

Molde University College

PhD Program in Logistics

COURSE OVERVIEW

| | |
|----------------------------|--|
| Course name: | Research design and measurement in supply chain management |
| Code: | DRL030 |
| Level: | PhD |
| ECTS: | 5 |
| Assessment scale: | A - F |
| Semester and year: | Autumn, 2023 |
| Duration: | Five days (02.10.2023 – 06.10.2023) |
| Language: | English |
| Prerequisites: | Similar to the requirements for admission to a PhD program in social sciences |
| Instructor: | Prof Mark Pagell - University College Dublin Email: mark.pagell@ucd.ie Tel: +353 17168851 |
| Course coordinator: | Prof. Deodat Edward Mwesiumo – Molde University College Email: Deodat.E.Mwesiumo@himolde.no Mob: +4798821805 |
| Venue: | TBA |

BACKGROUND

The choice and execution of a research design is arguably one of the toughest decisions researchers face, as it involves making several trade-offs and coming to terms with the fact that no research design is perfect. This is particularly true for the social sciences and business disciplines, as constructs can be operationalized in many different ways, several concurrent factors/explanations tend to be relevant, and inferences drawn can be subjective. Additionally, knowledge is constantly evolving, with new studies questioning and adding to prior knowledge. Thus, for development as a top researcher, one must have a sound understanding and appreciation of the main tools of the trade.

DRLXXX will introduce you to a range of empirical research methodologies, allowing you to develop an understanding of how to use these approaches effectively in supply chain

management research, and preparing you to evaluate research done by others. Even if some of these tools may not fit your natural inclinations or may take some effort to nurture, such understanding is crucial as you will often be asked to review manuscripts for your peers, conferences, and journals. You will also be exposed to increasingly sophisticated research design in seminars and presentations. Taking this course should at the very minimum help you become an informed and confident evaluator of others' designs, even if you may very legitimately choose to not apply many of them yourself.

The course will provide a solid foundation in the basic concepts of design, including types of variables, relationships, sampling and measurement. Our focus will be on exploring key concepts of empirical design. You will have the opportunity to apply your insights to your own research questions so that you can gradually develop hands-on skills for crafting, using, refining, writing and reviewing high quality empirical studies in the supply chain management discipline.

LEARNING OUTCOMES

Knowledge:

At the end of this course, a successful candidate will be able:

- To understand the strengths and limitations of various types of research designs
- To understand internal, external and construct validity;
- To understand the basics of measurement, sampling, and control
- To develop a clear understanding of the benefits, limitations, uses and abuses of specific design choices. This is a skill you will refine further as you move forward to more advanced courses in statistical methods

Skills:

At the end of this course, a successful candidate will be able:

- To choose appropriate research design for an empirical study
- To execute an empirical study
- To report an empirical study

General competence:

At the end of this course, a successful candidate will develop:

- Research communication skills
- Critical thinking
- Ability to effectively review empirical research

TEACHING AND LEARNING FORMS

The course will involve short lectures and students' activities. Because this class depends on interactive dialogue and experience sharing, open and confident class contributions are essential, both for your and for your peers' learning. Besides, you will be expected to do a fair amount of reading. While preparing the assigned and recommended materials you should continually ask

yourself: *Do I fully understand what the authors have tried to accomplish in this paper? Do they explain clearly why they've made specific design choices? Would I add anything else? Am I convinced that their design fits their theoretical lens/level of analysis/time lines? Would alternative designs be equally suitable or even better fit for tackling this research question? If I were reviewing this paper, what would I ask about? Would I recommend anything be done differently?* Each of you will also be expected to gather additional readings that are pertinent to the topic of the day.

ASSESSMENT

Class Participation (15%)

Class participation is a very important part of the learning process (as well as an important part of your grade). It is critical not only for your personal learning, but also for the learning of your fellow classmates. Much of the value of the class comes from prepared, thoughtful, and informed dialogue between you and your classmates. You are expected to read all the assigned materials and you should reflect upon and/or apply the material in those readings before class. Examples of good contributions to class discussions include: raising relevant, insightful questions concerning the readings; sharing your own personal insights about the topics; providing reactions and feedback to your peers; and helping others contribute their ideas.

