

## **Introduction**

This book is based on a collection of my lecture notes used for my teaching of structural equation modeling to Ph.D. candidates in the Paul Merage School of Business, University of California at Irvine, from 2003 to 2005.

During my re-writing my lecture notes for this book, I have a clear goal that is to make this book as a friendly and step-by-step model-building guide to anyone who plans to use structural equation modeling to conduct some high quality empirical research. In other words, this book is not written for people who just want to think about or to talk about structural equation modeling. The book is for these students and scholars who need to use structural equations to analyze some real datasets and to produce high quality research reports.

To avoid some of the wide spread confusion in our empirical research field, a RM4Es framework has been used to summarize all the main concepts and methods of structural equation modeling. To state briefly, RM4Es consists of (e1) equations for model representations, (e2) estimation methods for coefficients calculation, (e3) evaluation methods for model assessment, and (e4) explanation for results interpretations. Feedback from my teaching and training has continuously confirmed the RM4Es framework is indeed a very effective tool in helping students to gain a clear understanding of structural equation modeling.

Throughout the book, many real research examples have been used to demonstrate all the important structural equation modeling techniques presented in this book and to keep students updated of the most current applications. Many of the examples are taken from articles published in leading journals such as the American Economic Review and the American Political Science Review.

Proper computing is always an important part of any high quality regression-modeling project. For this book, we have selected LISREL as our computing tools, because LISREL is still the most widely used software for structural equation modeling. Step by step LISREL implementation of all the important ideas and techniques are included either in the book content or in the appendix. By using these LISREL programs together with a few datasets included in the book, our readers should be able to test all the important structural equation modeling techniques and methods to ensure a full mastering of the modern structural equation modeling covered in this book.

This book may be used as a textbook for a graduate seminar course or as a training manual for some intensive sessions. Students who completed the course or training should be able to use LISREL to analyze their own datasets to produce high quality structural equation models for their research.

# **Book: Building Structural Equation Models in Social Science**

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