

MAKING CONNECTIONS

By Jacqueline Dawley

Enhance the implementation
value of attitude-based
segmentation.

Market segmentation is an integral part of modern strategic marketing, used by many firms to guide marketing efforts and achieve a competitive advantage. A recent poll of Marketing Leadership Council (MLC) members found that 74% rated “actionable segmentation” as one of their top interests. Unfortunately, developing a segmentation scheme that is useful for a company remains a difficult endeavor. Nearly half of the MLC’s members said that they considered their recent segmentation efforts a failure. Several drivers of failure were reported. One of the root causes mentioned was a segmentation that produces “untargetable” variables.

Consider this typical example. A company invests considerable resources in developing a needs-based segmentation, designed to provide insights into consumer decision making. Although the resulting groups might be considered interesting and lead to new insights, especially when given catchy names, the segmentation can quickly fail in implementation. Marketers in business units of the company—who want targeted lists for direct response efforts—are often disappointed by the segmentation. They might discuss the segments in meetings, but don’t actually use them for marketing efforts.

Unfortunately, many companies have invested substantial funds creating a custom segmentation that doesn’t have an active life in the companies. Rather, the segmentation sits idly in several binders on a bookshelf. In recent years, researchers and marketers have developed several methods that directly address the need to improve the implementation of attitude-based segmentation. This article provides an overview of some of these alternative approaches.

Background Information

The basic goal of market segmentation is deceptively simple. Segmentations are designed to create a set of homogeneous groups that differ from one another in ways relevant to the marketing mix. The particular variables used to create the segments, called basis variables, are chosen based upon the company’s strategic objectives. For example, a manufacturer of digital cameras might use feature preference measures to form segments that differ in the desired combina-

tion of features. Then the company could produce a line of cameras tailored to the wants of the segments it decides to target.

In the traditional custom segmentation process, a survey instrument is developed and data are collected. The segmentation scheme is finalized—using benefits sought, for example—as basis measures. For the segmentation to be implemented, a company must be able to find segment members to market to. To accomplish this goal, a segment classification algorithm is developed, which enables identification of segment members chosen to receive marketing communications. The algorithm is most accurate when it is created using the segmentation basis measures (i.e., the measures used to form the segments). However, basis variable data often aren’t available on individuals whom the company wishes to classify for targeted marketing efforts. As a result, a classification scheme must be created using other measures, such as those found on a customer database. Herein lies the heart of the problem.

Before exploring this dilemma in more detail, it is helpful to review some fundamental concepts about successful market segmentation. Six criteria are commonly used in determining the value of a segmentation scheme. Although each must be viewed within the context of the particular firm and its goals, targeted segments should be:

1. **Identifiable.** Marketing managers can recognize distinct groups using the segmentation basis measures.
2. **Substantial.** Segments are large enough for the company to serve profitably.
3. **Accessible.** Members of the segment can be reached with marketing efforts.
4. **Stable.** Segment composition should persist for the planned life of the segmentation.
5. **Responsive.** Segments should uniquely respond to changes in the marketing mix.
6. **Actionable.** Segments should provide direction for effective marketing decisions.

Executive Summary

Marketers often have difficulty implementing attitude-based segmentations, because they are unable to effectively target media to one or more segments. In recent years, several methods have been proposed to improve the linkage between attitudinal segmentations and variables useful in targeting. The methods employ different strategies, ranging from reclassification of segment membership to changing the unit of segmentation. Five approaches are reviewed in this article.

Two of the aforementioned criteria are of special interest to this discussion (accessible and actionable), and the terms require some clarification. Marketers commonly use the term actionable as an overall term, when discussing the relative value of a segmentation scheme. Note the use of the term in the earlier discussion of MLC research findings. As one example, when discussing segmentations that they believe are based on untargetable variables, marketers often say that such a segmentation scheme is not actionable. However, the more precise term used to describe this deficiency is accessible. That is, the segmentation in question has not produced accessible target segments because marketers don't know how to reach them.

Throughout this article, the terms actionable and accessible will be used according to their definitions in the aforementioned list of criteria. A segmentation scheme is actionable if it helps marketers determine whether the marketing mix necessary to satisfy the wants of a targeted segment is consistent with the strategy and capabilities of the organization. A segmentation is accessible when it provides information that enables marketers to find members of a target segment and reach them with marketing efforts—a key requirement for implementation.

Segmentation Basis Measures

Basis variables for segmentation can be of several types. The particular basis measures chosen will depend on the business objectives and how the segmentation will be used. One method often used to categorize basis measures uses two dimensions, observability and generality/specificity. According to this approach, basis measures can be of four general types.

