

5. TUTORIAL FOR POSITIONING ANALYSIS

This tutorial is provided to demonstrate the function and operation of the Marketing Engineering software. We have based this tutorial on one of our cases, which may or may not be the case you will be using. Simply substitute the correct data file names provided with your case in order to follow along with the tutorial to learn how to use the software.

Note: Marketing Engineering supports importing and exporting data to Excel for this model. Please refer to the Excel Input Output Guide (excelinputoutputguide.pdf) for details on how to use this feature.

CASE: POSITIONING THE INFINITI G20, P. 148

Perceptual mapping refers to techniques that enable managers to develop differentiation and positioning strategies by helping them to visualize the competitive structure of their markets as perceived by their customers. Typically, data for mapping are customer perceptions of existing products (and new concepts) along various attributes, perceptions of similarities between brands, customer preferences for products, or measures of behavioral response of customers toward the products (e.g., current market shares of the products).

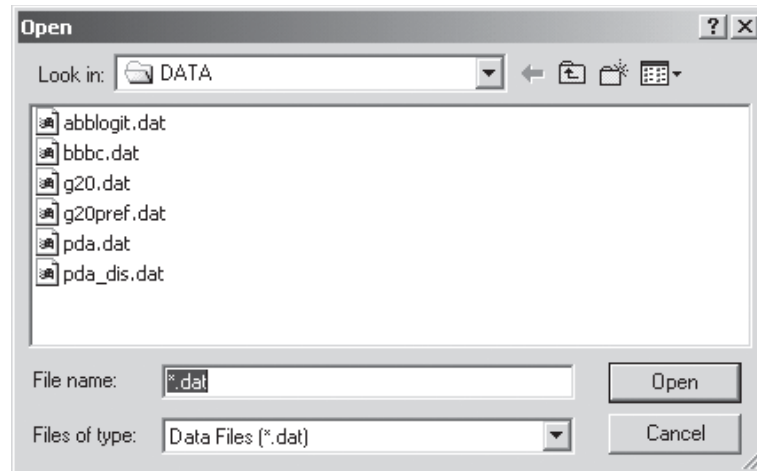
Maps generated by this software are spatial representations in Euclidean space that have the following characteristics: (1) The pairwise distances between product alternatives directly indicate the “perceived similarities” between any pair of products, i.e., how close or far apart the products are in the minds of customers. (2) A vector on the map (shown by a blue or red line) indicates both magnitude and direction in the Euclidean space. The length of a vector indicates its magnitude. A blue vector geometrically denotes product attributes (i.e., direction in which the labeled attribute corresponding to a vector is increasing) and a red vector denotes the direction in which an individual’s preferences are increasing. (3) The axes of the map are a special set of vectors that could represent the underlying dimensions that best characterize how customers differentiate between alternatives. One way to interpret the axes is to look for attributes that are most closely correlated with each axis. The smaller the angle between an axis and an attribute, the higher is the correlation.

This software implements the MDPREF perceptual mapping model, which is based on a factor-analytic procedure. In addition, the software implements PREFMAP-3, which enables users to introduce for each respondent a preference-vector onto a given perceptual map. Typically, a perceptual map is derived from the averaged perception data from a target segment, whereas the preference map is derived from individual-level preference data. This two-step procedure, referred to as joint-space mapping with external analysis, is based on the assumption that a target segment has a common set of perceptions among the choice alternatives, but each respondent has different preferences for those alternatives.

