

RESEARCH THEORIES IN MANAGEMENT SCIENCE III

(SPECIFIC TRACK)

Professor: **MATTHIAS SEIFERT**

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BACKGROUND

Matthias Seifert is a tenured Professor of Decision Sciences in the Operations and Technology area at IE Business School. Prior to joining IE, he has spent most of his academic life researching and teaching in the UK, where he was affiliated to the London Business School, Cambridge University and the London School of Economics.

Dr. Seifert's research focuses on risky choice behavior following near-miss events, psychological aspects of managerial forecasting as well as algorithmic decision models in multi-attribute choice environments.

He has received the EFMD/Emerald Outstanding Doctoral Research Award, the Toby Jackman Prize for the most outstanding dissertation in any discipline awarded by St Edmund's College, Cambridge University, as well as various other research awards granted by institutions in Germany, the United States and the UK. His work has appeared in top journals such as *Organizational Behavior and Human Decision Processes*, *Journal of Operations Management*, *Personality and Social Psychology Bulletin*, *Harvard Business Review*, *MIT Sloan Management Review*, and the *Best Paper Proceedings of the Academy of Management* among others. Dr Seifert serves on the editorial boards of *Journal of Operations Management*, *Organizational Behavior and Human Decision Processes*, *Decision Analysis*. His research has been featured by several public media outlets including the *Financial Times International* ("Professor of the Week"), *Forbes*, *Psychology Today*, *CBS News*, *Ideas for Leaders*, among others and he was recently included in the 2016 list of "The World's Best 40 Under 40 Business School Professors" published by *Poets & Quants*.

Academic Background

Postdoctoral Researcher, London Business School, UK

Visiting Lecturer, Operational Research Group, London School of Economics, UK

Ph.D. in Management, Judge Business School, Cambridge University, UK.

M.Sc. in Decision Sciences, Operational Research Department, London School of Economics and Political Sciences, UK.

M.A. in International Business, University of Hamburg, Germany.

B.Sc. in Economics, Vaxjo University, Sweden.

B.A. (Hons) in Business Administration, University of Hamburg, Germany.

Corporate Experience

Decision Analyst, Environment Agency, UK

Consultant, Krysalis Decision Technologies Ltd., UK

Teaching Experience

London Business School

London School of Economics

Cambridge University

University College London (UCL)

MODULE OBJECTIVES AND CONTENT

This course, intended as a sequel to Quantitative Methods II, is designed to provide an in-depth discussion of several advanced topics on the use of inferential and multivariate statistics, which are critical for conducting empirical research in the social sciences. By the end of this module you will be able to tackle highly complex research questions using sophisticated analytical methodologies that involve

- Confirmatory Factor Analysis using Amos
- Multidimensional Scaling
- Random and Fixed Effects Models
- Mediation, Moderation and Conditional Process Analysis using the PROCESS Tool.

Lectures will be held in blocks of two 80 minute sessions. Some useful resources will be:

"Introducing multilevel modeling" by Kreft, I. G., & de Leeuw, J. Sage, 1998.

"Multilevel modeling", by Luke, D. A., (Vol. 143). Sage, 2004.

"Analyzing Multivariate Data" by J. Lattin, J.D. Carroll, and P.E. Green, Thomson Learning, 2003.

"Multivariate Data Analysis" (7th Edition) by J.F. Hair, W.C. Black, B.J. Babin, R.E. Anderson, 2009.

"SPSS 14 Advanced Statistical Procedures Companion", by Norusis, M. J., Upper Saddle River, NJ: Prentice-Hall, 2006.

"SPSS Survival Manual: a step-by-step guide to data analysis using SPSS version 15" (3rd ed), by Pallant, J, Maidenhead: Open University Press, 2007.

