

ENOP Symposium 2018

‘Digitization: The role of Work and Organizational Psychology in developing 21st century competencies and organizations’

(March, 22-23, 2018, Paris)

Technological developments under the general heading of digitization are expected to have a major impact on how we live and work. What kinds of competencies do people need to make the best out of these new opportunities? How are these new systems to be designed so that people can interact with them in the most effective way and what competencies do system designers need to make this happen? How should these developments be taken into consideration when designing organizations and teams and in job crafting? The symposium took stock of what work and organizational psychology knowledge there is to meet these challenges and what policy makers expect from work and organizational psychology in order to make informed decisions on the future development and use of digital technology. From the discussions next steps were identified in order to get ENOP to play a more active role in the digitization debate.

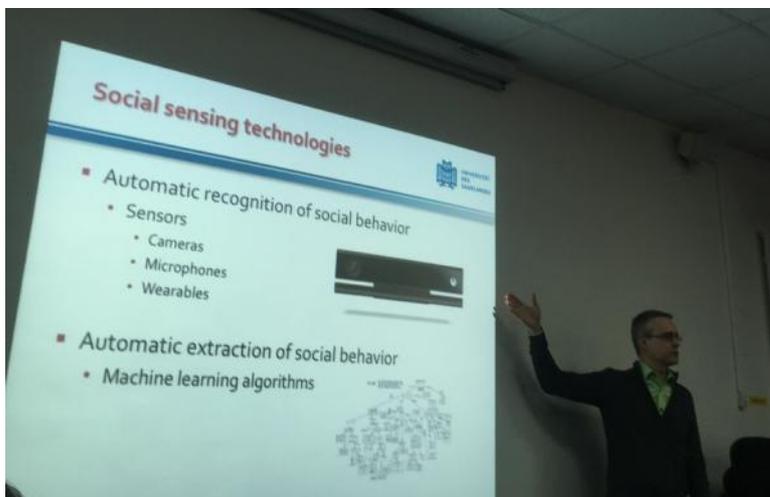


The symposium contained **three parts**.

First, extant work and organizational psychology knowledge was discussed in relation to requirements for people's competencies and for system and organizational design with increasing digitization of work. *Dragos Iliescu* and *Cornelius König* gave impressive accounts of how technology is changing personnel selection and assessment and what impact this might have on the competencies required of work and organizational psychologists themselves.



Dragos Iliescu presented a number of evolutions in assessment technology that will likely influence assessment and all subsequent assessment-based interventions in work and organizational settings. Influences such as improved internet and mobile-based testing, automated item generation, cheat-proof (or at least difficult-to-cheat) items, big data analysis, forensic data analysis, serious games, and others were presented, together with evolutions in supervisory practices for test taking, as a reaction of ever increasing technologies giving test takers opportunities to cheat. The conclusion points to an ever-increasing integration of testing and assessment-based interventions with technology.



Cornelius König presented work he is doing with computer scientists who have developed algorithms that use input from microphones and cameras to automatically detect trace of applicants' skills and maybe even personality. On the one side, his presentation showed the potential of such new technologies – on the other

side, his talk also explained the concerns that are often raised by members of the public.

Gudela Grote presented an overview of how the current job design and career literatures take digitization into consideration. She pointed out the technological developments are often alluded to as a source of uncertainty for employees, but really studied explicitly. She argued that work and organizational psychology can offer design, intervention and training methods for shaping 21st century work, but that job design and careers research also needs to substantiate macro-level economic predictions at a micro-/meso-level; develop more dynamic models of job design; and update design methods to incorporate newest AI/machine learning developments.



Matti Vartiainen discussed different approaches to human-system integration. He discussed on how digital technologies impact on human work activities. According to him, the main effect comes from the direct influence of technologies on work processes either by replacing tasks and jobs, renewing them and/or creating new ones.



Different technologies, digital working platforms and digitalization of work have, however, specific impacts in the following manner: (1) Jobs and tasks are replaced by removing human labor in work processes, e.g., robotics and 3D printing

in replacing work phases in manufacturing processes. Their societal outcome may be unemployment and disassembling competencies. (2) Hybrid jobs and tasks may be created by adding new characteristics to jobs and tasks, e.g., medical diagnosis with the help of AI. In this case, partly new competencies are needed. (3) Fully new jobs and tasks are created by reallocating jobs, e.g., work in social media, virtual work. In this case, completely new competencies are needed.

The *subsequent discussion* focused on questions such as how engineers can be convinced of the relevance of WOP knowledge, how big data analytics might be used to support adaptive job and organizational design, and whether government regulation is the best way to influence evidence-based practice in personnel assessment and job design. Also, changes for WOP practitioners themselves through technological developments, for instance in personnel assessment were emphasized and the question raised, how WOP can capitalize on the fact that in the contact of AI the whole world is currently discussing what it means to be human.