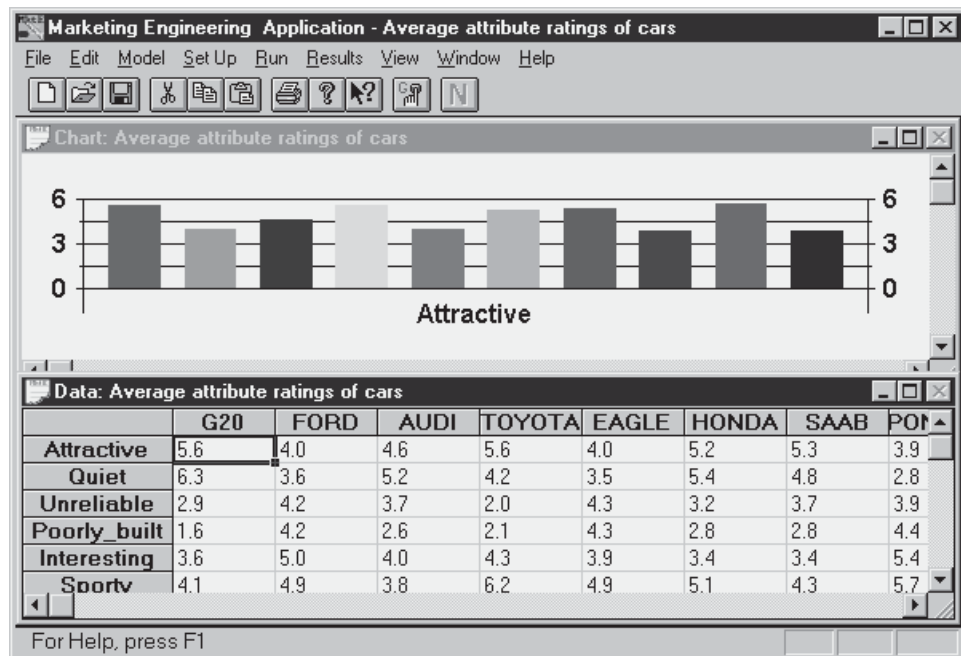
Note: All the procedures in this software are based on “vector” methods. Thus, we do not include “ideal-point” or unfolding models.

The following example illustrates the use of mapping for developing a positioning strategy for Infiniti G20. We describe the data in detail in the exercise in the text on pages 149 and following.

From the **Model** menu, select **Positioning Analysis**. You will be prompted for a data file. For this example, select the file called G20.DAT. If you enter your own data sets, make sure that the columns are the products (or alternatives to be evaluated) and the rows contain the attribute evaluations of the products.

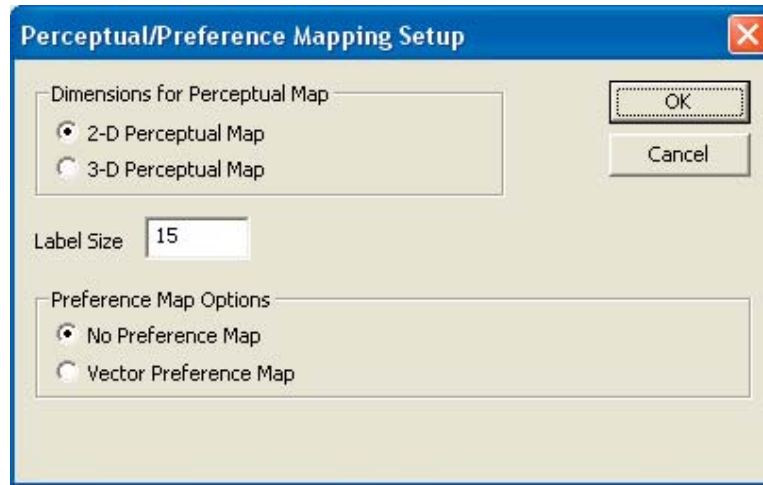


After the file loads, you will see the following split-screen window:



*Note: If you make changes to the data to evaluate alternative solutions, the program will not automatically save these changes. To save the changes (under a separate file if necessary) go to the **File** menu and click **Save As**.*

On the **Setup** menu, click **Setup** to select the parameters for the run.



Number of dimensions: Enter either 2 or 3. If you choose a three-dimensional map, the program will produce three two-dimensional maps (Dim 1 with Dim 2, Dim1 with Dim 3, and Dim2 with Dim3).

Label Size: Because long labels might clutter the map(s), you can control the length of labels in the map by specifying between one and 15 characters.

