BUS 80000 – SP25

Philosophy of Science: Philosophical and Methodological Foundations of Business Research

(tentative course outline, subject to change)
v1.0 - 01/28/25

Instructor: Karl Lang
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Office Hours: by appointment
Class hours: Tu 2:30 – 4:30pm
Venue: VC 13-210

Course Overview

BUS 80000 -- Philosophy of Science: Philosophical and Methodological Foundations of Business Research is an important course for doctoral students in business. It provides the necessary background in the philosophy of science so that the students are better prepared to conduct high quality research. The course will develop the process of reorienting the student's thinking from the receptive mode of thinking that occurs in traditional graduate classes to the critical mode of thinking necessary for doctoral research. Key content elements in this course include the problem of appropriately defining concepts for business research, the problem of providing evidence in support of a claim, and the problem of identifying philosophical assumptions in social science research as well as the epistemological and methodological constraints that those assumptions imply.

Most work in the philosophy of science focuses almost exclusively on natural science. Most of this, in turn, focuses on physics, with some examples from other natural sciences. This work, while interesting, does not provide much useful guidance for social science research of which business research is a subfield. Natural science attempts to discover what is 'out there' in the world and the philosophy of natural science examines the quality of the ways in which we do that. Social science is not concerned with the natural world. Instead it is concerned with a social reality – a set of shared assumptions we have about how the social world operates. So, in that case, the philosophy of natural science has limited application. That is why we use books on the philosophy of organizational and social science research. Still, the philosophy of social science applies more directly to economics, psychology, and sociology than it does to business. Hence, this course has been carefully tailored to avoid arcane philosophical issues and focus rather on those that have great practical value for business research. While methodologies provide a conceptual framework for research, philosophy of science provides a conceptual framework for methodologies. If one is doing research in an area that is well understood, where all questions of method and evidence are agreed upon, then one may not need to understand anything about the philosophy of science. However, if that is the case then it could be argued that such a person is only doing data collection and not really research. So, understanding key philosophical issues is critical to good research.

In physical science we study the natural world – elements of the world, properties of those elements, and how elements relate to other elements. In social science we study concepts. Concepts are abstract generalizations of experience and do not exist in the natural world in the same way that the objects of natural science do. Because they do not exist in the world in the same way that rocks and trees exists, they tend to change over time making social science research a little tricky at times. Most social science research is of the form concept A is related to concept B according to some relationship R. If concepts A and B, and relationship R are not well defined then the research will be weak and nothing can be done to shore it up later. So, theorizing concepts is a key to solid social science research. One might think that all the important concepts have already been clearly defined. However, all one has to do is to look at the literature on productivity, motivation, leadership, customer/user satisfaction, technology adoption, or any number of other business concepts to realize that these concepts are far from well defined.

Learning Goals

The goals of this seminar are to help students

1. Appreciate the nature of the scientific endeavor.
2. Become familiar with key issues in philosophy of science.
3. Understand the structure of theories and the theory construction process.
4. Critically read and evaluate research articles.
5. Develop skills in initiating research, crafting manuscripts and dealing with the journal review process.
6. Develop skills in (leading) class discussions.

Grading

Grades will be based on the following structure:

1.	Contribution to class discussions	10%
2.	Paper 1 (cross-disciplinary analysis; team project)	30%
3.	Paper 2 (position paper; individual project)	50%

Course Components

Contributions to Class Discussions (20%): This includes constructive contributions to in-class discussions (including Blackboard) as well as the briefings of assigned readings.

Comparative Analysis Paper (30%): Your team will identify two research papers that made an important contribution to your own discipline. The papers should differ substantially in their underlying philosophy of science perspective and they should be published in top journals in your field. Please email a copy of your picks along with a short explanation how and why you chose the papers for this assignment to me by **February 24**. Your project paper (max **6 pages**) will present a comparative analysis of the example research articles submitted by all students of the class. Your analysis should address and reflect on the following issues: what is the research area of the papers and what research questions are examined; what are the underlying philosophical assumptions and perspectives adopted in the articles (they may be implicit or explicitly stated);

what are the methodologies used in the research papers (and why are they appropriate); what is the role of data and theory in the papers; what kind of results and claims are generated by the studies; what contributions do the papers make (and why are these important); what general insights can be derived across the different papers. Teams will submit a paper and present it in class (**March 25)**. Team presentations should be no longer than 15 mins (including discussion)..

