

## Do Consumers Have Multiple Ideals Depending on Usage Occasions? *Daniel M. Ennis*

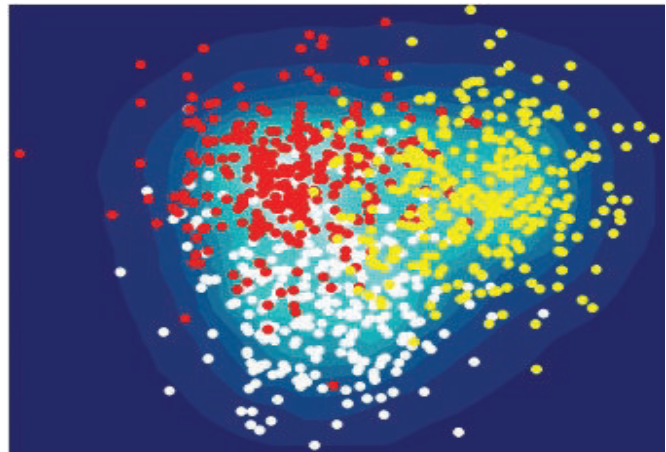
**Background:** Many products have multiple uses. Some products in a category may be more suitable for particular uses than other products in the same category. One way of looking at this problem is to consider that each consumer has multiple ideal points, one for each type of usage occasion and it would be useful to be able to test this idea. If consumers' ideals for a particular usage occasion are similar to each other and different from other usage occasions, then clusters of ideals may form identifiable segments to which new or existing products can be marketed. It is also possible that usage occasions may not differ very much with respect to consumer interest and in this case the ideals for each occasion may overlap making it unnecessary to consider multiple ideals. It would be useful to know how these ideals are distributed so that the opportunities for products with possible multiple uses can be assessed. Some products or brands may be highly suitable for only one of the occasions and others may clearly appeal to certain consumers on more than one occasion. Whether a product or brand is specialized or versatile in its appeal depends on the extent to which the item's consumer attributes appeal to consumers for each of the usage occasions. In this report it will be shown how this problem can be addressed using a model that determines multiple individual ideals and product positions in a map of attributes that drive consumer liking.

**Scenario:** The snack bar category contains a wide variety of different product types that vary in nutritional status, sweetness, texture, caloric content and convenience. Some of these products may have appeal as breakfast foods. Others may have greater value as snacks. A third group may have appeal before or during aerobic exercise.

Your company produces and markets both sweet and salty snacks. In your portfolio, you are well represented in the breakfast and general snack subcategories, but are poorly represented in the subcategory that includes energy bars. You are interested in considering the potential of expanding your product portfolio into this area and have several prototypes that may appeal to certain consumers in all three subcategories. You would like to evaluate your own products and your competitors' products in a space that maps the three usage occasions just described. You would also like to consider the positions of your current brands and those of your competitors to optimize your portfolio on a blind basis without the influence of branding.

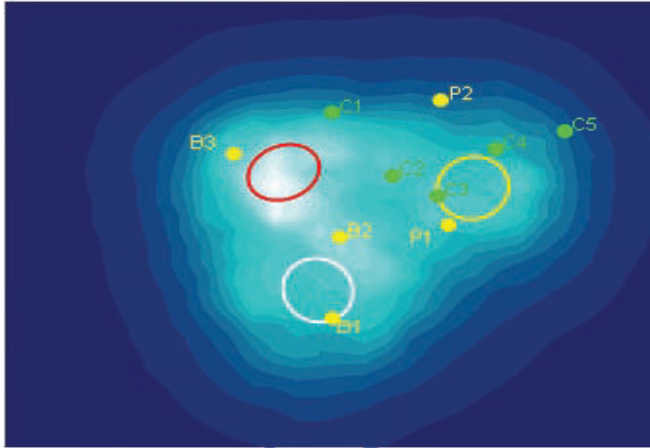
Three hundred category users are recruited for a central location test. Five of your competitors' products (C1 – C5), three of your own brands (B1- B3) and two prototypes (P1 and P2) are evaluated on a blind basis on a 9-point liking scale. The two prototypes have been designed based on expert descriptive analysis, the analytical composition of your competitors and cost, but without any consumer data. Each consumer evaluates the prototypes, your existing brands and your competitors' products in the context of three usage occasions: breakfast, snacking and before or during aerobic exercise.

**Multiple Individual Ideal Points:** Suppose that an individual provides a different liking response to the same product while considering two usage occasions. One way of thinking about this is to assume that the usage occasions evoked two different ideal points for the individual and that the product was perceived to be closer to one ideal than the other. Applying that idea to many individuals provides a conceptual framework to create a map of product and multiple ideal locations from which we can visualize how consumers perceive the market for products under different possible occasions of use. This idea is made practical using a mathematical model of similarity<sup>1,2</sup> called Landscape Segmentation Analysis® (LSA) which we have shown to be useful in previous technical reports and published papers to understand how consumers view a market, to map motivations for product consumption<sup>3</sup>, to optimize portfolios and to study and use sensory penalties<sup>4-6</sup>. From this analysis we can find the locations of a portfolio of products that might contribute to a competitive advantage. This advantage is achieved when we know what consumers want and where our current portfolio is placed relative to consumer ideals and the competition. This knowledge allows us to plan well-informed repositioning and new product introductions.