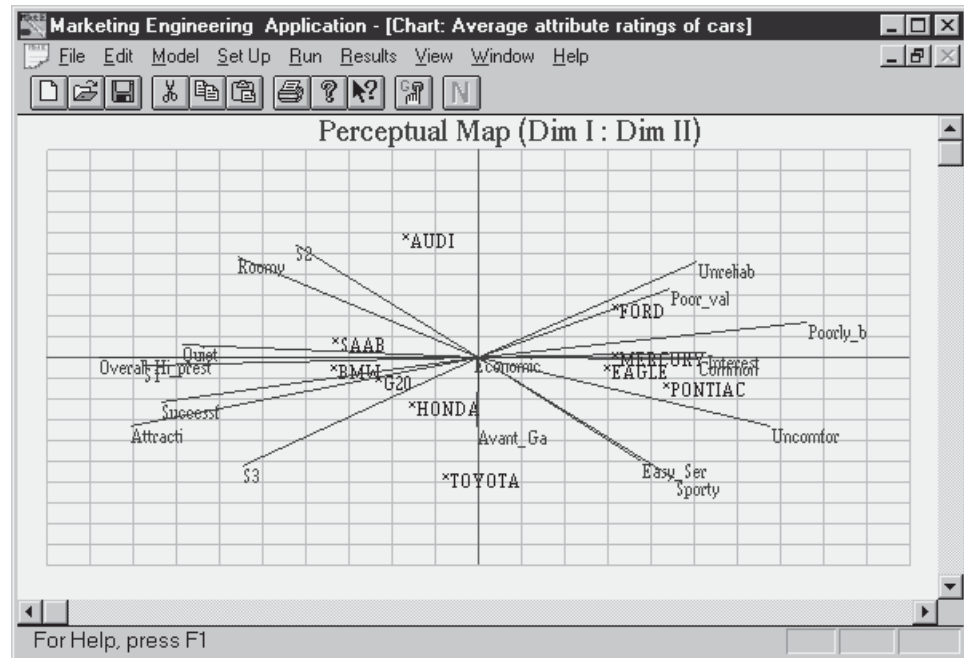
Perceptual Map: This is the default option. For input it relies on customers' average perceptions of a set of alternatives on a set of attributes. For this exercise the data is contained in the file G20.DAT. Although this default option generates only perceptual maps and not joint-space maps (containing both perceptions and preferences), you can still obtain simple joint-space maps by including the average preference ratings in your input data matrix.

Preference Map: Select the preference map option if you have a separate file containing information on the preferences of each customer for the selected products. For the G20 exercise, the preference data are contained in the file called G20PREF.DAT. If you choose **Preference Map** you will be prompted to provide this file name.

To run the program, go to the **Run** menu and click **Run Model**.



When the program is successfully executed, you will see the following map on the top part of your screen.



In the map, the length of an attribute vector is proportional to the variance of that attribute explained by the map.

Go to the **View** menu to find commands to customize the display. You have the following choices:

1. **Zoom in and out:** Use the Zoom command to enlarge any portion of the display. First click **Zoom In** and then place the cursor anywhere on the map and click. To zoom out again, go back to the **View** menu and click **Zoom Out**.
2. **Customize the display:** On the **View** menu, click **View Options** to customize the display:

View parameters

Options

Threshold: 0. Grid

Choice Rule: First Choice Attribute Vector

Product: G20 Label

Preference Vector

OK Cancel

- Turn the grid on or off.
- Turn the display of attribute vectors on or off.
- Display only attributes whose variance recovery is higher than a specified number. Select the threshold values from 0 (default) to 1.0.
- If you choose to turn off the display of both attribute vectors and labels, the program will display only objects (cars in the example).


The remaining options are used with preference maps, which we describe later.

3. **Add labels anywhere on the map:** This may be useful for future identification of the map. Click anywhere on the map, and a label dialog box will appear. Anything you enter in this dialog box will be inserted at the selected location on the map. To delete the labels you entered, go to the **Edit** menu and choose **Delete Labels**.

To print a copy of the map on an attached printer, go to the **File** menu and click **Print**. To cut and paste the map into a Windows application (e.g., Word for Windows), bring the map to the foreground, go to the **Edit** menu and select **Cut** or **Copy** and then bring a Windows application to the foreground, go to the **Edit** menu, and select **Paste**.

