



## PHD-M: MEASUREMENT THEORY AND SCALE DEVELOPMENT 390038/1 – 5 ECTS SS 2022

Course Website: <https://international-marketing.univie.ac.at/studies/phd-management/courses-ss-2022/>

### Instructor

**Univ.-Prof. DDr. Adamantios Diamantopoulos**

Office Hours: By appointment

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### Course Objectives

The course seeks to provide a broad introduction to measurement theory and alternative approaches for developing and assessing multi-item scales. It is aimed at non-experts and the emphasis is on the steps associated with the development and validation of sound measures for use in empirical research. The course is designed for PhD students and assumes previous knowledge of data analysis and statistics (including factor analysis and regression). Students taking this course should have already completed a multivariate statistics course and, ideally, be familiar with basic principles of structural equation modeling (SEM).

### Course Content

The course seeks to familiarize participants with the various stages associated with the construction of sound measures for use in empirical research, highlighting key decisions and potential problems at each stage. Following an introduction of the key concerns of measurement theory, the conceptual underpinnings of alternative measurement perspectives – namely reflective and formative measurement – are discussed. These set the background for considering operational procedures for developing reflective scales and formative indices and for offering detailed guidelines for measure validation. To enable participants experience measure development “in action”, the various issues are illustrated with concrete examples of reflective scale development and formative index construction drawn from the literature. Once participants have become familiar with basic measurement principles, more advanced topics will be addressed such as higher-order models, parceling strategies, and single-item measurement models.

### Course Policies

The course will take the form of a Blockveranstaltung on the 20<sup>th</sup>, 21<sup>st</sup> and 22<sup>nd</sup> June 2022 at Oskar-Morgenstern-Platz 1, 1090 Vienna. In case, due to COVID, the course cannot take place on location, it will be offered online during the same dates/times.

Monday, 20.06.2022, 09:00-17:00, SR 6

Tuesday, 21.06.2022, 09:00-17:00, SR 6

Wednesday, 22.06.2022, 09:00-14:45, SR 5

Attendance throughout the three days is compulsory.

Students wishing to take this course *must register via u:space* during the registration period. The maximum number of participants is 15. By registering for this course you agree that the automated plagiarism software Turnitin processes and stores your data (i.e. project work, seminar papers, etc.).

*It is absolutely essential that all registered students attend the first session on June 20<sup>th</sup> 2022 as failure to do so will result in their exclusion from the course. Students should also regularly check our homepage for changes in dates/times or locations.*

### Teaching Method

The course will take the form of workshop sessions, placing particular emphasis on student participation. Theoretical discussion of key issues will be accompanied by practical demonstration of scale development.

### Assessment

This will take the form of a mini-project on critically evaluating an application of measure development. Full details will be given in the first session.

### Course Text

The required text for the course is:

Netemeyer, R. G.; Bearden, W. O. and Sharma, S. 2003. *Scaling Procedures*, Sage Publications (ISBN: 0-7619-2027-7)

### Additional Reading

A selected list of readings on measurement is given below; all readings will be available on moodle. Further readings and useful online links can be found in the *Office of Scale Research* website (<http://scaleresearch.siu.edu/>).

Balabanis, G. and Diamantopoulos, A. 2016. Consumer xenocentrism as determinant of foreign product preference: A system justification perspective. *Journal of International Marketing*, 24(3): 58-77. doi: 10.1509/jim.15.0138

Baumgartner, H. and Weijters, B. 2019. Measurement in marketing. *Foundations and Trends® in Marketing*, 12(4): 278-400. [will be available on moodle] doi:10.1561/17000000058.

Baumgartner, H. and Weijters, B. 2021. Dealing with common method variance in international marketing research. *Journal of International Marketing*, 29(3), 7-22. doi: 10.1177/1069031X21995871.

