Registration

- The participation in this seminar is free of charge. The seminar costs will be covered by the Institute of Business Economics and Industrial Sociology as well as the Faculty of Mechanical Engineering and Economic Sciences of TU Graz.
- **Registration** is open from now until November 17th 2020. The number of participants is limited to the max. of 12 persons. The „first registration - first serve” principle will be applied, as long as the participants fit into the target group.
- Registration is managed by Amila Omazic, BSc. MSc.
  E-mail: amila.omazic(at)tugraz.at

Venue

Graz University of Technology
BWL Seminar Room (NT02100)
Kopernikusgasse 24, 2nd Floor
8010 Graz, Austria

Organisation

Working Group “Industrial Marketing, Purchasing and Supply Management” of the Institute of Business Economics and Industrial Sociology
in collaboration with the
Working Group „Sustainable Construction“ of the Institute of Technology and Testing of Building Materials

For any questions regarding the seminar please do not hesitate and contact
Prof. Dr. Bernd M. Zunk
E-Mail: bernd.zunk(at)tugraz.at or
Prof. Dr. Alexander Passer
E-Mail: alexander.passer(at)tugraz.at.

Techno-Economic Research Methods

Methods are considered crucial to every scientific discipline as they ensure rationality and verifiability of scientific findings.

At a glance, the following figure illustrates a selection of the key methods within Business Economics (and, thus, of Techno-Economics and Management Science). Of course, in Business Economics/Techno Economics/Management Science not only abstract methods but also models that reproduce complex economic realities in a simplified way are indispensable.

**Methods to gain knowledge in the research field "Techno-Economics" (exemplarily)**

<table>
<thead>
<tr>
<th>Inductive</th>
<th>Deductive</th>
<th>Generic</th>
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<tr>
<td>Enhancement of the limited gain of knowledge deduced within the scope of the descriptive method about the abstraction of generally valid explanations.</td>
<td>Reverses to the inductive method by arguing from the general to the particular.</td>
<td>Gain of knowledge considering the time factor, including necessary explorations of the thus resulting changes.</td>
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Axiomatic-deductive method

Does not apply to the gain of knowledge in business economics as it is economic, i.e., sentences that cannot be proven or do not require evidence, that provide the basis for the gain of knowledge in this field.

Hypothetical-deductive method

Initial point for gain of knowledge that needs to be deduced is formed by hypotheses in terms of model images of the objective reality that have to be maintained until they are disproved.

This might give you a short impression on why this research seminar could be useful for your future research career.
Goal of this Seminar

The seminar aims at teaching participants the different steps involved in performing a systematic literature review. Upon completion, participants are expected to differentiate between narrative and systematic reviews, to develop answerable research questions, to design a search protocol and to organize and combine search outcomes.

The workshop is designed for graduate students aiming at a more robust identification of research gaps, along with an accurate framing of their scientific contribution in relation to the published literature.

Target Group

This seminar is especially designed for master students in their last year/PhD students/early stage researchers that plan to develop their research project.

Furthermore, this seminar is an initiative on a European level in cooperation with the European Professors of Industrial Engineering and Management - EPIEM (www.epiem.org).

Schedule

Wednesday, November 25th 2020

Session 1 (10am to noon)

• Narrative versus systematic literature reviews (SLR).
• Framing research questions.
• Search protocol: databases and keywords selection.
• Inclusion and exclusion criteria.
• Meta-analysis.
• How to interpret, document and publish SLR findings.

Session 2 (2pm to 4pm)

• Hands-on experience: starting an SLR based on your research question.
• Using reference management softwares.

Lecturer

Dr. Marcella Saade is a postdoctoral researcher at the Working Group “Sustainable Construction” of the Institute of Technology and Testing of Building Materials. Dr. Saade obtained her PhD in Civil Engineering in 2017, with focus on Sustainable Construction at the University of Campinas, in Brazil. From 2018 to 2020 she worked as a researcher at the University of Sherbrooke, Canada, where she applied advanced Life Cycle Assessment methods to evaluate the environmental impact of the built environment, from the material to the building scale. Her research focus is on the development and/or adaptation of life cycle inventories, data uncertainty and the application of dynamic modelling to estimate carbon cycles in buildings from a life cycle perspective.

Teaching Experience

Marcella Saade has taught undergraduate and graduate-level courses on Sustainable Construction and Life Cycle Assessment at the University of Campinas, in Brazil, and at the University of Sherbrooke, in Canada.