Exam Part 1 (40%)

Deadline for submission: 23.12.2023

Select two (2) empirical articles published in leading journals in the supply chain management field within the past two years (2021-2023). It is strongly recommended that you chose articles that are broadly related to the topic you will do your term paper on. One article should use a qualitative research design while the other should use a research design that uses secondary data. For each article please:

1. Write a 300-word summary for the research design used in each of these articles, including: 1) the full reference; 2) the research question addressed; 3) the key constructs; 4) the types of relationships hypothesized and tested; 5) the basic design (e.g. setting, samples, method); and 6) the principal findings.
2. For each article, please explain and illustrate 4-5 of the key concepts covered in the readings and class. Some issues to consider are:
 - Reliability and validity of measures
 - Validity and reliability of results
 - Balance of internal and external validity
 - Population, sampling and generalizabilityAs part of your review please mention at least two things that the authors could have addressed but did not (either strengths or limitations).

Finally, based on the findings from these 2 articles, please identify what you consider to be an important and as yet not well addressed question raised by these results and the wider stream of literature, they are part of. Please explain the general issue and why it is important to address and then formulate a specific research question to close this gap. Briefly define and explain the

key constructs involved in your model / question. Then outline the two most important threats to validity you are likely to encounter in answering this question (e.g. the topic is high in social desirability / your data is at the firm level of analysis but there are likely industry effects) that you need to account for in the research design. Next please provide 2 different approaches to address each threat to validity. Finally, please explain which approach you would use for each threat to validity being sure to highlight and fully explore the trade-offs between the two choices.

Your assignment should not exceed 12 pages (double spaced, 12 point font).

NB: You can use this assignment as a rough draft for your term paper. Or at least as a chance to get some feedback as to if they are on the right track for the term paper.

Exam Part 2 (45%)

Deadline for submission: 31.01.2024

Term Paper: Your term paper will take the form of a research proposal. This should include an introduction to the research question, a brief literature review and the proposed research design. Given the course's focus the emphasis will be on your proposed research design.

TENTATIVE PLAN

Day 1 - Monday

Session 1 - Introduction to research design

Required Readings:

Chapters 2,3,& 5 in Bhattacharjee, Anol, "Social Science Research: Principles, Methods, and Practices" (2012). Textbooks Collection. 3.

https://digitalcommons.usf.edu/oa_textbooks/3

Optional Readings:

Hollenbeck, John R., and Michael J. Mannor. "Career success and weak paradigms: The role of activity, resiliency, and true scores." *Journal of Organizational Behavior* 28, no. 8 (2007): 933-942.

Jaremka, L.M., Ackerman, J.M., Gawronski, B., Rule, N.O., Sweeny, K., Tropp, L.R., Metz, M.A., Molina, L., Ryan, W.S. and Vick, S.B., 2020. Common academic experiences no one talks about: Repeated rejection, impostor syndrome, and burnout. *Perspectives on Psychological Science*, 15(3), pp.519-543.

Schwartz, M.A., 2008. The importance of stupidity in scientific research. *Journal of Cell Science*, 121(11), pp.1771-1771.

Shaw, J.D., 2017. Advantages of Starting with Theory. *Academy of Management Journal*, 60(3), pp.819-822.

Session 2: Measurement, Reliability and Validity

Required Readings:

Chapters 6 & 7 in Bhattacharjee, Anol, "Social Science Research: Principles, Methods, and Practices" (2012). Textbooks Collection. 3.

https://digitalcommons.usf.edu/oa_textbooks/3

Boyd, B. K., Bergh, D. D., Ireland, R. D., & Ketchen, D. J. (2013). Constructs in strategic management. *Organizational Research Methods*, 16(1), 3-14.

Optional Readings

Aylott, M. and Aylott, N., 2007. A meeting of social science and football: Measuring the effects of three points for a win. *Sport in Society*, 10(2), pp.205-222.

Barry J. Babin, Mitch Griffin, Joseph F. Hair Jr., Heresies and sacred cows in scholarly marketing publications, *Journal of Business Research*, Volume 69, Issue 8, August 2016, Pages 3133-3138

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*, pp.293-334.

Podsakoff, N. P., Podsakoff, P. M., MacKenzie, S. B., & Klinger, R. L. (2013). Are we really measuring what we say we're measuring? Using video techniques to supplement traditional construct validation procedures. *Journal of Applied Psychology*, 98(1), 99.

