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An Application of Landscape Segmentation Analysis® to Blind and Branded Data

Benoît Rousseau and Daniel M. Ennis

Background: In many companies passionate debates exist between departments on whether a product's stellar or lackluster performance in the marketplace is due to its sensory characteristics or to its associated imagery. In order to address this very important issue, investigations that involve both blind and branded product evaluations can be very diagnostic. Such studies will address two types of properties which we will refer to as 'intrinsic' (a product's benefits and features) and 'extrinsic' (a product's advertising and associated imagery). Consumer purchasing behavior is strongly influenced by both types of properties. For instance, even if you were to succeed in developing a cola flavored beverage that's preferred on a blind basis over all other cola products, it is quite improbable that it will meet great success due to the strongly established relationships consumers have with existing products. Consequently being able to decipher the relative effects of each of the intrinsic and extrinsic properties would be invaluable to both the product developer and marketer. In this technical report we illustrate how Landscape Segmentation Analysis® can be used to this effect.

Scenario: Your company produces several types of premium red wine, including Merlot, Pinot Noir and Cabernet Sauvignon. Your management is interested in broadening the range of product offerings and would like to investigate the possibility of developing a line of Chardonnay wines in the premium category. They ask you to investigate consumer acceptability of some prototypes that your research team has produced and compare them to other Chardonnay wine products from the same geographic region. Considering the strong effect of branding and imagery on overall wine purchasibility, they also would like to obtain insights on the relationship between branding and consumers' hedonic responses.

You develop a specific research plan to address your management's request. Because a product's extrinsic properties are such an important part of this investigation, you decide to focus on the consumers' purchase intent. After careful product selection and fieldwork planning, you initiate the data collection that will involve ten Chardonnay wines and five hundred consumers. The ten wines comprise four premium brands, four value brands and two of your company's prototypes selected by your research team. The consumer population is composed of two subgroups, namely four hundred 'casual' wine drinkers and one hundred self described 'wine enthusiasts.' Testing takes place in five locations with one hundred respondents per site over a ten day period. The first five days will be used for blind evaluation while the last five will be used for branded evaluation. Each respondent will evaluate two samples per day and will have a resting period in between samples. Once the data collection is complete you plan to conduct Landscape Segmentation Analysis® (LSA).

Using LSA to visualize the effect of branding: LSA was first developed using similarity[1,2] to allow for efficient modeling of consumers' hedonic responses using the concept of individual ideal points. Since then it has been shown that LSA has many other applications such as the investigation of motivations for product consumptions[3], product/concept fits[4] and managing product portfolios[5]. In this report, we focus on how LSA can provide valuable insights on the relative roles played by a product's intrinsic and extrinsic characteristics. A 'blind' LSA uncovers the consumers' relative responses to the intrinsic properties of the products and permits the generation of a reference performance space. A 'branded' LSA illustrates the significance of extrinsic properties on product acceptability. If the two maps exhibit similar structure, this indicates that consumers prioritize the intrinsic over the extrinsic properties. A significant change in map configuration illustrates the power of the products' extrinsic characteristics. This will also imply that the map's underlying drivers have evolved to include characteristics such as price, perceived quality and loyalty and that these drivers are essential in the eyes of the consumer. Once this information becomes available, decisions can be made regarding which aspect of a company's efforts should be considered for improvement.

Comparing the blind and branded LSA maps: The results of your experiment are shown in Figures 1 and 2. In these figures we see the tested products against the background contour plot showing the densities of consumer ideal points (lighter areas have greater density), Recall that while LSA is often conducted on liking ratings the data in this case reflects consumer purchase intent. The LSA map generated using the purchase intent blind data is shown in Figures 1a and 1b. The map contours in Figure 1a show there is not strong population segmentation. In addition, several products are located in the vicinity of the densest area. Consequently, there does not seem to be a strong effect of marketed quality when the products are evaluated blind.

Looking at Figure 1b you see that casual and wine enthusiast consumers do not exhibit different purchase intent patterns for the blindly evaluated products as individual ideal points from each group appear evenly distributed throughout the space. From this first analysis you conclude that the Chardonnay prototypes developed by your R&D team are well accepted by both groups of consumers.

