Exercise 5

Conducting User Studies in IS and CS

Mobile Business I (WS 2020/21)

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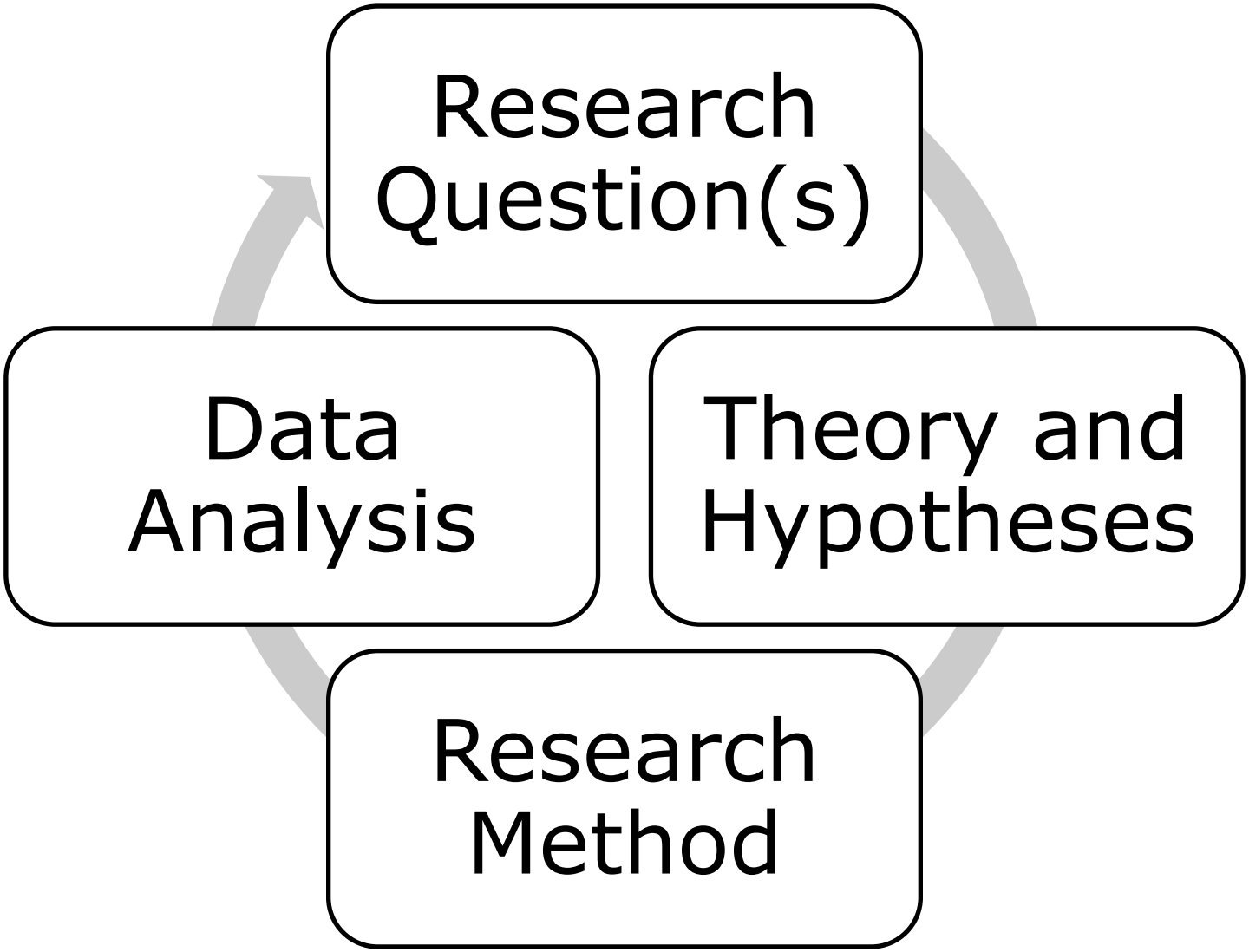
Agenda

1. Why do you need to know all of this
2. Structure your thoughts – A generic research cycle
3. The research question
4. The “theory” and hypotheses
5. The research method
6. The data analysis

1. Why do you need to know all of this?

Brainstorming

2. Structure your thoughts – A generic research cycle



3. The research question

Needs to be

- practically motivated
  - question needs to address an important issue on a societal, organizational or individual level

AND / OR

- theoretically motivated
  - question needs to be "new" (i.e. should not be posed exactly the same way before → would be replication research) and add insights to the current body of knowledge