Day 2 – Tuesday

Session 1: Sampling, internal and external validity

Required Readings:

Chapters 8 in Bhattacharjee, Anol, "Social Science Research: Principles, Methods, and Practices" (2012). Textbooks Collection. 3.

https://digitalcommons.usf.edu/oa_textbooks/3

Etikan, I., Musa, S.A. and Alkassim, R.S., 2016. Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, 5(1), pp.1-4.

Session 2: Threats to validity

Required Readings:

Bernerth, J. B., & Aguinis, H. (2015). A Critical Review and Best-Practice Recommendations for Control Variable Usage. *Personnel Psychology*.

Flynn, B., Pagell, M. and Fugate, B., 2018. Survey Research Design in Supply Chain Management: The Need for Evolution in Our Expectations. *Journal of Supply Chain Management*, 54(1), pp.1-15.

Fisher, R.J. 1993. Social desirability bias and the validity of indirect questioning. *Journal of Consumer Research*, 20: 303-315.

Optional Readings:

Bernerth, J.B., Cole, M.S., Taylor, E.C. and Walker, H.J., 2018. Control variables in leadership research: A qualitative and quantitative review. *Journal of Management*, 44(1), pp.131-160.

Guide, V.D.R. and Ketokivi, M., 2015. Notes from the editors: Redefining some methodological criteria for the journal. *Journal of Operations Management*, (37), pp.v-viii.

Miller, C.C., Cardinal, L.B., & Glick, W.H. 1997. Retrospective reports in organizational research: A reexamination of recent evidence. *Academy of Management Journal*, 40: 189-204.

Podsakoff, P.M., MacKenzie, S.B., Lee, J., & 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.

Spector, P.E., and Brannick, M.T. 2010. Methodological Urban Legends: The Misuse of Statistical Control Variables: *Organizational Research Methods*.

Day 3 – Wednesday

- Consolidation of lessons covered in Day 1 and 2
- Participants start working on Exam Part 1

Day 4 – Thursday

Qualitative / case based research

Required Readings:

Chapter 12 in Bhattacharjee, Anol, "Social Science Research: Principles, Methods, and Practices" (2012). Textbooks Collection. 3.

https://digitalcommons.usf.edu/oa_textbooks/3

Gammelgaard, B., 2017. The qualitative case study. *The International Journal of Logistics Management*, 28(4), pp.910-913.

Ketokivi, M. and Choi, T., 2014. Renaissance of case research as a scientific method. *Journal of Operations Management*, 32(5), pp.232-240.

Welch, C., Paavilainen-Mäntymäki, E., Piekkari, R. and Plakoyiannaki, E., 2022. Reconciling theory and context: How the case study can set a new agenda for international business research. *Journal of International Business Studies*, 53(1), pp.4-26.

Optional Readings:

Gibbert, M., Ruigrok, W. and Wicki, B., 2008. What passes as a rigorous case study?. *Strategic management journal*, 29(13), pp.1465-1474.

Hasle, P. and Vang, J., 2021. Designing better interventions: insights from research on decent work. *Journal of Supply Chain Management*, 57(2), pp.58-70.

Touboulic, A., McCarthy, L. and Matthews, L., 2020. Re-imagining supply chain challenges through critical engaged research. *Journal of Supply Chain Management*, 56(2), pp.36-51.

Day 5 – Research based on secondary or archival data

Required Readings:

Braun, M.T., Kuljanin, G. and DeShon, R.P., 2018. Special considerations for the acquisition and wrangling of big data. *Organizational Research Methods*, 21(3), pp.633-659.

Miller, J., Davis-Sramek, B., Fugate, B.S., Pagell, M. and Flynn, B.B., 2021. Editorial commentary: Addressing confusion in the diffusion of archival data research. *Journal of Supply Chain Management*, 57(3), pp.130-146.

Miller, J.W. and Kulpa, T., 2022. Econometrics and archival data: Reflections for purchasing and supply management (PSM) research. *Journal of Purchasing and Supply Management*, 28(3), p.100780.

Optional Readings:

Bansal, P., Gualandris, J. and Kim, N., 2020. Theorizing supply chains with qualitative big data and topic modeling. *Journal of Supply Chain Management*, 56(2), pp.7-18.

NB: At the end of this session, participants will be informed that surveys and experiments are also relevant designs that could not be covered in this course due to time constraints. HiMolde will host another course focusing on surveys and experiments in Spring 2024.