In the **second part**, presentations focused on policy making concerning the effects of digitization on workers and organizations and the role of work and organizational psychology can play for policy-making.



Helena Leurent from the *World Economic Forum* presented their activities in the area of the future of production, especially concerning employment and skills requirements. The WEF has developed scenarios that allow to discuss requirements for education and human-centric technological and economic development. WOP could be important to spell out what human-centric implies and to help specify skill requirements and education/training approaches.

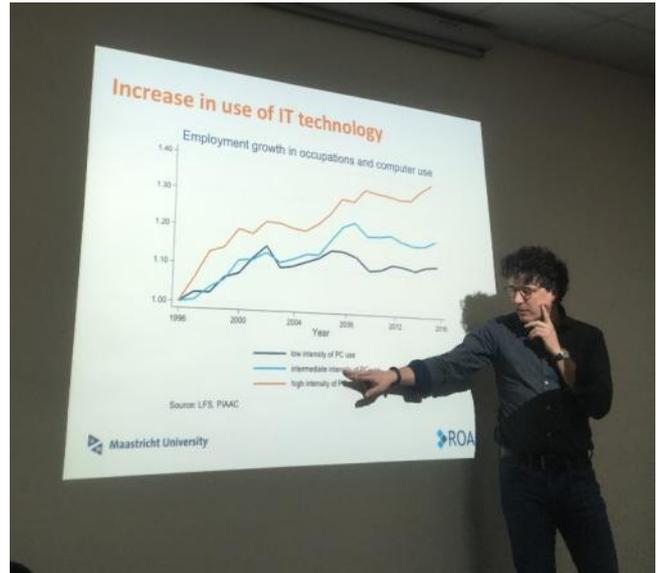
Agnes Parent-Thirion from *Eurofound* provided some background information on the European Working Conditions Survey. Job quality is one of the core elements and EU countries can be divided into five groups based on job quality (high flying, smooth running, active manual, under pressure, poor quality). Currently, preparations for the 2020 survey are underway, which will include more macro-level indicators and cover issues of precarious work, technological demands, links between job quality and career paths, and the tightening of control.



Marcelino Cabrera from the *European Commission-Joint Research Center* in Seville presented the digital competencies framework, which encompasses information/data literacy, communication & collaboration, digital content creation, data security & privacy, and problem solving. The development of the framework and actions based on it are mostly aimed at citizens in Europe that have no access to ICT yet (about 20-30% of the EU population overall). Another activity is the support of geographical mobility by developing new AI-based methods for language comprehension and acquisition.



Didier Fouarge from *Labor Market Research at Maastricht University* reported on data from the Netherlands concerning changing demands in different occupational fields. The largest growth is evident in occupations with high problem-solving and interpersonal skills. Generally, demand for jobs with vocational trainings has remained stable, university-level jobs are offered more and low-skill jobs offered less. He discussed polarization effects in wages, which do not seem to be linked to different kinds of education, though. He also mentioned a study which showed that adolescents pay attention to labor market prospects in their vocational decisions.



Issues mentioned in the subsequent discussion were relevant factors in education-job fit, opportunities for WOP-based skills research, and how WOP could/should capitalize on their key competencies.

The third part of the symposium involved work in *small groups and a plenary discussion* on suggested future actions for ENOP concerning the digital transformation of work. *Group 1* discussed how digitization is changing our own profession and how we can react to those changes, e.g. through changing curricula for WOP. *Group 2* discussed how we can help define competencies for a digital future. *Group 3* discussed how can we support monitoring of changes taking place in a digitized world and how we can be part of the discussion concerning a human-centred approach to digitization.





Two actions were decided:

- Establish an ENOP Task Force for defining digitization competencies required for WOP researchers and practitioners themselves and for stimulating research on the validation of current frameworks for digital competencies more generally
- Stay in contact with Eurofound to discuss possibilities to include questions on the digital transformation in the 2020 survey

Statement from ENOP on the Role of WOP in the Digitization Debate

In March 2018 about twenty professors of Work and Organizational Psychology from across Europe met together with representatives from the World Economic Forum, Eurofound and the European Commission Joint Research Center for two days to discuss the role of work and organizational psychology in the ongoing debate on the future of work in the digital age.

They acknowledged that several challenges and opportunities arising from new technologies for the profession of Work and Organizational Psychology need to be addressed. It was concluded that there is a great need for validating macro-economic predictions of job losses through automation. Furthermore the current methods of personnel assessment and selection based on big data and the assessment of digital competences needs to be reviewed and updated. This requires research grounded in

Work and Organizational Psychology. The importance of using methods such as the Eurofound (European Foundation for the Improvement of Working Conditions) Survey for monitoring changes in job quality due to digitization was noted and collaboration with Eurofound on their 2020 survey agreed upon.