



ONLINE Ljubljana Doctoral Summer School 2022

Theory Development (ECTS: 4)

11 – 15 July

15.00 – 19.00 (CEST, Ljubljana)

Course leader:

[Rai Arun](#), Georgia State University, United States

Aims of the course:

- Participants develop an understanding about the critical role of developing theory in relation to other aspects of the research process—i.e., problem formulation, research design, and problem-solving.
- They understand *how* to formulate problems to develop important research questions that will contribute to theory and practice.
- They learn about the key elements of a theory, the different modes of reasoning that can be employed in building a theory, and the distinctions between variance and process models.
- They learn how to *conceive, construct, and justify* variance and process models in relation to their research questions.
- They develop the know-how to achieve alignment between different elements of a model including constructs, measures, relationships, assumptions, and boundary conditions.
- They develop an understanding on how to leverage context and time in building theory, and about the roles of multi-dimensional constructs and multi-level models.
- Cumulatively, they develop the skills and understanding to formulate a problem to advance compelling research questions, synthesize the relevant literatures and effectively position their work in relation to accreted knowledge, and develop theory and specify models in alignment with the question and the research design.



Course topics:

Modules	Topics	Reading Assignments <i>(Recommended articles <u>do not</u> need to be read prior to the class; all other articles <u>are required</u> readings prior to the class.)</i>	Work to be Done <u>Before</u> Class <i>(Students will be called upon to lead article discussions and also to present their synthesis of the articles.)</i>
Session 1	Formulating Research Questions: <ul style="list-style-type: none"> Situating the problem Grounding the problem in reality Diagnosing the problem Deriving the research question 	<ul style="list-style-type: none"> Rynes, 2002, AMJ Barley, 2006, AMJ Bergh, 2003, AMJ Weber, 2003, MISQ <i>Recommended: Lee, 1999, MISQ</i> <i>Recommended: Simon, Essay, 1980</i>	3 slides synthesizing the key ideas of these <u>short</u> articles. There is no assigned structure for the synthesis slides. Students are encouraged to approach the development of the synthesis slides in a creative way.
	Foundations of Theory Building <ul style="list-style-type: none"> What theory is (and is not) Elements of a theory Theory vs. Theorizing Criteria to assess theoretical contribution 	<ul style="list-style-type: none"> Whetten, 1989, AMR Sutton & Staw, 1995, ASQ Weick, 1995, ASQ DiMaggio, 1995, ASQ Bacharach, 1989, AMR <i>Recommended: Feldman, 2004c, J Mgmt</i>	5 slides synthesizing the key ideas of these <u>short</u> articles. <i>Do not email the slides to the instructor; Have the slides ready to discuss during the online session; this applies to all sessions of the course.</i>
	In-class practicum: Research proposal recipe	No prior reading: In-class intensive exercise on formulating an effective research proposal	



Modules	Topics	Reading Assignments <i>(Recommended articles <u>do not</u> need to be read prior to the class; all other articles <u>are required</u> readings prior to the class.)</i>	Work to be Done <u>Before</u> Class <i>(Students will be called upon to lead article discussions and also to present their synthesis of the articles.)</i>
Session 2	Developing Variance Models: <ul style="list-style-type: none"> Unit of analysis Construct clarity Achieving correspondence of theoretical arguments and specification of variance models Causal inference Research design considerations 	<ul style="list-style-type: none"> Suddaby (2010) Venkatraman, 1989, AMR Overby, 2008, OrgSci (Illustration of moderation) Klein and Rai, 2009, MISQ (Illustration of mediation) Xue et. al (2011) (Illustration of non-linear effects) 	5 slides on the key points of the Venkatraman article. Review Overby, Klein and Rai, and Xue et al. as illustrations of how to theorize moderation, mediation, and non-linear effects (and not for content and empirical testing)
	In-class practicum on variance models	No prior readings: This will be an intensive exercise involving formulating research questions; conceiving a model; constructing the model (constructs, relationships, boundary conditions, assumptions); and justifying the model.	
Session 3	Context and Problematization as Approaches to Contribution <ul style="list-style-type: none"> Approaches to leverage context Gap-spotting vs. Gap-formulating Problematizing assumptions Role of empirical materials 	<ul style="list-style-type: none"> Johns, 2006, AMR Johns, 2017, AMR Hong et al. 2013, ISR Alvesson & Sandberg, 2011, AMR <i>Recommended:</i> Edmondson and McManus, 2007 <i>Recommended:</i> Alvesson & Karreman, 2007, AMR <i>Recommended:</i> Klein & Rai, 2009, MISQ <i>Recommended:</i> Mindel, Mathiassen, Rai, 2018, MISQ	<ul style="list-style-type: none"> 4 slides synthesizing key ideas of the Johns (2006) & Johns (2017) articles 2 slides synthesizing the Hong et al article 3 slides synthesizing Alvesson & Sandberg (1 slide on gap-spotting, 2 slides on problematization).
	In-class practicum on leveraging context and problematizing assumptions	No prior readings: This will be an intensive exercise on how context and assumption-challenging can be used to formulate questions and make contributions.	



