Research Methodologies PhD Course

July 2021

Instructors:

Professor Martina Linnenluecke
Martina leads the Corporate Sustainability and Environmental Finance at Macquarie University which is at the forefront of developing financial and market applications to help tackle some of the world's most pressing environmental and social problems. The Center has worldwide reach and impact by demonstrating a financial case for action on environmental and social change. Martina’s research interests focus on the strategic and financial implications of corporate adaptation and resilience to climate change impacts. Her expertise in the field has been demonstrated through a number of prestigious awards, such as the Carolyn Dexter Best International Paper Award at the Academy of Management Conference, the leading conference in the field. She is the author of the book "The Climate Resilient Organization", and has extensive experience in working with government and industry related to organizational climate adaptation strategies, assessments and planning.

Professor Tom Smith

Overview
This course is designed to introduce students to the major research methodologies used in modern research. All of the material is developed from first principles, so there are no formal prerequisites for taking this seminar. It is assumed, however, that students are familiar with basic microeconomic theory and have a working knowledge of both calculus and matrix algebra. The outline that follows provides a brief description of the material that is covered in the course. The course consists of 5 consecutive days with
each day dealing with a different research methodology: qualitative research; survey research; systematic literature reviews; experimental research and econometrics. The general approach will be:

- to explain the methodology and how it is used
- provide exemplars of the methodology
- to outline the key issues that Editors are focusing on regarding the methodology
- provide further reading and courses to learn more about the methodology
- provide a hands on example of the methodology

**Textbooks**

There are no required texts for this course. The following books are useful references:


**Grading**

There will be a number of group projects throughout the course which will provide 40% of the marks. The remaining 60% assessment for the course is to design a research proposal using one or more of the research methodologies examined in the course.

**Timetable**

On-line delivery

Four Day Intensive  Mon-Thurs 19-22nd July 10-12 noon Live Zoom Session Plus Zoom Group sessions
List of Topics
The following is a list of topics that will be covered in the course along with the associated reading assignments. A set of class notes will be available.

Day 1 Qualitative Research
- Important of the Research Question
- Theoretical Perspective
- Tying interview questions to research question(s)
- Triangulation between interview, observation, documents
- Other forms of triangulation eg investors, regulators, financial firms
- Iteration from coding to themes
- Tying conclusions to sources – interviews/observations/documents/notes
- Writing up your Research
- Readings:

Day 2 Survey Research
- getting the questions right
- the use of scales
- response bias
- common method variance
- Readings:


**Day 3 Systematic Literature Reviews**
- The need to be systematic and scientific to enable replication
- Establishing the scope of the literature review
- Systematic keyword searches
- Network analysis using Garfields HistCite of Bibliometrix in R
- Issues on radar of Editors
  - Data cleaning
  - Cited reference check
  - Accuracy of references

**Readings:**
- Garfield, E., 2009. From the science of science to Scientometrics visualizing the history of science with HistCite software. *Journal of Informetrics* 3, 173-179

**Day 4 Experimental Research**
- Outline of the methodology
- Control versus treatment groups
• Exogeneous treatment variable(s)
• Issues on the Radar of Editors:
  o use of students as subjects
  o applicability of experimental results to the real world
  o anchoring biases
  o order effects
• Readings:

**Day 4 Econometrics**
• Different approaches
  o Maximum likelihood
  o Bayesian
  o GMM
  o Bootstrap
• Endogeneity
• Sample selection bias
• Spurious Correlation