Theory building and theory testing in Business and Management - Partial Least Squares Structural Equations Modelling (PLS-SEM)
Research Methods Workshop @ Manchester 2019

Monday 23 – Wednesday 25 September 2019
The University of Manchester
Oxford Road, Manchester M13 9PL, Williamson Building[1], Room G.47
Registration: https://www.xing-events.com/jul2018.html

Marketing sponsors

1   Instructors

Prof. Dr. Christian M. Ringle
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2   Course objectives

Editorials on what constitutes a strong journal article repeatedly stress the importance of theory in addition to rigor and relevance. While one does not build theory from scratch, there are different ways to approach theory building. Day 1 of this workshop explores what theory is and what it is not, the types of theories, and the different stages of the theory building process. We will also introduce you to a range of software tools that can support the initial theorizing and research question development process. Furthermore, we look at different ways to operationalize initial concepts.

Day 2 and 3 of this workshop look at Partial least squares structural equation modelling (PLS-SEM), which has recently received considerable attention in a variety of disciplines, including marketing (Hair et al 2011, according to Google scholar the most-cited article ever published in JMTP; Hair et al. 2012a, according to Google scholar the most-cited JAMS article since 2012), strategic management (Hair et al.

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[1]   Williamson Building = Building 52 on interactive campus map, available http://www.manchester.ac.uk/discover/maps/interactive-map/

2012a, according to Google scholar the most-cited LRP article since 2012), and management information systems (Ringle et al. 2012, according to Google scholar the second-most cited MIS Quarterly article since 2012).

The goal of PLS-SEM is the explanation of variances (prediction-oriented character of the methodology) rather than explaining covariances (theory testing via covariance-based SEM). The application of the PLS-SEM method is of particular interest if the premises of covariance-based SEM are violated and the assumed relations of cause-and-effect are not sufficiently explored. An additional advantage of the PLS-SEM method is the unrestricted incorporation of latent variables in the path model that either draws on reflective or formative measurements models.

The workshop will focus on the following main topics:
- Research question development and theorizing, theory building, concept development and operationalization of constructs (VosViewer, NVivo and Endnote software)
- Introduction to state-of-the-art of PLS-SEM using the SmartPLS 3 software: Foundations of PLS-SEM and how to apply it by means of the SmartPLS 3 software.

3   Who should attend?

- This course has been designed for full-time faculty and PhD students who are interested in learning how to step-up their research towards well-designed and publishable outputs that potentially survive the test of time and are read and cited. A basic knowledge of univariate and multivariate statistics and SEM techniques is helpful, but not required.
- All participants receive a certificate of attendance!
- Most universities acknowledge the course participation with an equivalent of 6 ECTS.

4   Learning outcomes

This workshop is designed to look at the stages of research question development and theorizing together with the subsequent methodological implementation using the multivariate analysis method PLS-SEM in international business and management research. The learning objectives are to (1) contribute to theory by usefully developing novel concepts and operationalisations, (2) have an in-depth methodological appreciation of the PLS-SEM approach (the nature of causal modelling, analytical objectives, some statistics), (3) being able to evaluate measurement results, and (4) understand complementary analytical techniques.

Specifically, participants will learn to appreciate the following topics:
- Research question development and theorizing using creativity enhancing tools such as Vosviewer and NVivo.
- Model development and fundamentals of PLS-SEM and consistent PLS
- Assessment and reporting of measurement and structural model results (relevant criteria, measures, and critical values)
- A new criterion for discriminant validity: The heterotrait-monotrait ratio of correlations (HTMT)
- Mediating effects
- Moderating effects (interaction effects)
- Outlook on multigroup analysis and measurement invariance testing

In addition, the participants will be able to use the SmartPLS 3 software (www.smartpls.com) for their PLS-SEM analyses.

5   Teaching and learning methods

- Lectures/Presentations: The sessions will cover theory and its application. All participants receive PDF files of the presentations.
- Computer exercises
    - using bibliographic software tools (Endnote) and ISI web-of-knowledge, systematic harvesting academic literature for critical review and theoretically grounded idea and concept/item development and operationalization.
    - using the latest SmartPLS 3 version: Specifically, theoretical explanations underlying the software procedures and practical exercises where participants will apply their learning to real-world examples provided by the instructors.

6   Registration and practical issues

- Cost: £499.00 for academics, £899.00 for practitioners. applies for this three-day seminar. The fee covers the participation in the seminar, handouts, and a 60-days license of SmartPLS 3 Professional.
- Places are limited (maximum of 40 participants). Priority will be given to members of AIB-UKI, BAM, IBNW.
- Food, drinks and subsistence not included in the registration fee.
- Course registration and payment: https://www.xing-events.com/sep19.html
- Bring your laptop computer and a 2 or 3-way power extension lead.
- Download and install the following software before coming to the workshop (participants will receive detailed instructions shortly before the course starts
    - Bibliography manager (use the 30-day trial http://www.endnote.com/, but also Mendeley https://www.mendeley.com/ or DocEar http://www.docear.org/ can be used to the same effect)
    - SmartPLS software from http://www.smartpls.com, all participants will get a 60-days license of SmartPLS 3 Professional.

