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The impact of Industry 4.0 on work design

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Propositions

accompanying the PhD thesis

‘The impact of Industry 4.0 on work design’

by

Sabine Waschull

1. Manufacturing Execution Systems, Digital Twins and Cyber-Physical Systems are functionally heterogeneous systems, in contrast to e.g., ERP Systems (Chapter 2 and 3).
2. Digitalization requires organizational decision-makers to rethink the role of white-collar versus blue-collar work as it blurs the traditional boundaries of mental versus physical work (Chapter 4 and Chapter 6).
3. Whereas organizational decision makers usually solely perceive digitalization as a technology project, it is actually at the same time a work design project. It requires the explicit consideration of how human work should be designed in terms of task, knowledge, social and work context requirements (Chapter 6).
4. While digitalization facilitates job simplification through standardization, formalization and automation of blue- and white-collar work, it may also provide many opportunities for job enrichment (Chapter 4, Chapter 5 and Chapter 6).
5. The ultimate implications of digitalization on job characteristics depend on the ability of system designers and organizational decision-makers to actively steer and guide the design process of work. This ability cannot be taken for granted (Chapter 4 and Chapter 6).
6. System designers and organizational decision-makers involved in the design process of work during digitalization require ready knowledge of the theories and approaches of work design to actively consider human factors early on (i.e., to adopt a human-centric design approach) (Chapter 6).
7. The intrinsic motivation elevated by the opportunity to craft one’s job is an important enabler to realize favorable work design outcomes when work design knowledge is lacking (Chapter 6).
8. Having a child transforms the way you do research: it teaches you to see everything from a new (and playful) angle, it forces you to choose progress over perfectionism, and makes you more realistic about what you can do versus what you actually have the time to do.

9. Hiking through the mountains brings perspective to the academic mind: to reach the top you will (1) conquer unknown, challenging and sometimes unrelenting terrain, (2) you will often get lost along the way, and (3) you will reach the top eventually if you just manage to put one foot in front of the other.
10. The most important and interesting case insights, are often collected while eating, or conversing over a cup of 'koffie'.