Baumgartner, H., Weijters, B. and Pieters, R. 2021. The biasing effect of common method variance: Some clarifications. *Journal of the Academy of Marketing Science*, 49(2), 221-235. doi: 10.1007/s11747-020-00766-8

Bollen, K. A. 2011. Evaluating effect, composite, and causal indicators in structural equation models. *MIS Quarterly*, 35(2): 359-372. <http://www.jstor.org/stable/23044047>

Bollen, K.A. and Bauldry, S. 2011. Three Cs in measurement models: Causal indicators, composite indicators, and covariates. *Psychological Methods*, 16(3): 265-284. doi: 10.1037/a0024448

Bollen, K. A. and Diamantopoulos, A. 2017. In defense of causal–formative indicators: A minority report. *Psychological Methods*, 22(3): 581-596. [will be available on moodle] doi: 10.1037/met0000056

- Bollen, K. A. and Lennox, R. 1991. Conventional wisdom on measurement: A structural equation perspective. *Psychological Bulletin*, 110(2): 305-314. [will be available on moodle] doi: 10.1037/0033-2909.110.2.305
- Cenfetelli, R. T. and Bassellier, G. 2009. Interpretation of formative measurement in information systems research. *MIS Quarterly*, 33(4): 689-707. <http://www.jstor.org/stable/20650323>
- Churchill, G. A. 1979. A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(1): 64-73. <http://www.jstor.org/stable/3150876>
- Conway, J. M. and Lance, C. E. 2010. What Reviewers Should Expect from Authors Regarding Common Method Bias in Organizational Research. *Journal of Business and Psychology*, 25(3): 325-334. doi: 10.1007/s10869-010-9181-6
- Danes, J. E. and Mann, K. O. 1984. Unidimensional measurement and structural equation models with latent variables. *Journal of Business Research*, 12(3): 337-352. [will be available on moodle] doi: 10.1016/0148-2963(84)90016-X
- Diamantopoulos, A. 2005. The C-OAR-SE procedure for scale development in marketing: A comment. *International Journal of Research in Marketing*, 22(1): 1-9. doi: 10.1016/j.ijresmar.2003.08.002
- Diamantopoulos, A. 2006. The error term in formative measurement models: Interpretation and modeling implications. *Journal of Modelling in Management*, 1(1): 7-17. doi: 10.1108/17465660610667775
- Diamantopoulos, A. 2011. Incorporating formative measures into covariance-based structural equation models. *MIS Quarterly*, 35(2): 335-358. <http://www.jstor.org/stable/23044046>
- Diamantopoulos, A. and Riefler, P. 2008. Formative Indikatoren: Einige Anmerkungen zu ihrer Art, Validität und Multikollinearität. *Zeitschrift für Betriebswirtschaft*, 78(11): 1183-1195.
- Diamantopoulos, A. and Riefler, P. 2011. Using formative measurement in international marketing models: A cautionary tale using consumer animosity as an example. *Advances in International Marketing*, 22: 11-30. [will be available on moodle] doi: 10.1108/S1474-7979(2011)0000022004
- Diamantopoulos, A., Riefler, P. and Roth, K. P. 2008. Advancing formative measurement models. *Journal of Business Research*, 61(12): 1203-1218. doi: 10.1016/j.jbusres.2008.01.009
- Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P. and Kaiser, S. 2012. Guidelines for choosing between multi-item and single-item scales for construct measurement: A predictive validity perspective. *Journal of the Academy of Marketing Science*, 40(3): 434-449. doi: 10.1007/s11747-011-0300-3
- Diamantopoulos, A. and Siguaw, J. A. 2006. Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration. *British Journal of Management*, 17(4): 263-282. doi: 10.1111/j.1467-8551.2006.00500.x
- Diamantopoulos, A. and Winklhofer, H. 2001. Index construction with formative indicators: An alternative to scale development. *Journal of Marketing Research*, 38(2): 269-277. doi: 10.1509/jmkr.38.2.269.18845
- Foedermayr, E., Diamantopoulos, A. and Sichtmann, C. 2009. Export segmentation effectiveness: Index construction and link to export performance. *Journal of Strategic Marketing*, 17(1): 55-73. doi: 10.1080/09652540802619277
- Fuchs, C. and Diamantopoulos, A. 2009. Using single-item measures for construct measurement in management research. *Die Betriebswirtschaft*, 69(2): 195-210. [https://www.wiso-net.de/document/DBW\\_040901004](https://www.wiso-net.de/document/DBW_040901004)
- Gerbing, D. W. and Anderson, J. C. 1988. An updated paradigm for scale development incorporating unidimensionality in its assessment. *Journal of Marketing Research*, 25(2): 186-192. <http://www.jstor.org/stable/3172650>