7   Teaching resources

The Book on PLS-SEM

Hair, Joseph F., G. Tomas M. Hult, Christian M. Ringle, and Marko Sarstedt (2017), *A primer on partial least squares structural equation modeling (PLS-sem)* (2nd ed.). Thousands Oak, CA: Sage Publications.

Hair, Joseph F., Marko Sarstedt, Christian Ringle, and Siegfried P. Gudergan (2017), *Advanced issues in partial least squares structural equation modeling*. Thousands Oaks, CA: Sage Publications.
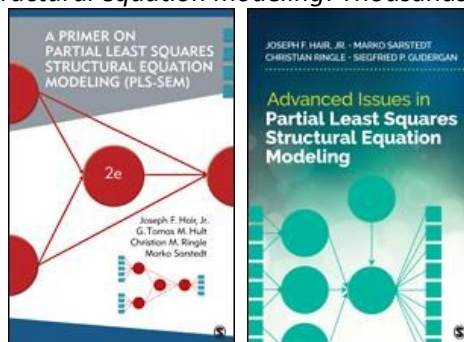
Journal Articles

Alvesson, Mats and Dan Kärreman (2007), "Constructing mystery: Empirical matters in theory development," *Academy of Management Review*, 32 (4), 1265-1281. (DOI: 10.5465/amr.2007.26586822).

Hair, Joe F., Christian M. Ringle, and Marko Sarstedt (2011), "PLS-SEM: Indeed a silver bullet," *Journal of Marketing Theory & Practice*, 19 (2), 139-152. (DOI: 10.2753/mtp1069-6679190202).

Hair, Joe F., Marko Sarstedt, Christian Ringle, and Jeannette Mena (2012), "An assessment of the use of partial least squares structural equation modeling in marketing research," *Journal of the Academy of Marketing Science*, 40 (3), 414-433. (DOI: 10.1007/s11747-011-0261-6).

Hair, Joe F., Marko Sarstedt, Torsten M. Pieper, and Christian M. Ringle (2012), "The use of partial least squares structural equation modeling in strategic management research: A Review of past practices and recommendations for future applications," *Long Range Planning*, 45 (5-6), 320-340. (DOI: 10.1016/j.lrp.2012.09.008).

Henseler, Jörg, Christian M. Ringle, and Marko Sarstedt (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modeling," *Journal of the Academy of Marketing Science*, 43 (1), 115-135. (DOI: 10.1007/s11747-014-0403-8).

Henseler, Jörg, Christian M. Ringle, and Rudolf R. Sinkovics (2009), "The use of partial least squares path modeling in international marketing," in Advances in international marketing, Rudolf R. Sinkovics and Pervez N. Ghauri (Eds.). Advances in international marketing Vol. 20. Bingley: Emerald JAI Press, 277-319. (DOI: 10.1108/S1474-7979(2009)0000020014).

Lew, Yong Kyu, Rudolf R. Sinkovics, Mo Yamin, and Zaheer Khan (2016), "Trans-specialization understanding in international technology alliances: The influence of cultural distance," *Journal of International Business Studies*, 47 (5), 577-594. (DOI: 10.1057/jibs.2016.10).

Richter, Nicole. F., Rudolf R. Sinkovics, Christian M. Ringle, and Christopher Schlägel (2016). "A critical look at the use of SEM in international business research," *International Marketing Review*, 33 (3), 376-404. (DOI: 10.1108/IMR-04-2014-0148)

Ringle, Christian M., Marko Sarstedt, and Detmar W. Straub (2012), "A critical look at the use of PLS-SEM in MIS Quarterly," *MIS Quarterly*, 36 (1), iii–xiv.

Sarstedt, Marko, Joe F. Hair, Christian M. Ringle, Kai O. Thiele, and Siegfried P. Gudergan (2016), "Estimation issues with PLS and CBSEM: Where the bias lies!" *Journal of Business Research*, 69 (10), 3998-4010. (DOI: 10.1016/j.jbusres.2016.06.007)

Sarstedt, Marko, Christian M. Ringle, and Joe F. Hair (2018), "Partial least squares structural equation modeling," in *Handbook of Market Research*, Christian Homburg, Martin Klarmann, and Arndt Vomberg (Eds.). Heidelberg: Springer.

Sinkovics, Noemi (2016), "Enhancing the foundations for theorising through bibliometric mapping," *International Marketing Review*, 33 (3), 327-350. (DOI: 10.1108/IMR-10-2014-0341).

Sinkovics, Noemi (2017), "Pattern matching in qualitative analysis," in *The Sage handbook of qualitative business and management research methods*, Catherine Cassell, Ann L Cunliffe, and Gina Grandy (Eds.). London: Sage Publications.

Sinkovics, Noemi, Rudolf R. Sinkovics, and Mo Yamin (2014), "The role of social value creation in business model formulation at the bottom of the pyramid – implications for MNEs?," *International Business Review*, 23 (4), 692-707. (DOI: 10.1016/j.ibusrev.2013.12.004).

