, as described throughout this section. In a nutshell, the segments are defined in terms of past and potential behaviors, as well as the needs that are predictive of those behaviors – precisely the information required by marketers to identify target groups and formulate value-propositions.

Principle #2: Incorporating the Value Dimension into the Segmentation

The CLASSIFY model does not directly incorporate measures of customer value. That is, measures such as current or potential usage, revenue and margin were not used to define or differentiate the segments when the model was developed. Nor were proxy measures such as household or business size. The reason, perhaps, was to distance CLASSIFY from the traditional utility “size and SIC” segmentation criteria and launch it into the realm of “pure customer needs” – a revolutionary approach in its time, when marketers only were first beginning to heed “the voice of the customer.” CLASSIFY was designed specifically to go beyond segmentation schemes based on sales and demographics/firmographics, which failed to explain why customers purchase what they do, and what they may need in the future. And, perhaps, it was thought that size and/or value measures could be “overlaid” onto the CLASSIFY segmentation, providing marketers with guidance for channel management and resource allocation.

But the ability to overlay value proved problematic, especially for business segmentations, for two reasons. First of all, it is distinctly possible to have customers of radically different sizes and values in the same CLASSIFY segment. For instance, a metropolitan hospital and the neighborhood dry cleaners could both appear in the CLASSIFY “survivor” segment. This makes it difficult to assign a channel to the segment because an account representative should service the hospital, while the dry cleaners should be assigned to a direct- or mass-marketing channel. It also is difficult to prioritize the segment as a whole based on any strategic value criteria.

So why not simply split the segment into “large” and “small” customer sub-segments? That doesn’t work well, either. Although large and small customers may share a segment, they are rarely evenly distributed in it – the segment is predominantly large or small, with a significant number of anomalies. But the anomalies may not be sufficient in number to constitute a subsegment. And a more ominous problem is revealed when the anomalies are removed -- each subsegment can begin to look very different from its original parent segment. Why? Because the parent segment “averages” the characteristics of the large and small customers. When large and small customers are segregated, their respective sub-segments can move in opposite directions from the parent segment “average” on each segmentation dimension. When this happens, it becomes clear that the parent segment is, in fact, a rather poor reflection of the individual customers in it. That is, “on average” it is correct but wrong in every individual case -- like the infamous artillery commander who, on average, “hit” the target four times by missing it by exactly 100 yards to the north, south, east and west. Incidentally, this problem is not unique to CLASSIFY, but is a vulnerability of any segmentation model that permits large and small customers to share the same segment.

The second problem is related to the first. Since segments tend to be mixed but not balanced with respect to size and/or value, it is often the case that the larger customers end up concentrated in a one or two segments – somewhat defeating the purpose of segmenting in the first place. Too few

segments for customers in some value ranges, along with the “averaging” effect, result in a non-actionable segmentation.

The solution is rather straightforward – don’t allow customers of substantially different sizes or values share the same segments. Returning to our earlier example of a loyalty/switching segmentation, customers should be divided according to value and/or size measures prior to being segmented on their needs and behaviors. Doing so makes practical as well as methodological sense, since a key goal of conducting a loyalty/switching segmentation is to prioritize customers for acquisition and retention – and to assign them channels -- based on some form of size and value criteria.

How customer value is defined is ultimately up to the marketer, but it generally makes sense to define it in terms of current and potential commodity (electric and/or gas) revenue and/or margin. Potential revenue and margin based on assumptions about growth and future value-added service offers also can be incorporated. To the extent that value measures are correlated with size and other more conveniently accessible demographic/firmographic measures, the latter can be used as proxy measures of value. Proxies are particularly useful when assessing the value of competitors’ customers (since usage information is not available), or even of one’s own customers if regulatory barriers to account information access are presented.

In developing the segmentation, customers are first assigned to 2-4 value “buckets” (e.g., “low,” “medium” and “high”). Strategic prioritization of customers, resource allocation decisions and channel strategies follow directly from the first tier buckets. Within each bucket, a cluster analysis or similar technique is used to group customers into segments, based on the measures developed in the steps described earlier. This procedure yields a “two-tiered” segmentation (**Figure 2**), where the loyalty/switching segments can be mapped against value. Within each value bucket, the loyalty/switching segments vary with respect to switching potential as well as motivations: some are primarily price-driven, others service-driven, and so forth. Each segment has a unique “profile” of requirements related to supplier characteristics, commodity, customer service, value-added services and incentives. Segments can be prioritized according to value, loyalty, vulnerability and acquisition potential, and specific offers can be configured on the basis of the segmentation information.

Three points are worth noting. First, the segments in one value bucket are not exact copies of those in another. Each bucket has its own distinct set of segments, none of which reflect the “averaging” effect noted earlier. Second, the two-tiered approach should be used for all objective-based segmentations that encompass customers of varied size and/or value, not just loyalty/switching segmentations. For instance, a value-added service segmentation would have a set of purchaser segments in each value bucket. Third, there are practical advantages to using the same value tier for multiple objective-based segmentations. Following our previous examples, customers would be arranged into the same value buckets for both the loyalty/switching segmentation and the value-added service segmentation. In this manner, customers can be prioritized strategically and assigned a channel while being targeted for multiple initiatives.

