Coming to terms with robots: the integration of software robotics into work

Laura Bordi, Sanna Nuutinen & Kirsi Heikkilä-Tammi
Wellbeing at Work Research Group
Tampere University, Faculty of Management and Business
Background

• Task and process automatization through RPA (robotics process automation)
  → changes job descriptions, work methods and practices
  → affects various aspects of organizational life (e.g., organization of work, collaboration, interaction, interdependence)
  → the importance of paying attention to how software robotics are integrated into everyday work and work communities’ practices
Introduction of the study

Communal workplace learning in financial administration robotization

• Qualitative action research project (November 2018 - April 2021) funded by The Finnish Work Environment Fund

• Objective: to study robotization-related communal workplace practices, e.g., how robotics are adopted into work communities' practices and how organizations can support communal learning

• Participants: three municipally owned financial administration service centers in Northern, Southern and Eastern Finland

I Individual interviews (n=28) Spring - Summer 2019
II Workshops (3 per organization) Fall 2019 - Winter 2020
III Group interviews (1-3 per organization, n=29) Fall 2020
Research questions, methodology & data

- **Research questions:** How are software robotics integrated into work communities’ practices? What kind of learning practices are related to this process?

- **Data:** 28 individual interviews, 9 workshops (3 per organization, 9–22 participants per workshop)

- **Method:** Thematic analysis
How are software robotics integrated into work communities’ practices?

**Strategic dimension**
- Strategic emphasis & communication
- Determining the robotization process (e.g., internal vs. external developers)
- Securing appropriate resources

**Work practices’ dimension**
- New or adjusted / modified tasks
- Identifying potential tasks / processes for robotization
- Process and task descriptions
- Standardizing work processes

**Interactional dimension**
- Integration of technological knowledge and financial administration expertise
- Interaction within and between work communities: discussions, information sharing, peer support
What kind of learning practices are related to the integration / adaptation process?

**Strategic dimension**
Mostly formal: e.g., courses and training, job rotation, new positions / job descriptions

**Work practices’ dimension**
Formal & informal entwined: e.g., “critical approach” to one’s work, documentation, standardization, unlearning previous practices and habits

**Interactional dimension**
Formal & informal entwined: e.g., structured meetings and workshops, peer learning, information seeking, solving problems together
- Mostly informal interaction within teams and formal / structured between teams → the need for more informal encounters
Conclusions

The integration of software robotics is constructed in intertwining adaptation processes and learning practices:

- **Strategic dimension** determines framework and resources.
- **Work practices’ dimension** covers integration in process level: impact on tasks and interdependence (human-computer + human-human).
- **Interactional dimension** depicts how work communities together navigate, negotiate, and process the changes.
- Fostering opportunities for collaboration is key → Collective understanding of robotization is constructed in continuous interaction.
Thank you!

More information:
projects.tuni.fi/robop
laura.bordi@tuni.fi