

Seminars on Statistics in Marketing and Psychology, Winter 2006

Research seminars in Marketing, Psychology and Statistics on FRIDAYS 2.30-4.00pm this term, in Fisher 500

These seminars will consist mainly of ongoing research presentations and discussions of published papers. You are welcome to join us.

LIST OF SEMINARS

January 25th: Steven MacEachern, Department of Statistics

Discussion on paper by Andrew Gelman “Prior distributions for variance parameters in hierarchical models”, 2006, International Society for Bayesian Analysis, 3, 515-534.

February 1st: Group discussion on submission of work “A unified view of response time and choice in marketing and psychology” to be submitted to the conference competition “Case Studies in Bayesian Analysis”.

February 8th and 15th: Cancelled due to snow.

February 23rd: Jeffrey Dotson, Marketing Department

A Simultaneous Quantile Regression Model for Customer Linkage Analysis

Abstract

Quantile regression for a simultaneous system of equations is developed to study the relationship between customer and employee satisfaction. Customers interact with many employees, and employees serve many customers, such that a one-to-one mapping between customers and employees is not possible. Analysis proceeds by relating the distribution of customer and employee responses. Such analysis is commonly encountered in marketing when data are from independently collected samples. Our model facilitates analysis among quantiles of the distributions, allowing comparison among better-performing and worse-performing units. We demonstrate our model in the context of retail banking, where drivers of customer and employee satisfaction are shown to be quantile-dependent.

This is joint work with Joe Retzer (Maritz Marketing Research) and Greg Allenby (Marketing Department)

March 1st: Hao Wu, Department of Psychology

An Empirical Bayesian Approach to Misspecified Covariance Structure Models
”All models are wrong, but some are useful.” (Box, 1976)

Abstract

Because models typically do not fit exactly to the population in real life applications, classical null hypothesis testing procedure suffer from the fact that

the null hypothesis will eventually be rejected given a large enough sample. To avoid this problem, various measures of model misfit have been developed. These measures of misfit, however, are modifications of the likelihood ratio test statistic for a perfectly fitting model and parameters are still estimated under the assumption of this perfect model. To avoid this self-contradictory modus operandi I shall present an Empirical Bayesian approach, developed in conjunction with Dr. Browne, that directly address the issue that the model does not fit the population covariance matrix. I shall also point out the connection of this approach to shrinkage estimators, show some simulation results, and discuss possible future extensions of the current work.

March 8th: Steven MacEachern, Department of Statistics
Discussion on paper by Ronald Christensen “Testing fisher, Neyman, Pearson and Bayes”, *The American Statistician*, 2005, 59, 121–126.