4. The “theory” and hypotheses

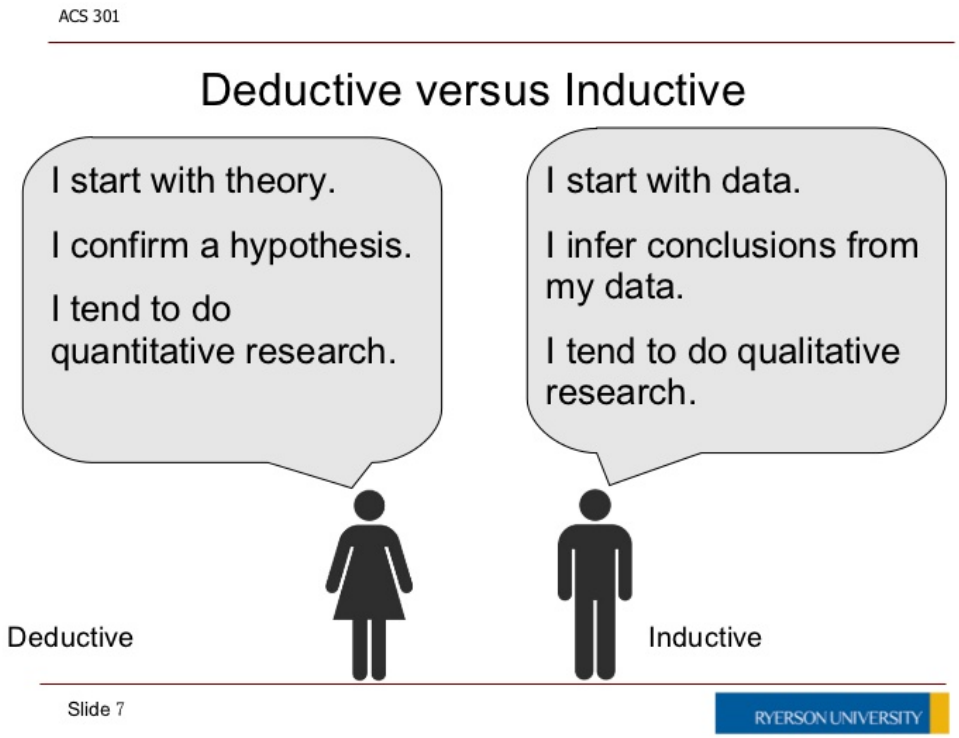
- “... we define theories to include the definitions of the relevant variables, the relationships among those variables, the justifications for those relationships, and the boundaries of the theory” [p. 686](Wiesche et al., 2017)

- Hypotheses describe relations between variables

- There are several things to discuss at that point such as ontology (*what do you assume about the state of the real world*) and epistemology (*what do you assume about knowledge and knowledge generation*); skip details due to time constraints

4. The "theory" and hypotheses Induction versus deduction

- A theory can provide the *frame* for answering the research question
- **deductive** approach → given theory leads to data
- Sometimes you derive theories or model in your research
- **inductive** approach → data lead to a theory



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5. The research method

- How are you addressing your research question?

Quantitative research methods	Qualitative research methods
Explanatory (theory testing, remember: deduction)	Exploratory (theory generation, induction)
Usually numbers	Usually text or observations
Surveys, experiments (important: cross-section vs. longitudinal / experimental vs. non-exp.)	Interviews, focus groups, field observations, etc.
Univariate vs. multivariate regression techniques (e.g. OLS vs SEM) Parametric vs. non-parametric tests etc.	Content analysis (e.g. Mayring), Grounded theory method, etc. Coding techniques

6. The data analysis

- Determined by the research method

- Vast universe of guidelines/books/etc. on how to do
  - experimental data analyses (e.g. ANOVA)
  - online surveys (e.g. structural equation modeling)
  - grounded theory
  - etc...

6. The data analysis
Tips for online surveys (I)

- In my field of research, online surveys or experiments are the most common research method for quantitative research methods

- Used to gather perceptions, opinion, concerns and behaviors of individuals within a specific context with instruments (most common: questionnaires)

- Oftentimes cross-sectional data (data gathered at one point in time, rarely longitudinal)

6. The data analysis
Tips for online surveys (II)

- Things to consider for students:
  1. Sample – do not use student samples unless your research question specifically targets students
  2. Costs – market research institutes or panel providers are expensive → consider alternatives and the time to gather data (e.g. GESIS Panel https://www.gesis.org/en/gesis-panel/gesis-panel-home/)
  3. Use existing instruments / constructs for questionnaires – reliability and validity reasons
  4. Map your questions with the overall research questions and hypotheses – can you address each aspect you need to answer the research question?
  5. ...

  Many other things to consider, however we need to finish with...

A few final tips (I)

How would you structure a *possible* thesis against the backdrop of these insights?

1. Introduction: Motivation (practical and theoretical) → RQ(s)
2. Theoretical Background (Key Definitions...) & Related Work
3. Framework / Theory / Research Model
4. Research Method
    1. Describe method: I did SEM / or did interviews with GTM
    2. Questionnaire
    3. Data
5. Results
6. Discussion: mapping to RQs, interpretation, limitation and fw
7. Conclusion

A few final tips (II)

1. Think about using Tex instead of Word
2. Use a citation/reference manager (e.g. Mendeley)
3. Don’t forget to employ a constant backup solution
4. Talk to your supervisor! A constant exchange over such a long period of time (e.g. 4 Months at FB02) is crucial

References

- Wiesche, M., Jurisch, M. C., Yetton, P. W., & Krcmar, H. (2017). GROUNDED THEORY METHODOLOGY IN INFORMATION SYSTEMS RESEARCH. *MIS Quarterly*, *41*(3), 685–701. https://doi.org/10.25300/misq/2017/41.3.02

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Thank you!

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