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Knowledge-intensive processes and qualitative research

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Agenda

- Introduction (5 minutes)
- Talk (25 minutes)
- Discussion and brainstorming (30 minutes)

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Michal

- Computer Science and Business Management background

- Research in
  - IS/ICT investment decision-making;
  - Business Process Management & Knowledge Management;
  - Circular Manufacturing Systems

- Consulting
  - Business process analysis
  - Business requirements analysis
  - Information strategy; digital transformation

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Mikhail

- Business Management background
- Research in
  - Knowledge-intensive processes

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Talk topic

Knowledge-intensive processes (KiPs) are characterized by **unpredictable** inputs and often **vaguely defined** goals. KiPs are claimed to be **non-eligible** for standardization, digitization, and automation. Therefore, only a limited amount of digital trace data is generated during their execution, and what is generated cannot usually be **analyzed in a traditional way**. Moreover, discovering the process structure is as meaningless as conformance checking. However, as organizations become more knowledge-dependent, they seek more efficient execution of KiPs, which calls for a thorough investigation of the challenges.

We will present how we have investigated KiPs using **qualitative data** and outline our future research perspectives.

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Our research in short

We study knowledge-intensive processes (KiPs) by:

- **Talking to people** about processes and deviations in process execution.
- **Asking people to fill in questionnaires** to see the link between team capabilities and process performance.
- **Specifying design principles** for software applications that could support the execution of KiPs and **testing their usability**.

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Paper 1

- RQ: What are the mechanisms underlying the emergence of executions in KiPs?
- Method: Theory-building case study leveraging grounded theory method coding procedures.
- Dataset: Interviews on multiple instances of different KiPs in two companies.

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Paper 2

- RQ: To what extent RPA can be used in nonroutine processes?
- Method: Design science research
- Dataset: Five expert interviews (validation)

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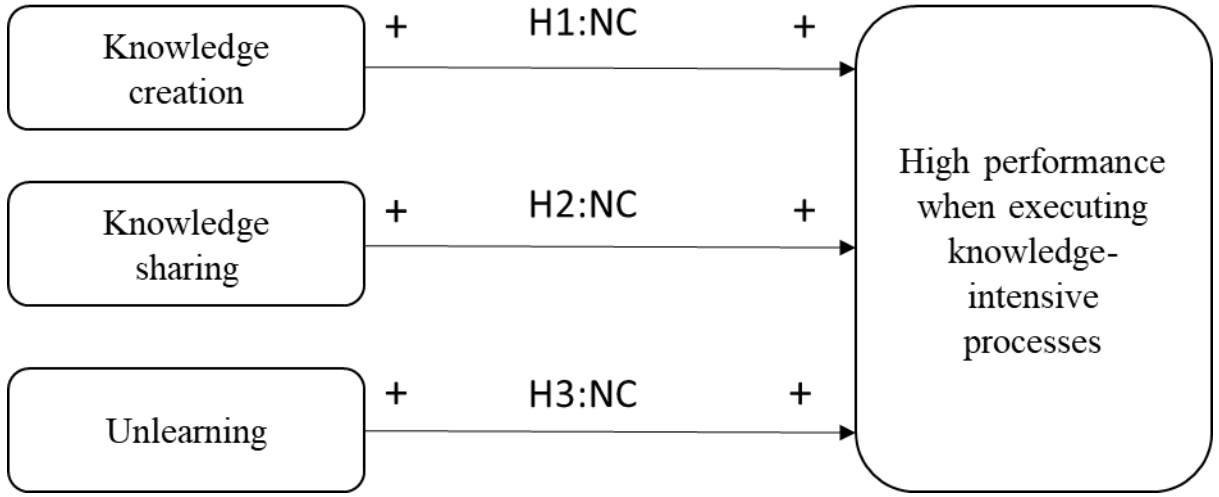
Paper 3



- Method: Necessary Condition Analysis and Qualitative Comparative Analysis
- Dataset: 34 respondents from a case company + 338 online panel respondents

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Project proposal

- With Martin, LMU, and Signavio
- Using Digital Trace Data to Theorize about Changes of Complexity in Digital Processes
- RQ: How and why does the complexity in KiPs change over time?
- Digital Trace Data ~ application SW logs

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Purpose

- Evolving complexity of KiPs based on digital transformation and RPA of organizational processes.
- Uncovering patterns and variations in process complexity that are not apparent from data.
- Methodological shortcomings of current approaches.
- Multifaceted understanding of how process complexity evolves.

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Methodology

- Mixed-methods approach <= merging digital trace data analysis with qualitative techniques
  - Process mining of digital trace data
    activities, control flow, data flow, and resource allocation.
  - In-depth interviews and analysis of process documentation.

- Two inductive case studies with two IT service providers in Czechia focusing on multiple processes.

Outcomes

- A theoretical model explaining the mechanisms behind changes in process complexity.
- Method for studying complexity changes.
- Empirical insights into the factors influencing the evolution of process complexity over time.

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Potentials for research collaboration

- What do you research?
- Do you have any experience with digital trace data?
  - Special Issue in BISE (submission deadline: July 1, 2024): » Exploring the (Mis)Match Between Real-World Processes and Event Data - BISE (bise-journal.com)
- What do you think of using qualitative research in informatics/computer science?

BPM concerence 2024

[Call for CEE Forum – 22nd Business Process Management Conference 2024 in Krakow (agh.edu.pl)]

Call for CEE Forum

Forum chairs

Gregor Polančič
Monika Malinova Mandelburger
Katarina Tomičić-Pupek
Michal Krčál

Important dates

Abstract submission: **TUE 21 May 2024**
Paper submission: **TUE 28 May 2024**
Author notification: **THU 27 June 2024**
Camera-ready submission: **FRI 5 July 2024**
Conference: **3-5 September 2024**

BPM 2024 in Krakow (1-6.09.2024)

The International Conference on Business Process Management can be seen as the most established meeting place for international BPM researchers, attracting several hundred enthusiasts each year.

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