Two-Day Hands-On Workshop on WarpPLS: Structural Equation Modeling Fundamentals with Linear and Nonlinear Applications

Instructor:

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Location and dates:

Our Lady of the Lake University
San Antonio, Texas
11-12 January 2013 (Fri-Sat), 8 am–5 pm

Goal

The main goal of this workshop is to give participants a practical understanding of how to use the software WarpPLS to conduct variance-based structural equation modeling (SEM). The workshop is very hands-on and covers linear and nonlinear applications.

Preparation for the workshop

Each workshop participant must: (a) bring a portable computer (e.g., a laptop) to the workshop with WarpPLS installed on it (participants will receive complimentary individual licenses); (b) bring one (or more) datasets for analysis; and (c) read the three readings that will be discussed in the workshop (provided by the instructor).

Day 1 of workshop

- Overview of workshop and formation of teams
- Overview of web resources: Video clips, blog, publications, spreadsheets, and templates
- Overview of steps 1 to 5 of a complete SEM analysis
- Hands-on exercise: Complete SEM analysis
- Resampling as shuffling multiple decks of cards
- Choosing the right resampling method
- Hands-on exercise: Resampling options
- Choosing the right warping (i.e., nonlinear) algorithm
- Viewing and interpreting plots of linear and nonlinear relationships
- Hands-on exercise: Linear and nonlinear relationships
- Charting non-standardized data

- Reporting results in non-standardized terms
- Hands-on exercise: Standardized to non-standardized results
- Reading discussion: WarpPLS User Manual

Day 2 of workshop

- Classical tests of mediating effects – Baron & Kenny and Preacher & Hayes
- Using indirect and total effect outputs to test mediating effects
- Hands-on exercise: Indirect/mediating and total effects
- Reading discussion: Kock & Verville's free questionnaire data article
- Testing a moderating effect
- Double, triple etc. moderation
- Hands-on exercise: Moderating effects
- Adding control variables into an analysis
- Using second-, third- etc. order latent variables
- Conducting a multi-group analysis
- Hands-on exercise: Multi-group analysis
- Reading discussion: Kock & Lynn's lateral collinearity article
- Conducting a full collinearity test
- Hands-on exercise: Team project using participant's own data
- Presentation of results from team project

Readings for discussions

The readings below are provided online by the instructor and must be read prior to the workshop. They will be discussed in the workshop.

- Kock, N. (2012). *WarpPLS 3.0 User Manual*. Laredo, Texas: ScriptWarp Systems.
- Kock, N., & Lynn, G.S. (2012). Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations. *Journal of the Association for Information Systems*, 13(7), 546-580.
- Kock, N., & Verville, J. (2012). Exploring free questionnaire data with anchor variables: An illustration based on a study of IT in healthcare. *International Journal of Healthcare Information Systems and Informatics*, 7(1), 46-63.

Team project and presentations

Participant teams (formed at the beginning of the workshop) will analyze data with WarpPLS, either using the dataset provided by the instructor for the workshop, or a dataset brought by one of the team members. (The latter is strongly encouraged.) Ideally the dataset should contain at least 100 cases, and the model should contain at least: 3 latent variables, and 1 block where two or more predictor variables point at a criterion variable.