

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

In many fields, especially in financial and administrative sectors, organizations are automating tasks and processes through utilization of software robotics. This may considerably change the contents and nature of work, as well as work methods and practices. In the software robotics adaptation, technological aspects are just a small part of the changing work. Robotization of tasks and processes affects various aspects of organizational life, such as collaboration and interaction, and organization of work. The robotization process both requires and inflicts learning, unlearning, and coming to terms with the new technology and changing work. Hence, it is important to pay broader attention to how software robotics are integrated into everyday work and how robotics become part of work communities' practices.

In this presentation, our aim is to examine how software robotics are integrated into work communities' practices, and the learning practices related to this process. The data were gathered in three financial administration organizations. The data consist of 28 individual interviews and nine workshops (three per organization) carried out between March 2019–January 2020. The number of workshop participants varied between nine and 22. Both the interviews and workshop discussions were recorded and transcribed. The method of thematic analysis was applied to the research data.

The data analysis indicates that the integration of software robotics into work communities' practices takes place in various intertwined forms and contexts. We identified three main dimensions of integration: strategic, work practices', and interactional dimension. Strategic dimension depicts the role of management in the integration of robotics into work communities' practices. This includes, for example, strategic decisions on how the robotization process is approached (e.g., internal vs. external developers), providing appropriate resources, and organizational communication. The learning practices related to the strategic dimension are mainly formal, such as courses and training or changes in job descriptions. Work practices' dimension refers to how software robotics are incorporated into work tasks. This may include completely new tasks as well as adjusting and modifying current tasks or approaching them in a new way. Practical examples of these are taking a critical look at one's work to identify potential tasks or processes to be robotized, writing task descriptions, as well as standardizing work processes to enable the operation of robots. The work practices' dimension includes both formal and informal learning, such as documentation (mostly formal) and standardization of practices (formal and informal entwined). Interactional dimension refers to how work communities make sense of the robotization process and changing work. This includes informal learning practices, such as solving problems together, seeking and sharing information, discussions, and peer support.

In conclusion, all these dimensions can be seen as intertwined. Strategic dimension acts as a foundation by determining framework and providing possibilities and resources for adaptation of new practices and learning in work communities. Work practices' dimension covers integration of robotics in process level: how it affects work tasks and interdependence in work processes. Interactional dimension depicts how work communities together navigate, negotiate, and process robotization-related changes. All in all, the findings indicate that the integration of software robotics into work communities' practices is constructed in intertwining learning practices and processes across organizational levels. Fostering opportunities for collaboration both in and between work communities is key, as collective understanding of robotization is constructed in continuous interaction in the workplace.