- Halkias, G. and Diamantopoulos, A. 2020. Universal dimensions of individuals' perception: Revisiting the operationalization of warmth and competence with a mixed-method approach. *International Journal of Research in Marketing*, in press. doi: 10.1016/j.ijresmar.2020.02.004
- Homburg, C. and Giering, A. 1996. Konzeptualisierung und Operationalisierung komplexer Konstrukte: Ein Leitfaden für die Marketing Forschung. *Marketing ZFP*, 18(1): 5-24. [will be available on moodle] doi: 10.15358/0344-1369-1996-1-5
- Jarvis, C. B., MacKenzie, S. B. and Podsakoff, P. M. 2003. A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research*, 30(2): 199-218. doi: 10.1086/376806
- Law, K. S., Wong, C.-S. and Mobley, W. H. 1998. Toward a taxonomy of multidimensional constructs. *Academy of Management Review*, 23(4): 741-755. doi: 10.5465/AMR.1998.1255636
- MacKenzie, S. B. and Podsakoff, P. M. 2012. Common method bias in marketing: Causes, mechanisms, and procedural remedies. *Journal of Retailing*, 88(4): 542-555. doi: 10.1016/j.jretai.2012.08.001
- MacKenzie, S. B., Podsakoff, P. M. and Podsakoff, N. P. 2011. Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS Quarterly*, 35(2): 293-334. <http://www.jstor.org/stable/23044045>
- Noar, S. M. 2003. The role of structural equation modeling in scale development. *Structural Equation Modeling*, 10(4): 622-647. doi: 10.1207/S15328007SEM1004\_8
- Oberecker, E. and Diamantopoulos, A. 2011. Consumers' emotional bonds with foreign countries: Does consumer affinity affect behavioral intentions? *Journal of International Marketing*, 19(2): 45-72. doi: 10.1509/jimk.19.2.45
- Petter, S., Straub, D. and Rai, A. 2007. Specifying formative constructs in information systems research. *MIS Quarterly*, 31(4): 623-656. <http://www.jstor.org/stable/25148814>
- Ping, R. A. Jr. 2004. On assuring valid measures for theoretical models using survey data. *Journal of Business Research*, 57(2): 125-141. doi: 10.1016/S0148-2963(01)00297-1
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y. and Podsakoff, N. P. 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5): 879-903. [will be available on moodle] doi: 10.1037/0021-9010.88.5.879
- Podsakoff, P. M., MacKenzie, S. B. and Podsakoff, N. P. 2012. Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63: 539-569. doi: 10.1146/annurev-psych-120710-100452
- Riefler, P., Diamantopoulos, A. and Siguaw, J. A. 2012. Cosmopolitan consumers as a target group for segmentation. *Journal of International Business Studies*, 43(3): 285-305. doi: 10.1057/jibs.2011.51
- Rositer, J. R. 2002. The C-OAR-SE procedure for scale development in marketing. *International Journal of Research in Marketing*, 19(4): 305-335. [will be available on moodle] doi: 10.1016/S0167-8116(02)00097-6
- Sarstedt, M., Diamantopoulos, A., Salzberger, T. and Baumgartner P. 2016. Selecting single items to measure doubly concrete constructs: A cautionary tale. *Journal of Business Research*, 69(8): 3159-3167. doi: 10.1016/j.jbusres.2015.12.004
- Schoefer, K. and Diamantopoulos, A. 2008. Measuring experienced emotions during service recovery encounters: Construction and assessment of the ESRE scale. *Service Business*, 2: 65-81. doi: 10.1007/s11628-007-0024-0
- Spector, P. E. 1992. *Summated rating scale construction: An introduction*. Sage Publications [will be available on moodle] (ISBN: 0-8039-4341-5).
- Spector, P. E. and Brannick, Michael T. 2010. Common method issues: An introduction to the feature topic in organizational research methods. *Organizational Research Methods*, 13(3): 403-406. doi: 10.1177/1094428110366303 (plus five papers on the feature topic)

- Steenkamp, J. B. E. M. and van Trijp, H. C. M. 1991. The use of LISREL in validating marketing constructs. *International Journal of Research in Marketing*, 8(4): 283-299. [will be available on moodle] doi: 10.1016/0167-8116(91)90027-5
- Temme, D. and Diamantopoulos A. 2016. Higher-order models with reflective indicators: A rejoinder to a recent call for their abandonment. *Journal of Modelling in Management*, 11(1): 180-188. doi: 10.1108/JM2-05-2014-0037
- Temme, D., Diamantopoulos, A. and Pfgfeidel, V. 2014. Specifying formatively measured constructs in endogenous positions in structural equation models: Caveats and guidelines for researchers. *International Journal of Research in Marketing*, 31(3): 309-316. doi: 10.1016/j.ijresmar.2014.03.002