ONLINE Ljubljana Doctoral Summer School 2022

Experimental Design and Analysis (Part II – Advanced) (ECTS: 4)

18 – 22 July

15.00 – 19.00 (CEST, Ljubljana)

Course leader:
Singh Jagdip, Case Western Reserve University, United States

Aims of the course:

Preference for strong causal evidence in publishing scholarly research at top journals has fueled interest in advanced experimental designs and analysis. Designing experiments and analyzing data for strong evidence of causal mechanisms is the focus of this course. Aimed at Ph.D. students and faculty who are motivated by interest in strong causal evidence using experimental designs in business (e.g., accounting, information systems, marketing, organizational behavior) and related disciplines (e.g., economics, psychology), this second course[1] covers advanced concepts and tools for scholarly research. It is appropriate for scholars who have completed a foundational course (first-level) in experimental designs, and want to develop expertise. We will examine experimental designs and analyses from the perspective of an applied researcher, not from that of a statistician. Although there will be sufficient coverage of statistical concepts (to ensure that the procedures and techniques are applied intelligently), we will not focus on statistical theory per se. We will be using SPSS/Stata for course work with an option to use R/Python if the student is interested.

Course syllabus with list of readings:

Book: We will be using Experimental Design and Analysis book by Professor Howard Seltman (2018). This book will be available as a free e-text for enrolled students. All chapters in the syllabus are sourced from this book. We will supplement this book with recent articles.

1. **Designing Advanced Experiments for Causal Mechanism**

   Viglia, Giampaolo, Ghasem Zaefarian, and Aulona Ulqinaku. "How to design good experiments in marketing: Types, examples, and methods." *Industrial Marketing Management* 98 (2021): 193-206. (Good review of Foundations)

   Pieters, Rik. "Meaningful mediation analysis: Plausible causal inference and informative communication." *Journal of Consumer Research* 44, no. 3 (2017): 692-716.

   Workshop & Assignment: Designing a Causal Experimental Study

2. **Complex Interactions in Experimental Data Analysis: Regression Parallel**

   Chapters 10 & 11: Accounting for Threats, 2-way Designs and Complex Interactions

[1] A first-level experimental design and analysis course is also offered for scolars with basic skills.

Spiller, Stephen A., Gavan J. Fitzsimons, John G. Lynch Jr, and Gary H. McClelland. "Spotlights, floodlights, and the magic number zero: Simple effects tests in moderated regression." *Journal of Marketing Research* 50, no. 2 (2013): 277-288.

Workshop & Assignment: Plotting Interactions, Blending ANOVA and Regression Diagnostics

3. **Mediation in Experimental Data Analysis: PROCESS/SEM Analysis**

Rucker, Derek D., Kristopher J. Preacher, Zakary L. Tormala, and Richard E. Petty. "Mediation analysis in social psychology: Current practices and new recommendations." *Social and Personality Psychology Compass* 5, no. 6 (2011): 359-371.

Workshop & Assignment: Direct and Indirect Effects

4. **Moderated-Mediation in Experimental Data Analysis: Boundary Conditions**

Muller, Dominique, Charles M. Judd, and Vincent Y. Yzerbyt. "When moderation is mediated and mediation is moderated." *Journal of Personality and Social Psychology* 89, no. 6 (2005): 852-863.

Workshop & Assignment: Plotting Interactions, Blending ANOVA and Regression Diagnostics

5. **Designing Experiments for Strong Causal Evidence**

MacKinnon, David P., and Angela G. Pirlott. "Statistical approaches for enhancing causal interpretation of the M to Y relation in mediation analysis." *Personality and Social Psychology Review* 19, no. 1 (2015): 30-43.

Ludwig, Jens, Jeffrey R. Kling, and Sendhil Mullainathan. "Mechanism experiments and policy evaluations." *Journal of Economic Perspectives* 25, no. 3 (2011): 17-38.

Morales, Andrea C., On Amir, and Leonard Lee. "Keeping it real in experimental research—Understanding when, where, and how to enhance realism and measure consumer behavior." *Journal of Consumer Research* 44, no. 2 (2017): 465-476.
Gneezy, Ayelet. "Field experimentation in marketing research." *Journal of Marketing Research* 54, no. 1 (2017): 140-143.

Teaching methods:

The seminar is designed in the lecture-discussion-workshop format. Students must be prepared to (a) discuss the material assigned for each meeting period, (b) workshop the analytical approaches taught in classroom activity/participation sessions (bring your laptop) and (c) present the assigned and submitted homework for class learning. Students should expect a homework and reading assignment for each meeting period.

Asessment:

The course grade will be based on 4 analytical assignments. Students will be working on the assignment after each session and submitting it in advance of the next session. Submitted assignments will be discussed in the class to facilitate hands-on learning and students will have a chance to refine and update their work. Students may work in a team of 2 to enable group learning that complements the course sessions.

Course leader's biographical note:

Jagdip Singh is AT&T Professor of Design and Innovation, and has an undergraduate degree in Electrical Engineering. He is an internationally recognized scholar of organizational frontline effectiveness. Jagdip's expertise involves designing, managing and sustaining effective and enduring customer connections at the frontlines of organizations. Jagdip is twice recipient of the Weatherhead School of Management's Research Recognition Award for outstanding contributions to research in 1997 and again in 2018. In 2019, Jagdip was awarded the University's Faculty Distinguished Research award, the highest honor for enduring and significant research impact.

Also in 2019, Jagdip received the Lifetime Achievement award from the American Marketing Association's SIG-Sales. In 1992, Jagdip received the Case Western Reserve University's John S. Diekhoff award for excellence in graduate teaching, and the Excellence in Doctoral Teaching and Mentoring award in 2007 and again in 2017. Jagdip co-founded the interdisciplinary "Organizational Frontlines Research" initiative spawning an annual symposium (since 2015) sponsored by the Marketing Science Institute, Sheth Foundation and several leading Sales and Service centers. Dr Singh has received the "Excellence in Reviewing" awards from the Journal of Marketing, Journal of the Academy of Marketing Science, Journal of Retailing, and the Journal of Personal Selling and Sales Management. Dr Singh has participated in seminars at leading international business schools in Australia, Belgium, Brazil, China, France, Germany, Hong Kong, India, Netherlands, Norway, Slovenia, Switzerland, Sweden, Thailand, and United Kingdom.