Principle #3: Incorporating Predictive Equation Tools to Support Direct-marketing Initiatives

From the outset, CLASSIFY was developed with the aim of providing marketers the capability of assigning individual customers to segments. The most powerful tools developed within the CLASSIFY framework were the short-form questionnaires and classification software (Finkbeiner and Lineweber 1995a). However, those questionnaires require direct customer contact

and administration of a survey with between seven and twenty-four questions, depending on the level of segment assignment precision sought. Using the questionnaires for censuses of small populations of customers (e.g., assigned accounts) or samples of mass-market customers (e.g., to estimate segment incidences) is practical, but not so for assigning large numbers of mass-market customers to segments. For the latter task, predictive algorithms that do not require customer contact but instead utilize commercially available demographic and firmographic data were developed. However, those tools have relatively low assignment precision specifically because of the potential firmographic/demographic diversity within segments discussed earlier.

In a competitive environment, access to customer information will be limited to that which is commercially available (e.g., D&B, Polk, InfoBase, etc.). Ideally, a marketer could purchase a commercial list, process it using predictive algorithms and generate a prioritized prospect list for a marketing initiative. Turning again to our previous example, the predictive algorithms would assign each list entry to a switching/loyalty segment, and score the customer on loyalty/switching potential and value. Since the segment carries offer and positioning information, the “going-in” offer and positioning message also can be attached directly to the prospect record. If multiple objective-based segmentations have been developed and customers are being targeted for multiple campaigns, information from each segmentation can be attached directly to the prospect records.

The ability to assign segments and score prospect records is achieved through the application of “LINK” predictive equations, which are derived from the segmentation survey data. Models are developed from analyses of the relationships among the survey-based segmentation measures and firmographic/ demographic variables.

Although predictive models are not new to direct marketing, the LINK application of an objective-based segmentation has distinct benefits over typical “data mining” and “database marketing” techniques. Objective-based segmentation incorporates an in-depth analysis of customer needs, so that future behavior is predicted on an empirical understanding of why customers purchase what they do, how they make their selections and who they prefer as providers. Typical database marketing and data mining techniques lack such a focus on customer needs. But in a competitive environment, a deep understanding of customer needs – again, needs that are predictive of specific future behaviors - is critical to the development of successful, customer-focused portfolios, marketing programs and customer relationship management techniques.

Note also that the predictive algorithms can be used to develop interactive tools appropriate for “mass-customized” marketing in both in-bound and out-bound telephone environments. An automated, dynamic questioning sequence (a kind of coin-sorter, or decision-tree, branching logic) allows the supplier representative effectively to gather information in just a few questions that would otherwise require 15-20 questions in a non-automated environment. As the customer’s responses are input, the software determines which segment the customer is in, what to offer the customer and how to position the offer. All of this takes a matter of seconds, and the customer is presented with an offer that seems “tailored” to his or her situation (Leon 1997).

Conclusion

The purpose of this paper was to present a framework for developing objective-based segmentations for energy marketing applications. As of this writing, the segmentation method described has been implemented at the national and regional levels for both retention/acquisition and value-added service market planning purposes in the gas and electric energy categories. Because implementation is in an early stage and the information proprietary, specific “success stories” cannot

be disclosed at this time. However, we have conducted similar objective-based segmentations in the industrial supply, telecommunications, information technology, petrochemical and retail gasoline categories, and successful results from those efforts have been reported elsewhere (Leon 1997). The important point is that objective-based segmentation is a powerful marketing tool that will prove increasingly useful to energy supplier marketers as the competitive market continues to evolve and mature.

References

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Figure 1. Hypothetical Loyalty/Switching Segmentation Framework

	<u>Financially-motivated</u>	<u>Service-motivated</u>	<u>Incumbent advantage</u>
<ul style="list-style-type: none"> • <i>High prior switching</i> • <i>High switching propensity</i> 	<ul style="list-style-type: none"> • Easy to acquire with incentive/price • Difficult to retain 	<ul style="list-style-type: none"> • Easy to acquire if service value-add positioned • Easy to retain <u>if</u> demanding service requirements met 	-- not defined --
<ul style="list-style-type: none"> • <i>Mixed switching history and/or propensity</i> 	<ul style="list-style-type: none"> • Moderately easy to acquire and retain for savings 	<ul style="list-style-type: none"> • Moderately easy to acquire if service value-add positioned • Easy to retain <u>if</u> service requirements met/exceeded 	<ul style="list-style-type: none"> • Most easily acquired by another <u>local/incumbent</u> supplier • Moderately easy to retain
<ul style="list-style-type: none"> • <i>Low prior switching</i> • <i>Low switching propensity</i> 	<ul style="list-style-type: none"> • Unlikely to switch unless highly disaffected on price 	<ul style="list-style-type: none"> • Unlikely to switch unless highly disaffected on service 	<ul style="list-style-type: none"> • Extremely difficult to acquire

Figure 2. Hypothetical Two-Tiered Segmentation

