



11

Discriminant Analysis for Classification and Prediction

Learning Objectives

This chapter will

- introduce Discriminant Analysis as a useful technique for assigning objects to groups
- discuss its data requirements and applications in selection, classification, and prediction
 - explain how to judge the usefulness of a discriminant function
 - illustrate a decision-making application for a credit card issuer
- introduce and explain the terms Classification Matrix, Group Centroids, Decision Rule for Classifying Objects, and Relative Strength of Explanatory Variables as used in discriminant analysis

APPLICATION AREAS

The major application area for this technique is where we want to be able to distinguish between two or three sets of objects or people, based on the knowledge of some of their characteristics. For example, the selection process for a job, the admission process of an educational programme in a college, or dividing a group of people into potential buyers and non-buyers. Discriminant analysis can be, and is in fact, used by credit rating agencies to rate individuals, to classify them into good lending risks or bad lending risks. The detailed example later in this chapter shows how it is done.

To summarise, we can use linear discriminant analysis when we have to classify objects into two or more groups based on the knowledge of some variables (characteristics) related to them. Typically,