During the sessions, SPSS will be used together with several software add-ins (i.e. Amos, PROCESS) to illustrate the methods discussed in class. The following link might be useful for step-by-step guidance on how to perform and interpret some of the statistical analyses we cover:

<http://www.ats.ucla.edu/stat/>

The module is organized around lectures, hands-on exercises on the computer and class discussions. In addition, we will use technical notes when needed, and rely on the SPSS manual to learn how to use the computer to do the work.

Class discussions about selected research papers will be organised from the third session onwards. The papers will be selected according to the particular topic we will be covering at the time, and circulated beforehand. During a class discussion, a topic leader will help lead the discussion of the research paper assigned to him/her. **Helping to lead the discussion does not mean presenting.** Topic leaders are responsible for: (1) developing and asking thought-provoking questions that examine each topic thoroughly; (2) structuring the debate; and, (3) eliciting participation.

Participants are responsible for reading each article and preparing for each day of class as if they were the topic leaders. The idea is not to repeat what is in the paper but to examine: why it is important to read and understand this paper (i.e. relevance); **how the theory and methodology of this paper advanced knowledge in a particular area** (i.e. contribution); and whether there are any identifiable improvements to the research methodology presented (e.g. reliability, validity and generalisability of findings). Your participation during class discussions and your performance as a topic leader will help me to assess your class participation marks.

PROGRAM

SESSION 1

CONFIRMATORY FACTOR ANALYSIS

- Introduction to the SPSS Amos software package
- How to build and interpret CFA models

Readings:

Lattin et al., Chapter 6

B.C.: Confirmatory Factor Analysis

SESSION 2

CONFIRMATORY FACTOR ANALYSIS

- Introduction to the SPSS Amos software package
- How to build and interpret CFA models

Readings:

Lattin et al., Chapter 6

SESSION 3

MULTIDIMENSIONAL SCALING

- Exploring similarities and dissimilarities in data
- Metric versus non-metric MDS
- Multidimensional analysis of preference

Readings:

Hair et al, Chapter 9.

SESSION 4

MULTIDIMENSIONAL SCALING

- Exploring similarities and dissimilarities in data
- Metric versus non-metric MDS
- Multidimensional analysis of preference

Readings:

Hair et al, Chapter 9.

SESSION 5

FIXED AND RANDOM EFFECTS MODELS

- Modeling fixed and random effects.
- Hierarchical Linear Modeling using SPSS.

Readings:

Garson Chapter 1.

Albright & Marinova (2010)

R.A.: Estimating Multilevel Models Using SPSS, STATA, SAS and R

SESSION 6

FIXED AND RANDOM EFFECTS MODELS

- Modeling fixed and random effects.
- Hierarchical Linear Modeling using SPSS.

Readings:

Garson Chapter 1.

Albright & Marinova (2010)

B.C.: Introduction to HLM Modeling

SESSION 7

FIXED AND RANDOM EFFECTS MODELS

- Modeling fixed and random effects.
- Hierarchical Linear Modeling using SPSS.

Readings:

Garson Chapter 1.

Albright & Marinova (2010)

SESSION 8

MEDIATION, MODERATION AND CONDITIONAL PROCESS ANALYSIS

- Introduction to the functionality of Andrew Hayes' PROCESS TOOL.
- Moderated mediation.
- Conditional indirect effects.

Readings:

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper].

R.A.: PROCESS: A versatile computational tool for observed variable mediation, moderation and conditional process modeling

SESSION 9

MEDIATION, MODERATION AND CONDITIONAL PROCESS ANALYSIS

- Introduction to the functionality of Andrew Hayes' PROCESS TOOL.
- Moderated mediation.
- Conditional indirect effects.

Readings:

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper].

SESSION 10

MEDIATION, MODERATION AND CONDITIONAL PROCESS ANALYSIS

- Introduction to the functionality of Andrew Hayes' PROCESS TOOL.
- Moderated mediation.
- Conditional indirect effects.

Readings:

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper].

EVALUATION CRITERIA

Grades will be assigned as follows:

Class participation 30%

Written exam 70%

Criteria	Percentage	Comments
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