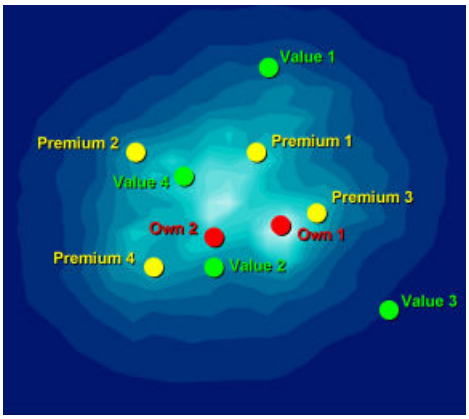

Figure 1a. Blind Condition: Contours and Product Locations

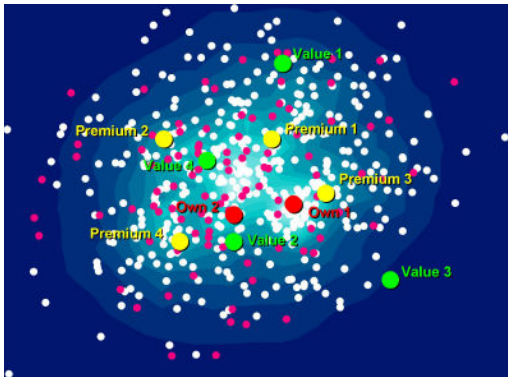

Figure 1b. Blind Condition: Contours, Products and Individual Ideal Points (casual wine drinkers in white, wine enthusiasts in pink)

Figures 2a and 2b show the LSA map for the purchase intent branded data. As with the blind map, the branded LSA map does not show strong segmentation, even though the highest density of ideal points has migrated to the north. Also the premium products now tend to be located in the north while the value products and your prototypes are located in the south. Color coding the individual ideal points shows that the wine enthusiasts cluster in the vicinity of the premium brands while a majority of the casual wine consumers are positioned away from the premium products in the southern portion of the map. Thus Figures 1 and 2 indicate that both casual users and wine enthusiasts are strongly influenced by the effect of product branding. While the wine enthusiasts show a strong purchase intent for premium brands, the casual users often show a relative rejection of the same products. You speculate that this last result is due to their reluctance to pay the higher price for these products.

Recommendations: From your research you conclude that the prototypes developed by your R&D team exhibit intrinsic properties suitable to both casual and enthusiast wine consumers. Nonetheless, the branded part of the research showed that your products currently do not have the premium image your management is looking for.

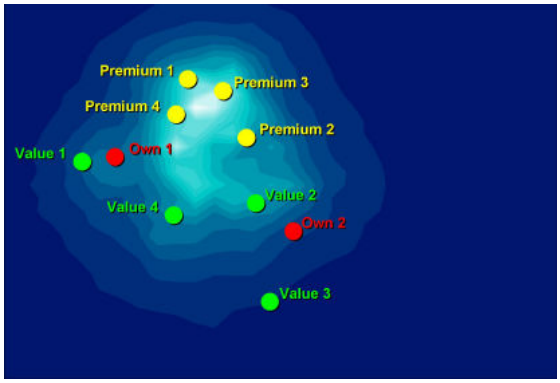

Figure 2a. Branded Condition: Contours and Product Locations

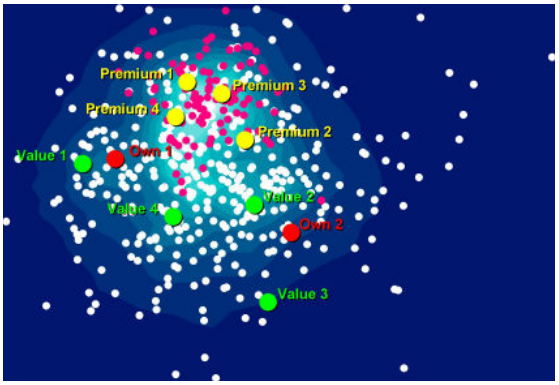

Figure 2b. Branded Condition: Contours, Products and Individual Ideal Points (casual wine drinkers in white, wine enthusiasts in pink)

Based on this result you report that more effort should be invested into improving the new product's perceived extrinsic properties with premium consumers, and you note that this improvement may require a considerable commitment of time and resources as the new products become established.

Conclusion: LSA is a useful diagnostic tool as its consideration of consumer ideal points makes it applicable in a wide variety of situations. In this report we applied LSA to both blind and branded data, and we saw that one can use LSA to provide concrete guidance to both R&D and marketing departments, clearly defining where to direct efforts to improve a company's products.

References:

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