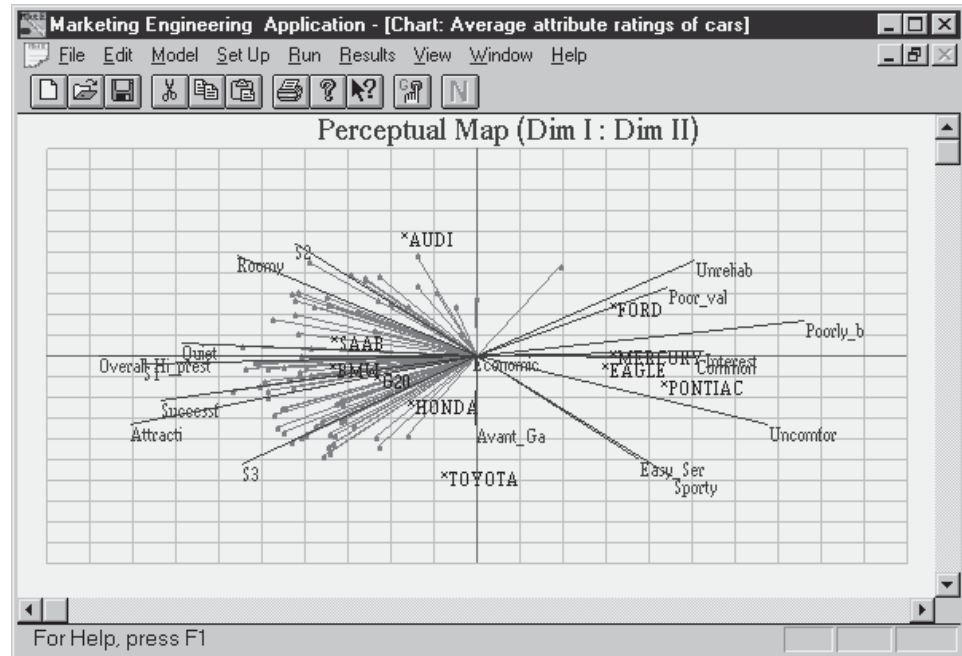
In the case of 3-D maps, the program displays automatically only a map of dimensions 1 and 2. To view the other dimensions on the **Results** menu, choose **Summary** and then **View Next Chart** as shown below.



Alternatively, click on the  button on the Menu Bar to view the next chart.

PREFERENCE MAPS

If you chose **Preference Map** in the **Setup** menu, the map will include the preference vectors of each individual shown as red lines. The length of a preference vector is proportional to the variance of that respondent's preferences that are explained by the map.

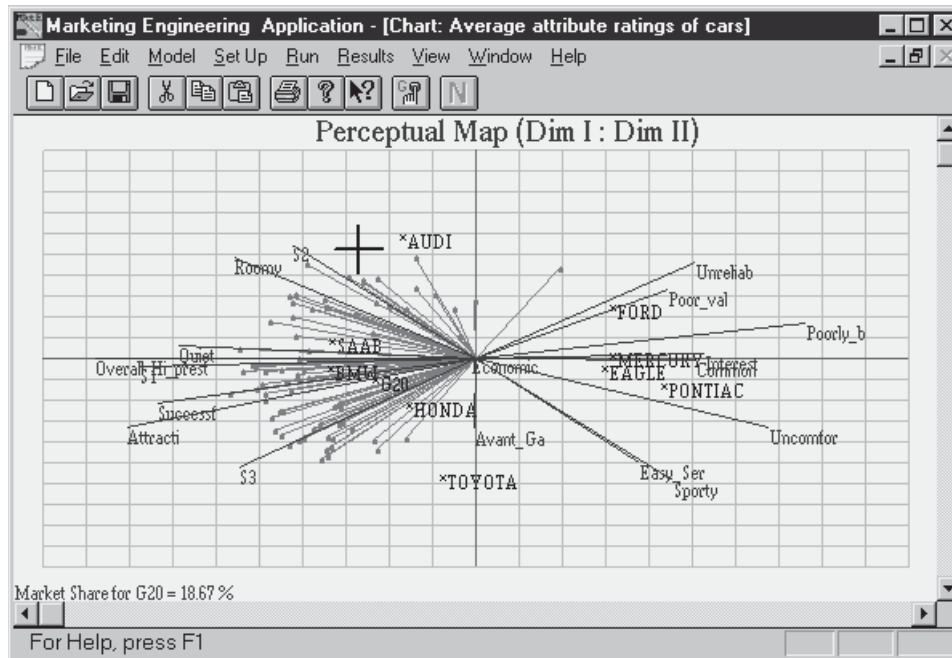


Customize the viewing and analysis options: As with the perceptual map, you can use the options under the **View** menu to customize the display. You will have some new options that were not available with perceptual maps. Go to **View** and choose **View Options**. You can use these options to:

