Objectives

“Methods of Marketing Research” aims to give students a practical introduction to several multivariate statistical methods that are not regularly taught in statistics courses but are commonly used in the analysis of social science and marketing data, especially survey data. These methods have a common feature in that their primary results are graphical displays of the data, permitting an alternative visual interpretation of data in an intuitive and synthetic way. By the end of the course students will have a much broader set of analytical tools, will know how to choose methods appropriate to the type of data being studied, how to implement them and how to interpret the results.

Description

“Methods of Marketing Research” is a second-term course in the MSc in Management at the Barcelona School of Management. It serves as a core course for students specializing in Marketing and Business Analytics.

Contents

A general overview of multivariate data and methodology is given, and then the following techniques are explained in a structured and generally non-technical way, with many illustrations:

1. Cluster analysis, both hierarchical and non-hierarchical
2. Multidimensional scaling, both metric and non-metric
3. Biplot methodology, introduced by biplots associated with linear regression and generalized linear models
4. Principal component analysis
5. Correspondence analysis, both simple and multiple
6. Alternative approaches to regression modelling: classification and regression trees, and generalized additive models
7. Issue for very large (“big”) data sets: introduction to recommender systems, association rules (e.g., for market basket analysis) and prediction, where the number of cases and/or variables is large.

All the above methods will be illustrated using the open-source R programming language (www.R-project.org). Although it is not obligatory to learn this language, students will be encouraged to initiate themselves during the course into this program, which has become the de facto standard globally for methodological research in many disciplines. Acquiring knowledge of R will lead to accessing freely available cutting-edge software contributed by thousands of researchers world-wide, and is one of the best time investments students can make.
Methods of Marketing Research

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Methodology
The course consists of 20 classes of 1.5 hours each. Two of these classes will be planned as computing sessions, later in the term when students are analysing data for their course projects (see below). There are weekly problem sets in the two initial weeks, but later students will be focused on the data analysis for their projects.

Evaluation criteria
The course is evaluated through a practical project, problem sets and presence at classes. The project is weighted by 70% of the final grade; the problem sets plus class attendance and participation will be weighted 30%. Students will choose a data set in any of their fields of interest, subject to approval by the course leader. Using methodologies learnt in the course, students will analyse these data and write up the results in a short (approximately 15-page) report, and prepare a presentation of 10 minutes exposing their findings. The project reports will be submitted during the last week of the course, when the presentations will be made as well.

Bio of the professor
Michael Greenacre is a Professor in the Department of Economics and Business, at Pompeu Fabra University. He obtained his doctorate at the Université Pierre et Marie Curie in Paris (Paris 6). His research interests are in multivariate analysis applied to the social and environmental sciences. He has written 5 books and co-edited 4 more, as well publishing 55 research papers in international journals. He is also affiliated with the Barcelona School of Management as well as the Barcelona GSE, where he also teaches courses on Statistics for Health Science in the Master of Health Economics and Policy and on Visualization in the Master in Data Science.