Position Paper (40%): the paper is due on the last day of class (**May 19**) when you will present in class. The presentation of your paper should be no longer than 10 mins (including discussion). In this paper (max **6 pages**), you will present the philosophy of science perspective that is underpinning your own PhD research work and discuss which implications it has on your research conduct and the findings you expect to generate.

Class Materials

Required Texts

1. Eric Tsang, The Philosophy of Management Research, Routledge, 2017.

Other Recommended Books

1. Thomas D. Cook and Donald T. Campbell, Quasi-Experimentation: Design & Analysis Issues for Field Settings, Houghton Mifflin, 1979.
2. Robert Dubin, Theory Building, 2nd ed, The Free Press, MacMillan Publishing, 1978.
3. Francesco Guala, The Methodology of Experimental Economics, Cambridge University Press, 2005.
4. Shelby D. Hunt, Controversy in Marketing Theory: For Reason, Realism, Truth, and Objectivity. New York: M.E. Sharpe, Inc., 2003.
5. Fred N. Kerlinger, Foundations of Behavioral Research, 3rd ed., Holt, Reinhart, and Winston, 1986.
6. Jum C. Nunally, Psychometric Theory, 2nd ed, McGraw Hill, 1978.
7. Robert Rosenthal and Ralph L. Rosnow, Essentials of Behavioral Research, 2nd ed., McGraw Hill, 1991.
8. Alex Rosenberg, Philosophy of Social Science: A Contemporary Introduction, 2nd ed., Routledge, 2005.
9. Vernon L. Smith, Rationality in Economics, Cambridge University Press, 2008.
10. Andrew H. van de Ven, Engaged Scholarship: A Guide for Organizational and Social Research, Oxford University Press, 2007.
11. Robert F. DeVellis, Scale Development, 2nd ed., Sage Publications, Applied Social Research Methods Series, Vol. 26, 2003.
12. Zaltman, Gerald, Karen LeMasters and Michael Heffring, Theory Construction in Marketing: Some Thoughts on Thinking. New York, NY: John Wiley & Sons, 1982.

Additional Readings

(some readings may be substituted and/or added during the semester)

1. J.B. Berg, H.R. Campbell, and D. Hirshleifer, How to Write and Effective Referee Report and Improve the Scientific Review Process, *Journal of Economic Perspectives,* 31(1), 231-244, 2017.
2. Clayton Christensen, Why Hard-Nosed Executives Should Care About Management Theory, *Harvard Business Review*, pp 66-74, September 2003.
3. Richard L. Daft, Learning the Craft of Organizational Research, *The Academy of Management Review*, pp 539-546, 1983.
4. Richard L. Daft and Arie Y. Lewin, Rigor and Relevance in Organization Studies: Idea Migration and Academic Journal Evolution, *Organization Science,* 19(1), 177-183, 2008.
5. Gerald F. Davis, What is Organizational Research For? *Administrative Science Quarterly,* 60(2), 2015.
6. Kathleen Eisenhardt, Building Theory for Case Study Research, *The Academy of Management Review,* Vol. 14(4), pp. 532-550, 1989.
7. Kathleen Eisenhart and Melissa Graebner, Building Theory from Cases: Opportunities and Challenges, *Academy of Management Journal*, Vol. 50(1), pp 25–32, 2007.
8. Daniel H. Hausman, Economic Methodology in a Nutshell, *The Journal of Economic Perspectives*, Vol. 3, No. 2, pp. 115-127, 1989.
9. Rudy Hirschheim, Against Theory, Journal of the AIS, 20(9), 1338-55, 2019
10. Martin Kilduff, Publishing Theory, Academy of Management Review, 31(2), 252-255, 2006.
11. John Van Maanen, Style As Theory, *Organization Science*, Vol. 6, No. 1, pp. 133-143, 1995.
12. Markham, A. (2011) "Internet Research," in Silverman, D. (ed), Qualitative Research: Issues of Theory, Method, and Practice, , 3rd edition, Sage Publications, Thousand Oaks, CA, 111-127.
13. John Mingers, A. Mutch, and L. Willcocks, Critical Realism and Information Research, in Information Systems Research, *MIS Quarterly,* 37(3), 795-802, 2013.
14. L.R. Sandman and C. Thornton, Bridging Scholarship, *Journal of Higher Education Outreach and Engagement,* 12(3), pp 223-229.
15. Herbert A. Simon, Random Thoughts about Methods of Research, Carnegie Mellon University, Working Paper, 1991.
16. J. Symons and R. Alvarado, Can we trust Big Data? Applying Philosophy of Science to Software, Big Data & Society, 1-17, July – December 2016.
17. Vernon L. Smith, Rational Choice: The Contrast between Economics and Psychology, Journal of Political Economy, 99(3), pp. 877-897, 1991.
18. Vernon L. Smith, Constructivist and Ecological Rationality in Economics, *American Economic Review*, 93(3), pp. 465-508, 2003.
19. Stanford, Introduction of Artificial Intelligence, Stanford Encycplopedia of Philosophy, 2018.
20. Robert Sutton and Barry Straw, What Theory is not, *Administrative Science Quarterly,* 40, 371-384, 1995.
21. Detmar Straub, Why Top Journals Accept Your Paper, Editors Comments, *MIS Quarterly,* pp iii-x, 2009.
22. A. M. Turing, Computing Machinery and Intelligence, Quarterly Review of Psychology and Mind, Vol. 59, 433-460, 1950.
23. Viswanath Venkatsh, Susan Brown, and Yulia Sullivan, Guidelines for Conducting Mixed-Methods Research, *Journal of the Association of Information Research, 17(7), 436-495. 2016.*
24. Andrew H. van de Ven, Nothing Is Quite so Practical as a Good Theory, *The Academy of Management Review*, Vol. 14, No. 4, pp. 486-489, 1989.