1. general/observable: readily observed characteristics not particular to a product or service category, such as demographics or geography
2. specific/observable: readily observed measures closely related to purchase in a category, such as usage volume or frequency

3. general/unobservable: inferred characteristics not particular to a product or service category, such as personality or psychographics
4. specific/unobservable: inferred characteristics closely related to purchase in a category, such as benefits sought, preferences, or attitudes

For ease of discussion, the term attitude-based segmentation will be used to denote any segmentation derived from product-specific unobservable basis measures.

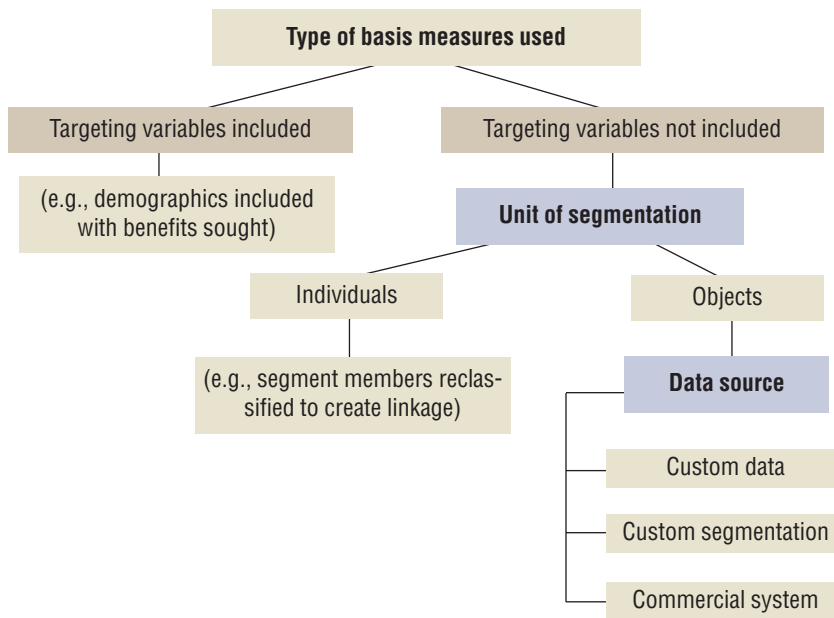
There is a critical relationship between the aforementioned classification of basis measures and the two criteria of interest: accessible and actionable. In general, segmentations based upon general/observable measures (such as demographics) perform well on the accessible criterion and poorly on the actionable criterion. That is, a segmentation based on demographics often results in segments that are easy to find, but lacking in strategic utility. The opposite is true of specific/unobservable basis measures, such as benefits sought. Knowledge about the benefits that a targeted segment values is extremely helpful in guiding the formulation of a product positioning concept, for example—although the segmentation might not help in reaching the segment with targeted media. Marketers have often been forced to make a trade-off between accessibility and actionability when selecting a basis for segmentation.

Actionable Vs. Accessible

Companies frequently create market segmentations from benefits sought, preferences, psychographic measures, or attitudes. These types of measures are favored as a basis for segmentation because they result in segmentations that are actionable. They often improve understanding of the motivations underlying consumer behavior, enabling the segmentation to provide guidance for sound marketing decisions. For example, an online investment firm creates a segmentation based on attitudes toward investing. One of the segments the company finds attractive comprises confident, self-directed investors. This knowledge suggests that the firm needs to develop tools that will appeal to investors who are knowledgeable about investments and make their own investment decisions.

Despite the value of attitude-based segmentations, marketers sometimes find it difficult to reach one or more segments with their marketing communications. That is, the segmentation schemes perform poorly on the accessible criterion. This is true because the segments aren't highly differentiated by demographics, or other measures that can be used to locate the desired target for marketing communications. For the previous online investing example, the self-directed investors might not be distinctive in readily targetable ways, such as demographics. In these instances, marketers often resort to trying to achieve targeting through the message. That is, advertising is placed in general or targeted media, in the hope that those in the target will respond favorably to the message. However, this "shotgun" approach is not the most efficient use of marketing resources, and there is no guarantee that it will effectively reach the desired target.

Exhibit 1 Methods of improving linkage



Furthermore, many companies have invested a great deal of resources in building extensive databases of customers or prospects. To leverage this resource, companies want to classify database members into their respective segments. This is often nearly impossible to do because the segmentation basis measures (e.g., benefits sought, other attitudinal measures) are not part of the information in the database. In addition, the measures available in the database—typically demographics, account, or purchase data—might be useful in profiling the segments, but rarely correlate well with segment membership. As a result, efforts to implement the segmentation are stymied when the customer database cannot be classified into segments.

