

SmartPLS Path Modeling: Foundations, Applications and Advances

University of Newcastle (Australia)
February 14-16 (three days), 2012

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Dr Christian M. Ringle is a Full Professor and Managing Director of the Institute for Human Resource Management and Organizations at TUHH (Hamburg University of Technology). He holds a Master's degree in Business Administration from the University of Kansas (KU), received his Doctor of Philosophy from the University of Hamburg (UHH), and has been Visiting Research Fellow at Osaka City University (OCU), the University of Technology Sydney (UTS), the Manchester Business School (MBS), and the Georgia State University (GSU). His research mainly addresses strategic management, human resource management and organizations, marketing and quantitative methods for business and market research. Dr Ringle focuses specifically on the success factors of strategic alliances, (local) enterprise networks and virtual organizations. In these areas, he has had significant experience as a consultant for companies in Europe, the U.S., and Australia. Moreover, he is Managing Director (MD) of the SmartPLS (www.smartpls.com) software development team, focusing on methodological expansions for PLS path modeling, their software implementation, and application in empirical business research.

Full List of Publications: www.tuhh.de/hrmo

Syllabus

<p>Learning objectives and outcomes</p>	<p>Structural equation modeling (SEM) and path modeling with latent variables (LVP) are used to empirically validate theoretically developed causal models in the social sciences disciplines such as marketing to perform, for example, research on brand equity, consumer behavior, and customer satisfaction). Covariance-based structural equation modeling (CBSEM) and partial least squares-analysis (PLS) constitute the two corresponding statistical techniques to perform an SEM analysis.</p> <p>CBSEM is usually used in social sciences to empirically estimate relationships in causal models. Apparently, there has been little concern about the frequent inability of empirical data to meet methodological requirements or about the common occurrence of improper solutions. In comparison with CBSEM, Wold's basic PLS design or basic method of soft modeling rather represents a different statistical method. Soft modeling refers to the ability of PLS to be more flexible in handling various statistical modeling problems in situations where it is difficult or impossible to meet the hard assumptions of more traditional multivariate statistics. Within this context, "soft" is only attributed to distributional assumptions and not to the concepts, the models or the estimation techniques.</p> <p>Representing a well-substantiated alternative to CBSEM, PLS is relatively unknown and rarely used in business research, which fails to appreciate its importance for estimating LVP in a variety of contexts, ranging from theoretical and applied research in marketing, management and other social sciences disciplines. The goal of PLS is the explanation of variances (prediction-oriented character of the methodology) rather than explaining covariances (theory testing via CBSEM). Thus, the application of the PLS approach is of special interest if the premises of CBSEM are violated and the assumed relations of cause-and-effect are not sufficiently explored. An additional key advantage of the PLS-method is the relatively unrestricted incorporation of latent variables in the path model that either draw on reflective or formative measurements models.</p> <p><i>The objectives of this course are to provide an in-depth methodological introduction into the PLS path modeling approach (the nature of causal modeling, analytical objectives, some statistics), (2) the evaluation of measurement results, and (3) complementary analytical techniques. Practical applications and the use of a PLS software application are an integral part of this course.</i></p>
<p>Content</p>	<ol style="list-style-type: none"> 1. Fundamentals of PLS path modeling 2. Assessment of measurement results 3. Introduction to the software application SmartPLS 4. Applications 5. Examples and special problems in business research 6. Advanced topics such as FIMIX-PLS and impact-performance matrix analysis
<p>Who should attend?</p>	<p>This course has been designed for full-time faculty and Ph.D. students who are interested to learn how to use structural equation modeling (SEM) using PLS path modeling (PLS-SEM) in their own research applications. A basic knowledge of multivariate statistics and SEM techniques is helpful, but not required.</p>
<p>Teaching Methods</p>	<ul style="list-style-type: none"> • Presentation • Computer Exercises (SmartPLS software application; www.smartpls.de) <i>bring your own laptop computer; install SmartPLS before the course.</i> <p>Please note that SmartPLS currently does <i>not</i> run on most Mac computers with Apple operating systems</p>
<p>Conditions of participation</p>	<p>You need to register through the University of Newcastle (Australia); fees apply (<i>see below</i>).</p>

Registration and Additional Information

The University of Newcastle (Australia) handles the registration procedure. To register for the workshop please download the form at the end of the following website

<http://www.newcastle.edu.au/Resources/Schools/Newcastle+Business+School/Events/Smart-PLS-Registration-Form.xls>

Once you've printed and filled out the form, either fax it to 4921 7418 or email it to finserv-cashiers@newcastle.edu.au

If you have any enquiries please contact the Newcastle Business School at business-school@newcastle.edu.au or on (02)4921 5511.

Please also contact Dr Ringle (smartpls@ringle-online.de) if you need additional information on the contents of the course and the SmartPLS software application.

Location

The course takes place at University of Newcastle, City Precinct, University House, Cnr King & Auckland Sts, Newcastle, NSW 2300, Australia

<http://www.newcastle.edu.au/Resources/Divisions/Services/Facilities%20Management/Maps/mapcityprecinct.pdf>

Additional location details (floor, room etc.) will be emailed to all course participants.

Fees (excl. VAT)

All three days (Feb 14-16): AUD 900

Two days (Feb 14-15): AUD 700; two days (Feb 15-16): AUD 700

Single day (Feb 14): AUD 400; single day (Feb 15): AUD 400; single day, (Feb 16): AUD 400

(Detailed schedule, see next pages)

Detailed Schedule

Time	Day 1 (Feb 14, 2012) <i>(Assumed knowledge: Some very basic knowledge on multivariate statistics)</i>
10:30 – 12:00	<ul style="list-style-type: none"> – Typical applications – PLS vs. LISREL – Reflective vs. formative measurement models
13:00 – 14:00	<ul style="list-style-type: none"> – Software tutorial: <i>SmartPLS</i> software environment and data entry
14:30 – 16:00	<ul style="list-style-type: none"> – PLS algorithm essentials – Creating valid PLS path models – Software tutorial
16:15 – 17:15	<ul style="list-style-type: none"> – Measurement model evaluation and interpretation of results – Software tutorial

Time	Day 2 (Feb. 15, 2012) <i>(Assumed knowledge: Contents of day 1)</i>
09:00 – 10:30	<ul style="list-style-type: none"> – Structural model evaluation and interpretation of results – Software tutorial
11:00 – 12:30	<ul style="list-style-type: none"> – Bootstrapping – Blindfolding – Software tutorial
13:30 – 15:00	<ul style="list-style-type: none"> – Goodness of fit index in PLS – Mediating effects – Software tutorial
15:15 – 16:15	<ul style="list-style-type: none"> – PLS multi group analysis – Software tutorial

Time	Day 3 (Feb. 16, 2012) <i>(Assumed knowledge: Contents of day 1 and day 2)</i>
09:00 – 10:30	<ul style="list-style-type: none"> – Unobserved heterogeneity – FIMIX-PLS – Application example
11:00 – 12:30	<ul style="list-style-type: none"> – Moderating effects – Nonlinear effects – Software tutorial
13:30 – 15:00	<ul style="list-style-type: none"> – Measurement model invariance – Impact-performance matrix analysis – Software tutorial
15:15 – 16:15	<ul style="list-style-type: none"> – Second-order constructs – Wrap-up