25. Karl E. Weick, Theory Construction as Disciplined Imagination, Academy of Management Review, 14(4), 516-531, 1989.
26. Karl E. Weick, What Theory is not Theorizing is, *Administrative Science Quarterly*, 40, 385-390, 1995.
27. Karl E. Weick, Theory Construction as Disciplined Reflexivity, Academy of Management Review, 24(4), pp 797-806, 1999.
28. David A. Whetten, What Constitutes a Theoretical Contribution? *The Academy of Management Review,* Vol. 14(4), pp. 490-495, 1989.
29. Amos Tversky and Daniel Kahneman, Judgment under Uncertainty: Heuristic and Biases, *Science*, Vol. 185, pp 1124-1131, 1974.
30. Varian, H., Big Data: New Tricks for Econometrics, *Journal of Economic Perspectives,* 28(2), 3–28, 2014.
31. M. Vasquez-Manoff , The Mind Readers Brains are talking to computers, and computers to brains. NYT 2020.
32. Markos Zachariadis, Susan Scott, Michael Barret, Methodological Implications of Critical Realism for Mixed-Methods Research, *MIS Quarterly,* 37(3), 855-879.

Outline and Weekly Topics (subject to change)

Week 1 - Introduction

- Why Philosophy of Science?
- Epistemology and Ontology
- Key Philosophical Perspectives

Reading: Tsang, Ch. 1

Week 2 – Scholarship in Professional Schools

- Organizational Research
- Engaged Scholarship

Readings:
1. van de Ven, (2018)
2. Davis (2015)

Week 3 – Explanation and Prediction

- Empirical and Theoretical Research?
- The Scientific Method
- Behavioral Research
- Measurement Theory

Readings:
1. Tsang, Ch 2
2. Kerlinger Ch 1-3

Week 4 – Assumptions and Testing

- theoretical modeling
- theory testing

Readings: Tsang, Ch.3 & 4

Week 5 – Generalization

Reading: Tsang, Ch.5

Week 6 - Replication

Reading: Tsang, Ch. 6

Student Presentations (Team Project)

Week 7 – Economics and Rational Choice

- Constructivist Rationality
- Ecological Rationality
- Judgment under Uncertainty

Readings:

1. Hausman, (1989)
2. Smith (2003)
3. Tversky and Kahneman (1974)

Week 8 – Theory Building

- Discovering Theory
- Constructing Theory
- Justifying Theory
- Theorizing

Readings

1. Dubin, Ch. 2
2. Whetten (1989)
3. Sutton and Staw (1995)
4. Weick (1989, 1999)
5. Eisenhart (1989, 2007)
6. van Maanen (1995)

Week 9 – Digital Research

- Designing Internet Studies

Readings

1. Markham (2011)

Week 10 – Cognitive Computing and AI

- Big Data Research
- Data Analytics and Machine Learning
- Artificial Intelligence

Readings
1. Varian (2014)
2. McCarthy (2006)
3. Symons and Alvarado (2016)
4. Stanford SEP (2018)
5. Velasquez-Manoff (2020)

Week 11 – Conclusions and Enduring Questions

Readings
1. Tsang, Ch. 8

- Student Presentations (Term Project)