Recognizing this dilemma, companies sometimes attempt to create a segmentation based upon the measures they have in the database. Although this strategy doesn't have the classification problem just discussed, the resulting segmentation is often of limited value—because it is based on demographics or transaction data, and not particularly relevant to consumer motivation and decision making. The segmentation yields accessible segments, but isn't actionable.

Improving Linkage

Recently, several approaches designed to increase the implementation value of attitude-based segmentations have been developed. Although they use different methods and statistical tools, they are similar in the overall objective: to improve the linkage between attitude-based segmentation and behavioral or demographic measures, often found on a database or other sources used to access segments.

Exhibit 1 shows the relationship among these approaches. As it displays, the methods primarily differ in terms of the

nature of the basis measures included in the segmentation, and the unit of segmentation. One method attempts to “build in” a relationship between an attitude-based segmentation and targeting measures, by including one or more targeting measures as basis variables. In contrast, other approaches don't include targeting variables as basis measures. One of these methods improves the attitude-target variable linkage by modifying an existing segmentation. That is, segment members are reclassified within certain constraints. Still another group of methods changes the unit of segmentation, from individuals to groups of individuals who are simultaneously similar on several targeting measures. These object-based methods employ data from one of three sources. Each of these five methods is discussed in detail.

Targeting Variables Included

The simplest approach to improving the link between attitudinal segmentation and non-attitudinal targeting measures is to include one or more of the targeting measures in the set of basis variables. When this approach is employed, there will be some predictive relationship between the segmentation and the targeting measures—the strength of which depends upon the weight or influence of the targeting/basis measures that are employed in creating the segmentation.

For example, assume that a bank wants to create an attitude-based customer segmentation using an interviewed sample of individuals from its database. Once the segment scheme is created from the customer sample, the bank wants to classify the entire database into segments. Using the method just described, the bank could add a measure from the database (such as account profitability) to the set of attitudinal basis measures. Because the resulting segments will differ in account profitability, there is a predictive link between the segmentation and the database that will improve classification accuracy.

The method described earlier can be used with classic segmentation tools, such as hierarchical or partition cluster analysis. Another variation of this approach is to develop a latent class segmentation, and include one or more targeting variables as covariate measures. Essentially, this approach includes classification as a part of model development, so a predictive link between the segmentation and targeting variables is produced.

The method of including targeting measures as basis measures can be successful in improving classification accuracy, and also might produce a useful segmentation scheme. This is especially true when there is some conceptual relationship between the attitudes and targeting variables chosen as basis measures. For example, consumers who download music differ in their attitudes toward the acceptability of downloading music for free (i.e., pirating music). There is consistency between this particular attitude and a person's downloading

relationship between the segmentation and the targeting measures—the strength of which depends upon the weight or influence of the targeting/basis measures that are employed in creating the segmentation.

behavior (i.e., the percent of music downloads for which the person pays).

However, if one isn't vigilant, then this approach is potentially subject to the "law of unintended consequences": risking changes to the segmentation solution in unintended ways, by including measures with little conceptual relationship to the attitude basis measures.

In the extreme, a hodgepodge of attitudinal and targeting measures used as basis measures runs the risk of yielding an idiosyncratic set of segments that doesn't accurately reflect meaningful consumer differences in the marketplace.

In addition, if the goal is to create a segmentation based upon patterns of attitudes, then including a single non-attitude measure sacrifices the "purity" of the attitude segmentation. When the resulting segments are profiled, they might be somewhat different in their characteristics than what would be

obtained using strictly attitudinal basis measures. Thus, whether this method should be used depends upon the availability of targeting measures with some relationship to attitudes, and the firm's willingness to trade off a purely attitude-based segmentation for improved segment classification accuracy.

Reclassifying Segment Members

Another strategy designed to improve the linkage between attitude segments and targeting variables employs a different method than the one just described. Although it involves segmenting individuals, it works by making modifications to an attitudinal segmentation. In brief, some members of the attitude segments are reassigned to a different segment, in an effort to accomplish two goals: keep the basic characteristics of the original segmentation unchanged, and increase the predictive relationship between

segment membership and the targeting variables.

There are several variations of this approach. However, they all rest on the same foundation. Within each segment, there is variation in terms of the basis measures. This means that some segment members are more typical or representative of the segment than other members. Stated another way: Some segment members are close to the center, or centroid, whereas others are distant from it. A segment member close to the centroid of a given segment has a higher probability of membership in that segment than in one that is distant from the centroid.

