Discriminant function analysis is a statistical analysis to predict a categorical dependent variable (called a grouping variable) by one or more continuous or binary independent variables (called predictor variables). The original dichotomous discriminant analysis was developed by Sir Ronald Fisher in 1936.

It is different from an ANOVA or MANOVA, which is used to predict one (ANOVA) or multiple (MANOVA) continuous dependent variables by one or more independent categorical variables. Discriminant function analysis is useful in determining whether a set of variables is effective in predicting category membership.

Discriminant analysis is used when groups are known a priori (unlike in cluster analysis). Each case must have a score on one or more quantitative predictor measures, and a score on a group measure.[3] In simple terms, discriminant function analysis is classification - the act of distributing things into groups, classes or categories of the same type.

Moreover, it is a useful follow-up procedure to a MANOVA instead of doing a series of one-way ANOVAs, for ascertaining how the groups differ on the composite of dependent variables. In this case, a significant F test allows classification based on a linear combination of predictor variables. Terminology can get confusing here, as in MANOVA, the dependent variables are the predictor variables, and the independent variables are the grouping variables.

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