PhD Course

Statistical Significance, Impact, and Relevance

LECTURER  Prof. Dr. Dr. h.c. Sönke Albers

TIME, PLACE  3 full days: 17-19Sep2024, 09h00 – 16h30
              UHH, Moorweidenstr. 18, room 0029

CREDIT POINTS  5 credit points in the Graduate Program at the Faculty of Business Administration: in “methods”.

REGISTRATION  via STINE
              For questions regarding course content, please contact soenke.albers@klu.de; phone: +49 151 52702547

REGISTRATION PROCEDURE Participants should register until 1Jul2024 and provide a ranking of their three most preferred topics for preparing a presentation. Please send this ranking to soenke.albers@klu.de. Prof. Albers will then assign participants to topics giving priority to those who registered early. After assignment, he intends to provide in a short 1-to-1 Zoom meeting more specific information for the respective topic for a better understanding. A date for this Zoom meeting will be individually agreed upon by email. If not all of the 12 topics are assigned until 1Jul2024, Prof. Albers will accept later registrations on a first-come-first served basis.

ASSESSMENT  * presentation (max. 45 min.)
              * Contributions in discussions
              * Two-page paper on how to make use of the course content.

NUMBER OF PARTICIPANTS  maximum of 12, one for each topic

COURSE LANGUAGE  English

OBJECTIVES  In this course participants will get a basic understanding of how different goals of empirical research are realized and what kind of results can be achieved. The course is interactive with participating doctoral students presenting certain topics that are discussed intensively afterwards.
REMARKS WITH RESPECT TO REFERENCES

The references mentioned below should serve as a starting point. As you will only submit slides (no text), please make sure that you clearly indicate on each slide to which reference you refer. Please provide the full information of each reference on each slide.

CONTENT

Day 1 = 17Sep2024:

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09h00 – 10h30</td>
<td>1. What do we want to know (what is=facts; whether there is a relationship, why is there a relationship=theory; impact of relationship)</td>
</tr>
<tr>
<td>10h45 – 12h15</td>
<td>2. Inductive research (case study) versus deductive research (theory testing)</td>
</tr>
<tr>
<td>13h15 – 14h45</td>
<td>3. Experiments, pre-registration, difference-in-difference</td>
</tr>
<tr>
<td>15h00 – 16h30</td>
<td>4. What can be concluded from statistical significance?</td>
</tr>
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Day 2 = 18Sep2024:

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09h00 – 10h30</td>
<td>5. Threats of true results and robustness checks (e.g., sampling; control variables; nonlinearity)</td>
</tr>
<tr>
<td>10h45 – 12h15</td>
<td>6. Endogeneity</td>
</tr>
<tr>
<td>13h15 – 14h45</td>
<td>7. Specification curve</td>
</tr>
<tr>
<td>15h00 – 16h30</td>
<td>8. Impact Measures of Variables in Machine Learning</td>
</tr>
</tbody>
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Day 3 = 19Sep2024:

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>09h00 – 10h30</td>
<td>9. Replications</td>
</tr>
<tr>
<td>10h45 – 12h15</td>
<td>10. Meta-analyses and effect size measures</td>
</tr>
<tr>
<td>13h15 – 14h45</td>
<td>11. Relevance for Science and Practice</td>
</tr>
<tr>
<td>15h00 – 16h30</td>
<td>12. Open Science</td>
</tr>
</tbody>
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REQUIRED PRE-READINGS

1. What do we want to know
   (what is=facts; whether there is a relationship, why is there a relationship=theory; impact of relationship)


2. Inductive research (case study) versus deductive research (theory testing)


3. Experiments, pre-registration, difference-in-difference

• (Pre-registration)
• https://aspredicted.org/

4. What can be concluded from statistical significance?

5. Threats of true results and robustness checks (e.g., sampling; control variables; nonlinearity)


6. Endogeneity


7. Specification Curve


8. Impact Measures of Variables in Machine Learning


9. Replications


10. Meta-Analysis and effect-size measures


11. Relevance for Science and Practice
(Rigor versus relevance)


### 12. Open Science