One reclassification method, called nascent linkage maximization, was proposed by Chris Diener, Pierre Uldry, and Jeff Brazell in 2002. Conceptually, this method works in the following way:

- First we create an attitude segmentation, using cluster analysis for example. The between-segment differences on the attitude basis measures define the segmentation structure.

Summary of methods to improve the linkage between attitudinal segmentation and targeting variables

| Method | Advantages | Limitations |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Targeting variables included as basis measures | Simple to implement | Segmentation might be based on measures with little relationship to attitudes Segmentation no longer purely attitudinal |
| Reclassification of segment members | Preserves structure of attitude segmentation | Effectiveness relies on dispersion of data |
| Object-based segmentation: custom data | Simplified classification | Substantial variation within object on basis measures Difficulty in choice of variables used to create objects No method to determine the number of objects |
| Object-based segmentation: leveraging a custom segmentation | Simplified classification Existing customer segmentation is leveraged | Substantial variation within object on basis measures No method to determine the number of objects |
| Object-based segmentation: leveraging a commercial segmentation | Simplified classification Objects already defined by commercial product | Substantial variation within object on basis measures Commercial system chosen must be appropriate for the business category |

- Next, we calculate the probability of being in each of the segments, for everyone in the analysis sample. For example, if there were four segments in the original segmentation, then each individual would have four probabilities calculated—one for each segment.

Using these calculated probabilities of segment membership, this method determines which segment members can be considered “fence-sitters”: cases that have a relatively high probability of being in two or more segments. Fence-sitters are reassigned to a new segment, subject to constraints. The reassignment must have minimal impact on the original segment structure while maximizing the predictive relationship between the segmentation and the targeting variables that will be used in classification. The predictive relationship is measured by the classification accuracy achieved when targeting variables are used to create an algorithm that assigns individuals to segments.

Although this method has demonstrated value under certain conditions, its effectiveness depends upon the dispersion of responses on the basis measures. For situations in which the data could be graphically represented as dense and highly separated swarms of cases, this method would not be expected to be as successful—because there would be few fence-sitters.

Object Based: Custom Data

In contrast to the method described earlier, object-based segmentations work by changing the unit of segmentation. Instead of creating segments of individuals, segments of groups of individuals are developed. The term “object” is used to describe such a group. Urszula Jones, Curtis Frazier, Christopher Murphy, and John Wurst used the term “reverse segmentation” to describe this particular method, when it is employed using custom data.

The following example illustrates the process. Assume that a company wants to create a benefits segmentation using a sample of its customers, and also wants to classify its entire customer database into segments. First, customers are grouped using a selected number of demographic or behavioral measures that are available in the database—or other source of targeting measures—so that homogeneous groups (objects) are formed. For example, using gender, education, business travel frequency, and household income as aggregating measures, one object might comprise males with college degrees—who have taken five or more business trips in the past year, and have annual household incomes of \$75,000 or more. Every member of this object is the same in terms of gender, education, business travel frequency, and household income.

Next, the segmentation is developed using the benefits-sought measures that are appropriate for this product category. However, rather than segmenting individuals, in this approach the units of segmentation are the objects created by aggregating individuals. If cluster analysis were used as the segmentation tool, then the set of objects would be clustered using the benefits measures as inputs. To represent the benefits sought for each object, mean responses would be calculated across object members on each of the benefits measures.

When a segmentation solution is created in this fashion, the classification algorithm is already defined in a sense, because the resulting segments comprise objects created from several database measures. The objects have a known value on each of the measures used during the aggregation process. For example, assume that the illustrative object described earlier was placed in benefits segment A. When classifying the entire database, we don’t have measures of the benefits desired within. However, we know that all males with college degrees—who have taken five or more business trips in the past year, and have annual household incomes of \$75,000 or more—should be classified in benefits segment A. Similarly, the entire database can be classified into the respective benefits segment using gender, education, business travel frequency, and household income.

This process creates a segmentation solution that is both actionable and accessible. That is, the differences in motivation among the segments inform marketing activities (such as new-product development), and the segments are also accessible because of the link to measures useful in targeting.

Although this is a promising approach that enhances the ability to create and implement useful market segmentation schemes, there are several issues involved in employing it. One issue is how to identify the number and types of measures to use in aggregating cases into objects. A related issue is the appropriate number of objects to use. The analyst must decide the minimum number that can be segmented effectively. In addition, because means on the basis variables are used to represent each object, the variability within an object is of potential concern. If there is substantial variation, then members of an object are actually quite dissimilar on the basis measures, and the quality of an attitudinal segmentation formed from these objects could be adversely affected. Finally, guidance in determining the appropriate number of individuals per object would be helpful in using this method.