**Figure 1. The location of individual ideal points for snack bars assessed for three usage occasions: Snacking (red), exercise (yellow), and breakfast (white)**

**LSA Map of the Snack Bar Category:** Each consumer evaluates each product under three possible usage occasions and therefore provides three ratings for each product. Figure 1 shows the map that results from fitting the model to the data. In this figure the usage occasion ideals have been color coded red, yellow and white to correspond to snacking, exercise and breakfast, respectively. Although the occasions can be readily identified, there is considerable overlap, which means that some consumers may use a common ideal for all occasions and different consumers may have similar ideals on different occasions. Figure 2 shows the position of your own products (B1-B3), your prototypes (P1 and P2) and your competitors' products (C1-C5) against the background contour plot showing the densities of consumer ideal points (lighter areas have greater density). The ellipses are 0.5 standard de-

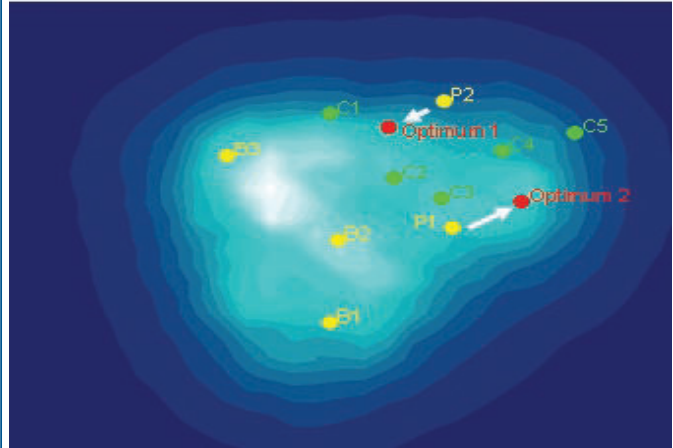


**Figure 2. Product positions in an LSA space with three usage occasions identified: Snacking (red), exercise (yellow), and breakfast (white)**

viation confidence bounds for the three segments. You can see why you dominate the breakfast and snack subcategories since your brands are best placed to appeal to consumers for these subcategories, although one competitor (C1) has attempted to appeal to both the snack and energy subcategories. The energy bar subcategory is rather crowded with four competitors, some of which are quite specialized and appeal only to consumers on this usage occasion. Your two prototypes are placed in different areas of the energy bar region, and would have limited appeal to the other two subcategories that you dominate. Descriptive information, including expert panel and product physical and chemical data, can be added to Figure 2 to explain the space<sup>5</sup>.

**Optimizing Your New Portfolio:** Very little research, other than an analysis of competitors' product sensory and analytical profiles, has been used to design your new prototypes. In order to guide optimum product design, it would be useful to know where to place the prototypes on the LSA map so that consumer choice is maximized while taking into account the location of the competition and your own brands. For instance, it may or may not be desirable to place a product in the vicinity of competitors. Sometimes it is more productive to concede a heavily contested region; on the other hand, depending on the placement of your other products, it may be helpful for the portfolio as a whole if one of your brands is sacrificed by competing directly in a heavily marketed region by drawing market share away from competitors. The individual contribution of this minor brand to an already strong portfolio may be small, but sometimes the market share and volume damage to your competitors may be more valuable than attempting to seek out a new opportunity. The objective of a portfolio optimization analysis is to provide an analytical solution to aid in making this type of choice.

Figure 3 is an illustration of a first choice optimization analysis which takes into account your current brands and competition in an attempt to find the optimum position for your two new products. It can be seen from this figure that your current prototype positions do not optimize your portfolio.



**Figure 3. Locations of two optima relative to existing products, considering competition and cannibalization**

One product should be placed between the regular snack- and energy bar subcategories, whereas the other product should be placed in a more extreme position in the energy bar subcategory than where the current prototype is located. These are the best positions to place these products to optimize share in the face of competition, taking into account the possibility of cannibalization among existing brands and the new products. Notice that the analysis chooses to place the prototypes at some distance from the densest regions of the snack and breakfast subcategories in response to your market dominance in these areas. Also note that P2 moves in to compete against C1 and C2 which will reduce their dominance at the snack/energy bar interface where your portfolio was previously weak.

**Conclusion:** Multiple usage occasions for products may evoke multiple ideals from the same consumer. Consumers are quite creative in using products designed for one purpose for another and sometimes products are specifically designed to have multiple, quite different applications. In this report it is shown how one may begin to address this type of problem by fitting liking data obtained from consumers while they consider different usage occasions. The resulting analysis and visual aids will help to inform product development and marketing decisions about the state of competitive play in a market and how to optimize the current product portfolio.

#### References

- Ennis, D.M., and Johnson, N.L. (1993). Thurstone-Shepard similarity models as special cases of moment generating functions. *Journal of Mathematical Psychology*, **37**, 104-110.
- Ennis, D.M., Palen, J. and Mullen, K. (1988). A multidimensional stochastic theory of similarity. *Journal of Mathematical Psychology*, **32**, 449-465.
- Ennis, D.M., and Rousseau, B. (2004). Motivations for product consumption: Application of a probabilistic model to adolescent smoking. *Journal of Sensory Studies*, **19**(2), 107-117.
- Ennis, D.M. (2003). Designing new product portfolios. *IFPress*, **6**(2), 2-3.
- Ennis, D.M. (2001). Drivers of Liking® for multiple segments. *IFPress*, **4**(1), 2-3.
- Ennis, D.M. (2004). Competitive strategies in product portfolio design. *IFPress*, **7**(1), 2-3.