Modules	Topics	Reading Assignments <i>(Recommended articles <u>do not</u> need to be read prior to the class; all other articles <u>are required</u> readings prior to the class.)</i>	Work to be Done <u>Before</u> Class <i>(Students will be called upon to lead article discussions and also to present their synthesis of the articles.)</i>
Session 4	Developing Process models In-class practicum on process models	<ul style="list-style-type: none"> • Pentland, 2003, Org. Science • Sabherwal and Robey, 1993, Org. Sci (p. 548-558) • Maitlis & Ozcelik, 2004, Org. Sci (p. 375-386) <i>Recommended: Poole and Van de Ven, 1989, AMR</i>	5 slides summarizing Pentland, Sabherwal and Robey (p. 548-558) and Maitlis and Ozcelik (p. 375-386).
	Synthesizing the literature <i>Different strategies to synthesize the literature it will be discussed along with illustrative examples.</i>	<ul style="list-style-type: none"> • Techniques to synthesize the literature (handouts from Indiana University and North Carolina State University) • LePine and King, AMR, 2010 • Webster and Watson, MISQ, 2002 <i>Recommended: Ahuja et al. 2008</i> <i>Recommended: Bem, 1995, Psyc Bull</i> <i>Recommended: Carter and Hodgson (2006)</i> <i>Recommended: Feldman, 2004a, J Mgmt</i> <i>Recommended: Feldman, 2004b, J Mgmt</i> <i>Recommended: Mindel, Mathiassen, Rai, 2018, MISQ (see Appendix A1-A14 for literature synthesis approach used)</i>	
	Writing Empirical Articles	<ul style="list-style-type: none"> • Bem (2003, book chapter) • Rai, 2018 MISQ 	



Modules	Topics	Reading Assignments <i>(Recommended articles <u>do not</u> need to be read prior to the class; all other articles <u>are required</u> readings prior to the class.)</i>	Work to be Done <u>Before</u> Class <i>(Students will be called upon to lead article discussions and also to present their synthesis of the articles.)</i>
Session 5	Developing Multilevel Models In-class practicum on multilevel models	<ul style="list-style-type: none"> Mathieu and Chen, Journal of Management, 2011 Klein and Kozlowski, Org. Research Methods, 2000, p. 211-221. <p><i>Recommended: Chan, 1998, JAP</i> <i>Recommended : Klein, Dansereau, & Hall, 1994, AMR</i> <i>Recommended : Rai et al., 2009, MISQ (Illustration)</i> <i>Recommended: Rousseau, Journal of Management, 2011</i> <i>Recommended: Morgeson & Hofmann, 1999, AMR</i> <i>Recommended: Burton-Jones & Gallivan, 2007, MISQ (Illustration)</i> <i>Recommended: Zhang & Gable, ISR, 2017</i></p>	5 slides on the key points of the following articles: Mathieu and Chen; and Klein and Kozlowski (p. 211-221).
	Avoiding Type III Errors	Rai, 2017, MISQ	
Additional resources	Design theories	Gregor, MISQ, 2006	These topics and articles will not be covered in the course. The articles are useful resources for students interested in these topics.
	Specifying multidimensional constructs	<ul style="list-style-type: none"> Wong et al., Journal of Management, 2008 Law, Chi-Sum, & Mobley, 1998, AMR Jarvis, Mackenzie, Podsakoff, Mick, & Bearden, 2003, JCR Petter, Straub, & Rai, 2007, MISQ 	
	Role of time	<ul style="list-style-type: none"> Mitchell & James, 2001, AMR Ancona et al., 2001, AMR 	



Teaching methods:

The teaching method will involve a combination of lecture, discussions, student presentations, and in-class group exercises. Participants will be called upon to lead discussions and all students are expected to participate actively in the discussions. Participants are expected to thoroughly read the assigned readings prior to class and to prepare the synthesis of articles as noted in the schedule.