- Turn the display of the preference vectors on or off.
- Select a product whose market share you would like to explore at various locations on the map.
- Select the choice rule to be used for market-share computations. Under the first-choice rule, we assume that each customer will purchase only his or her most preferred product. Under the share-of-preference rule, we assume that the probability that a customer will select a product is proportional to the product's share of preference with respect to all the products included in the model.

Note: The share-of-preference model, as implemented here, arbitrarily sets the preference value of a customer's least preferred product to 0.

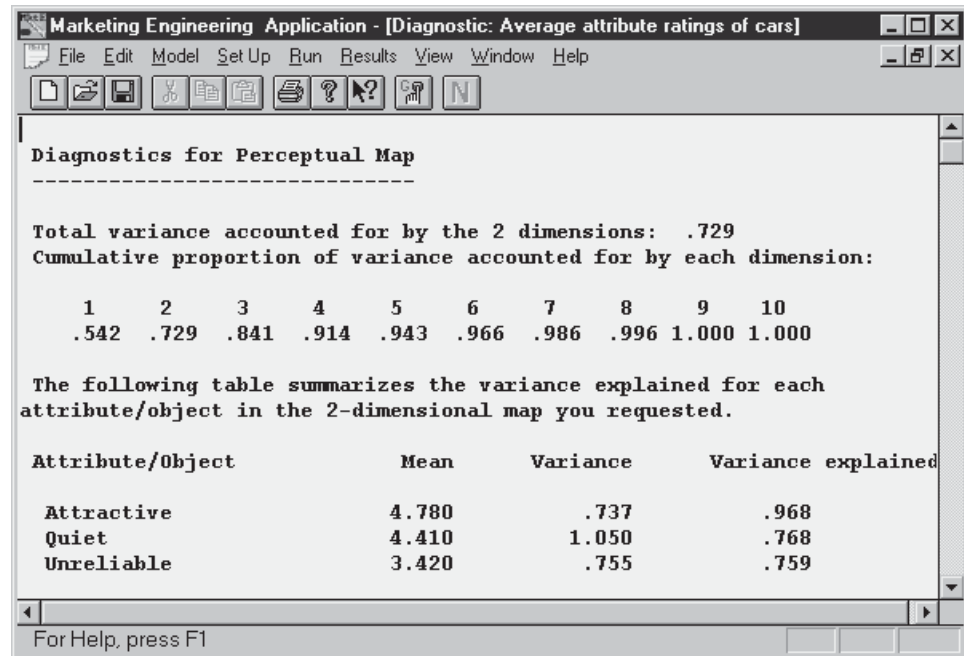
To compute an index of market share at any location on the map for a selected product, place the cursor anywhere on the map and click the **right mouse button**. Cross hairs will appear at that position on the map, along with a market-share figure (at the bottom of the screen) as shown below. It is best to interpret the computed market share as a measure of the *relative attractiveness* (relative to market share at the original position) of the selected location on the map for the selected product, rather than as an indicator of the absolute magnitude of the market share that will be realized.



Note: In computing market share, we assume that the selected product is relocated to the new position shown by the cross hairs (the map will still show the selected product at its original location for purposes of comparison), while all other products remain at their original positions.

To view additional information of a diagnostic nature, go to the **Results** menu and select **View Diagnostics**. This produces a display of additional information useful in evaluating the statistical adequacy of the generated map. You can print this information to an attached printer by going to the **File** menu and selecting **Print**, or use the Windows cut-and-paste option to copy this information into another Windows application, such as Word for Windows, for further editing.





If you had checked **Preference Map** in the **Setup** menu, you will get additional diag-