Sinkovics, Noemi, Samia Ferdous Hoque, and Rudolf R. Sinkovics (2016), "Rana plaza collapse aftermath: Are CSR compliance and auditing pressures effective?," *Accounting, Auditing, and Accountability*, 29 (4), 617-649. (DOI: 10.1108/AAAJ-07-2015-2141).

Sinkovics, Rudolf R. and Eva A. Alfoldi (2012), "Progressive focusing and trustworthiness in qualitative research: The enabling role of computer-assisted qualitative data analysis software (CAQDAS)," *Management International Review*, 52 (6), 817-845. (DOI: 10.1007/s11575-012-0140-5).

Weick, Karl E. (1989), "Theory construction as disciplined imagination," *The Academy of Management Review*, 14 (4), 516-531. (DOI: 10.5465/AMR.1989.4308376).

8 Schedule (Monday 23rd – Wednesday 25th September 2019, 9:00-17:00 daily)

- <u>Location</u>: The University of Manchester, Oxford Road, Manchester M13 9PL
- <u>Room</u>: Dover Street Building, Dover Street, Room G.045, (Building Number 70 on the campus map http://www.manchester.ac.uk/discover/maps/)

Date	Time	Content
Mon	09:00 - 10:30	Theorizing, theory building
	11:00 - 12:30	Idea generation and research-question development, software tutorial using Web-of-Knowledge and bibliographic software
	13:30 - 15:00	Item generation and construct development
	16:00 - 17:00	Item generation, tutorial
Tue	09:00 - 10:30	Foundations of structural equation modelling and introduction to PLS-SEM
	11:00 - 12:30	Model estimation and assessing measurement models; software tutorial
	13:30 - 15:00	Model estimation and assessing measurement models; software tutorial
	16:00 - 17:00	Assessing structural models; software tutorial
Wed	09:00 - 10:30	Assessing structural models; software tutorial
	11:00 - 12:30	Higher-order constructs; software tutorial
	13:30 - 15:00	Mediation; software tutorial
	16:00 - 17:00	Moderation; software tutorial

9 Instructor's short bio

Jan-Michael Becker is a postdoctoral researcher and lecturer in Marketing at the University of Cologne in Germany. He has been a visiting scholar at leading international business schools like Georgia State University, Atlanta, USA and University of Waikato, Hamilton, New Zealand. His research interests focus on structural equation modeling (SEM), PLS path modeling, unobserved heterogeneity, and measurement theory, as well as bridging marketing and IS problems. His research has been published in several premier academic journals, including Information Systems Research, MIS Quarterly, Long Range Planning, Multivariate Behavioral Research, and European Management Journal. He is a co-founder of the SmartPLS software application. More information: www.voelckner.uni-koeln.de/de/team/team/dr-jan-michael-becker/

Christian M. Ringle is a Professor of Management and the Director of the Institute for Human Resource Management and Organizations at the Hamburg University of Technology (TUHH) and an Adjunct Professor of the Waikato Management School, New Zealand. He holds a PhD from the University of Hamburg, Faculty of Business and Economics. His research has been published in well-known journals such as Information Systems Research (ISR), International Journal of Research in Marketing (IJRM), Journal of Business Research (JBR), Journal of Service Research (JSR), Journal of the Academy of Marketing Science (JAMS), Long Range Planning (LRP), MIS Quarterly (MISQ), and Organizational Research Methods (ORM). Dr. Ringle co-authored the textbook on PLS-SEM and is co-founder of SmartPLS, a software tool with a graphical user interface for the application of the PLS-SEM method. More information: www.tuhh.de/hrmo/team/prof-dr-c-m-ringle.html

Noemi Sinkovics is Lecturer in International Business and Management at Alliance Manchester Business School, U.K and currently Visiting Scholar at Temple University, Fox School of Business, Philadelphia, PA, U.S.A. She received her PhD from the University of Manchester and holds a master's degree from the Vienna University of Economics and Business (WU-Wien). Her research focuses on international entrepreneurship, global value chains, and economic development issues. Her work has

been published in journals such as *Management International Review, International Business Review, International Marketing Review, Journal of Business Research, Critical Perspectives on International Business, Journal of International Management,* and *European Journal of International Management*. www.manchester.ac.uk/research/noemi.sinkovics/

Rudolf R. Sinkovics (PhD, WU Vienna) is Professor of International Business at The University of Manchester, UK, Visiting Professor at Lappeenranta University of Technology, Finland and Visiting Scholar at Temple University, Fox School of Business, Philadelphia, PA, U.S.A. He has worked and published on inter-organizational governance, the role of ICT in firm internationalization, and research methods. Current work is on rising power firms, global value chains and responsible business. He serves as associate editor of *Transnational Corporations* and *Critical Perspectives on International Business*. His work has published in *Journal of International Business Studies, Management International Review, Journal of World Business, International Business Review,* and *International Marketing Review,* amongst others. www.manchester.ac.uk/research/rudolf.sinkovics