Object Based: Custom Segmentation

A second method of object-based segmentation is appropriate to use when a company has an existing segmentation of its customer database, and wishes to link it to a newly created attitude segmentation. For example, a company that provides a variety of products and services—including insurance—has a customer segmentation developed using measures on its database, including life stage (household composition and age), product ownership (measured as total dollar value), and product usage. The company has successfully used this segmentation for tactical marketing efforts, for a number of years. However, as part of a new strategic marketing effort, it wants to better understand customers’ motivations and behaviors. As a result, it decides to develop an attitudinal segmentation based upon attitudes measured when a sample of customers are interviewed. Although the new segmentation will be valuable in redefining strategic marketing efforts, the company wishes to retain and leverage its existing segmentation. Object-based segmentation provides a means of accomplishing this goal.

The company has fewer than 10 customer segments on the segmentation formed by demographic and product-related

measures. As a first step, it needs to create a set of objects sufficiently large to segment—so it must first decompose the existing segmentation into its constituent measures. For example, it might decide to use age, household composition, and product ownership from its customer segmentation, to aggregate the customers in preparation for the attitudinal segmentation. Using these measures, one object might be made up of customers ages 18–24 who are unmarried, have no children, and are in the lowest quintile of product ownership value. Another object might comprise customers who are married, are ages 25–34, have one-to-three children living at home, and fall into the top quintile of product ownership value.

Assume that 150 objects are created using this process. As the next step, means on each of the attitude basis measures are calculated for each object. The objects are then grouped into segments using a segmentation tool, such as cluster analysis. The resulting segments will be profiled on both the attitude basis measures and other available data. The different patterns of attitudes across the segments should provide the company with insights about how to market to its different types of customers. When the company is ready to classify the entire customer database into segments, it simply uses values on the measures used to create the objects. Thus, it can implement a segmentation that is actionable and accessible.

An important advantage of this method is that it leverages an existing targetable segmentation. This aids in the selection of the measures used to aggregate cases into objects, because the best candidates are the basis measures of the existing segmentation. However, this approach shares some of the issues involved in object-based segmentation with custom data. Specifically, the number of objects to create, the within-object variation on the attitudinal basis measures, and the number of cases per object need to be assessed.

Object Based: Commercial Segmentation

A variation on the object-based segmentation approach just described is to use a commercially available segmentation. Several of these available products relate demographics and lifestyle information to geography. Two well-known examples are PRIZM, a system of 62 clusters developed in the 1970s, and ACORN, a geo-demographic system of more than 40 residential clusters. Marketers often fuse their data to one of these systems by using address information, and the systems' usefulness for marketing purposes is well-documented. In addition, these segmentation systems are sometimes linked to other secondary sources of media and audience data, helping marketing improve the targeting of its messages.

The established value of commercially available segmentation systems makes them a good candidate for linkage with attitudinal segmentations. The process of creating the linkage is similar to what has been described using a custom segmentation. However, unlike a company's custom segmentation, commercial segmentation systems have a large number of clusters. As a result, each of the clusters can be used as an object, obviating the need to decompose the segmentation into its basis

measures. Next, the objects are segmented using attitudinal basis measures. Classification of all members of a customer database, into the attitude segments, is accomplished via the commercial segmentation system code (e.g., PRIZM code). For example, assume that the object made up of PRIZM cluster "affluentials" was segmented into attitude segment No. 1. Whenever we encounter an "affluent" in the database, the customer will be classified into attitude segment No. 1.

Although this method has the advantage of its objects being defined by a commercial system, its success is dependent upon how appropriate a given commercial segmentation system is for the product or service category of interest.

Summary Points

Marketers have struggled with developing segmentations that provide insights into consumer decision making, and can be implemented using targeting variables. The core of the problem is the poor correlation between oft-used attitudinal basis measures and measures useful in targeting, such as demographics. Recently, approaches have been developed to improve the relationship between attitudinal segmentations and targeting variables. These new methods mean that marketers no longer have to make a trade-off between a segmentation that is insightful but not accessible, and one that provides easy access to segment members but is devoid of the kind of information needed to tell a full marketing story about segment members. Continued efforts—by partnerships of marketers and marketing researchers—inspire optimism that sizeable advances in these methods will be made in the near future. ●

Additional Reading

Diener, C.G., P.F. Uldry, and J.D. Brazell (2002), "Fusing Data from Different Sources: Segmenting for Effective Linkages" paper presented at the American Marketing Association's 13th Annual Advanced Research Techniques Forum, Vail, CO (June 2–5).

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