List of readings:

- Ahuja, G., Lampert, C. M., & Tandon, V. 2008. Chapter 1: Moving Beyond Schumpeter: Management Research on the Determinants of Technological Innovation. *Academy of Management Annals*, 2(1): 1-98.
- Alvesson, M., & Sandberg, J. (2011). Generating research questions through problematization. *Academy of Management Review*, 36(2): 247–271.
- Alvesson, M., & Karreman, D. A. N. 2007. Constructing Mystery: Empirical Matters In Theory Development. *Academy of Management Review*, 32(4): 1265-1281.
- Bacharach, S. B. 1989. Organizational Theories: Some Criteria for Evaluation. *Academy of Management Review*, 14(4): 496-515.
- Barley, S. R. 2006. When I Write My Masterpiece: Thoughts On What Makes A Paper Interesting. *Academy of Management Journal*, 49(1): 16-20.
- Bem, D. J. 1995. Writing a review article for Psychological Bulletin. *Psychological Bulletin*, 118(2): 172-177.
- Bem, D., 2003. Writing the Empirical Journal Article, Book Chapter.
- Bergh, D. D. 2003. From the Editors Thinking Strategically about Contribution. *Academy of Management Journal*, 46(2): 135-136.
- Burton-Jones, A., & Gallivan, M. J. 2007. Toward A Deeper Understanding Of System Usage In Organizations: A Multilevel Perspective. *MIS Quarterly*, 31(4): 657-679.
- Carter, R., & Hodgson, G.M. 2006. The Impact of Empirical Tests of Transaction Cost Economics on the Debate on the Nature of the Firm, *Strategic Management Journal*, 27(5): 461-476.
- Chan, D. 1998. Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied Psychology*, 83(2): 234-246.
- DiMaggio, P. J. 1995. Comments on "What Theory is Not", *Administrative Science Quarterly*, 40 ed.: 391-397.
- Edmondson, A. C. and S. E. McManus. 2007. Methodological Fit in Management Field Research. *Academy of Management Review* 32(4): 1155-1179.
- Feldman, D. C. 2004a. Being A Developmental Reviewer: Easier Said Than Done, *Journal of Management*, 30 ed.: 161.
- Feldman, D. C. 2004b. The Devil is in the Details: Converting Good Research into Publishable Articles. *Journal of Management*: 1.
- Feldman, D. C. 2004c. What are We Talking About When We Talk About Theory?,



- Journal of Management*, 30 ed.: 565-567.
- Gregor, S. 2006. The Nature Of Theory In Information Systems. *MIS Quarterly*, 30(3): 611-642.
 - Hong, W., Chan, F. K. Y., Thong, J. Y. L., Chasalow, L. C., & Dhillon, G. (2013). A Framework and Guidelines for Context-Specific Theorizing in Information Systems Research. *Information Systems Research*, 25(1): 111–136. doi:10.1287/isre.2013.0501
 - Jarvis, C. B., Mackenzie, S. B., Podsakoff, P. M., Mick, D. G., & Bearden, W. O. 2003. A Critical Review of Construct Indicators and Measurement Model Misspecification in Marketing and Consumer Research. *Journal of Consumer Research*, 30(2): 199-218.
 - Johns, G. 2006. The Essential Impact Of Context On Organizational Behavior. *Academy of Management Review*, 31(2): 386-408.
 - Johns, G. 2017. Reflections on the 2016 Decade Award: Incorporating Context in Organizational Research. *Academy of Management Review*, 42(4): 577-595.
 - Klein, K. J., Dansereau, F., & Hall, R. I. 1994. Levels Issues In Theory Development, Data Collection, And Analysis. *Academy of Management Review*, 19(2): 195-229.
 - Klein, K. J., & Kozlowski, S. W. J. (2000). From Micro to Meso: Critical Steps in Conceptualizing and Conducting Multilevel Research. *Organizational Research Methods*, 3(3): 211–236. doi:10.1177/109442810033001
 - Klein, R., & Rai, A. 2009. Interfirm Strategic Information Flows In Logistics Supply Chain Relationships. *MIS Quarterly*, 33(2009): 7345-762.
 - Langley, A. 1999. Strategies For Theorizing From Process Data. *Academy of Management Review*, 24(4): 691-710.
 - Law, K. S., Chi-Sum, W., & Mobley, W. M. 1998. Toward A Taxonomy Of Multidimensional Constructs. *Academy of Management Review*, 23(4): 741-755.
 - Lee, A. 1999. Strategizing for Compelling and Significant Research. *MIS Quarterly*, 23(2): 145-145.
 - LePine, & King, A. W. (2010). Editors' Comments: Developing Novel Theoretical Insight From Reviews Of Existing Theory And Research. *Academy of Management Review*, 35(4), 506–509.
 - Maitlis, S., & Ozcelik, H. 2004. Toxic Decision Processes: A Study of Emotion and Organizational Decision Making. *Organization Science*, 15(4): 375-393.
 - Mindel, V., Mathiassen, L, and Rai, A., The Sustainability of Polycentric Information Commons, *MIS Quarterly*, 42 (2): 607-631, 2018.
 - Morgeson, F. P., & Hofmann, D. A. 1999. The Structure And Function Of Collective Constructs: Implications For Multilevel Research And Theory Development. *Academy of Management Review*, 24(2): 249-265.
 - Overby, E. 2008. Process Virtualization Theory and the Impact of Information Technology. *Organization Science*, 19(2): 277-291.
 - Pentland, B. T. (2003). Sequential variety in work processes. *Organization Science*, 528–540.



- Petter, S., Straub, D., & Rai, A. 2007. Specifying Formative Constructs In Information Systems Research. *MIS Quarterly*, 31(4): 623-656.
- Poole, M.S., and van de Ven, A., 1989. Using Paradox to Build Management and Organization Theories. *Academy of Management Review*, 14 (4): 562-578
- Rai, A., Maruping, L. M., & Venkatesh, V. 2009. Offshore Information Systems Project Success: The Role Of Social Embeddedness And Cultural Characteristics. *MIS Quarterly*, 33(3): 617-A617.
- Rai, A., Editorial: Avoiding Type III Errors: Formulating IS Research Problems that Matter, *MIS Quarterly*, 42(2), 2017: iii-vii.
- Rai, A., Editorial: Writing the First Few Pages, *MIS Quarterly*, 43(2), 2018, iii-vii
- Rousseau, D. M. (2011). Reinforcing the Micro/Macro Bridge: Organizational Thinking and Pluralistic Vehicles. *Journal of Management*, 37(2), 429–442. doi:10.1177/0149206310372414
- Rynes, S. 2002. From the Editors. *Academy Of Management Journal*, 311-313.
- Sabherwal, R., and Robey, D., 1993. An Empirical Taxonomy of Implementation Processes Based on Sequences of Events in Information System Development. *Organization Science*, 4 (4): 548-576
- Simon, H. 1980. Random Thoughts About Methods of Research. Pittsburgh, *Unpublished Manuscript*, Carnegie Mellon University: 1-10.
- Suddaby, R. 2010. Editor's Comments: Construct Clarity in Theories of Management and Organization. *Academy of Management Review*, 35(3): 1-13.
- Sutton, R. I., & Staw, B. M. 1995. What Theory is Not. *Administrative Science Quarterly*, 40(3): 371-384.
- Venkatraman, N. 1989. The Concept of Fit in Strategy Research: Toward Verbal and Statistical Correspondence. *Academy of Management Review*, 14(3): 423-444.
- Weber, R. 2003. The Problem of the Problem. *MIS Quarterly*, 27(1): 1-1.
- Weick, K. E. 1995. What Theory Is Not, Theorizing Is. *Administrative Science Quarterly*, 40(3): 385-390.
- Whetten, D. A. 1989. What Constitutes a Theoretical Contribution? *Academy of Management Review*, 14(4): 490-495.
- Webster, J., & Watson, R. (2002). Analyzing the Past to Prepare for the Future: Writing a Literature Review. *MIS Quarterly*, 26(2), xiii–xxiii.
- Wong, C.S., Law, K.H., and Huang, C.H. (2008) On the Importance of Conducting Construct-level Analysis for Multidimensional Constructs in Theory Development and Testing. *Journal of Management*.
- Xue, L., Ray, G., & Bin, G., 2011, Environmental Uncertainty and IT Infrastructure Governance: A Curvilinear Relationship, *Information Systems Research*, 22(2): 389-399.
- Zhang, M., and Gable, G., 2017, A Systematic Framework for Multilevel Theorizing in Information Systems Research, *Information Systems Research*, 28(2): 203-224.

**Course leader's biographical note:**

Dr. Arun Rai is Regents' Professor and holds the Robinson and Harkins Chairs at the Robinson College of Business at Georgia State University (<https://www.arunrai.net/>).