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Technology trends in the Service Sector

Consequences and reactions to current digital transformations

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Research background

Presentation based on research conducted 2018 - 2020
- **Literature review**
- 6 **expert interview**
- **Focus group** (4 participants)
- 4 **company cases studies** in the service sector (IT, finance, energy, logistics)
  - 26 guided qualitative interviews (all face-to-face), 8 female, 18 male
  - all interviews finished before pandemic
  - 90 minutes on average
  - Focus on back-office functions
  - Positions: regular employees, IT departments, works councils, management

2

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Research focus

- How are work processes changing in current steps of digital transformation in service companies? What are the effects in terms of standardisation, control, autonomy and skill needs?

- How is the new 'openness' in the design of work processes made use of? Have workers and works councils a say in designing new work processes?

3

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Digital transformation & effects on workers

Greater organizational, spatial and temporal openness

- Informatisation and digitalisation broaden scope for redesign of work (Flecker & Meil, 2010; Howcroft & Richardson, 2012)
- ICTs enable changes in work – enabling technologies (Pfeiffer, 2010)

Potential outcomes for work organisation (in the service sector)

- More autonomy and better balancing of work and personal life (Wajcman et al. 2008)
- Broader worker engagement (von Streit, 2011)
- Dispossession of knowledge (Taskin & van Bunnen 2015)
- Standardisation of work processes and tasks and surveillance of workers (Carter et al., 2013; Howcroft & Richardson, 2012, Trusson et al. 2018)
- Work intensification (Eurofound & ILO 2017)

4

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Worker involvement and co-determination

Challenges for works councils

− Struggle to make use of enhanced scope of work organisation

− Difficult balancing of chances and risks (job protection, quality of jobs, data privacy, surveillance) (Nettelsroth & Schilling 2017)

− Works councils unable to cope with complex mass of new technologies (Niewerth & Massolle 2020)

− Digitalisation through many small projects, responsibilities decentralised (Haipeter 2021)

− 'You can't regulate, what you don't know' (Matuschek & Kleemann 2018)

5

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Technology trends in the service sector

Between hype and reality, three crucial technologies in the service sector

− Enterprise Resource Planning-systems (ERP): Data, information and work-flow management (Carter et al., 2011): most importantly SAP, to a lesser extent Office 365

− Automation technologies, Robotic Process Automation (RPA) to automate tasks of medium complexity; 'outside-in' – no change to existing systems (van der Aalst et al., 2018)

− Communication & collaboration software: Slack or Confluence for communication, documentation and to organize (Alimam et al., 2017; Evans et al., 2017)

6

Example 1 – ERP-systems

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ERP in back-office of finance company

– ERP used for years, recent move from paper to only digital

– Basic work object is a 'case' (termination of contract, setting up new contracts, making amendments and changes)

– Incoming cases automatically filed and automatically allocated to workers, using a 'key'

– Work case is handled through modules and text blocks

Effects

– No customer interaction: *"massive relief" (FS2 INT2)*

– Highly standardized (choosing text blocks)

– Cases repetitive

– High work intensity for some: *"I perceive it as assemble-line work." FS2 INT3*

– Management control through planning, organizing and allocating tasks <u>but</u> no direct control on individual level

7

Example 2 - RPA

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Robotic process automation (RPA) in controlling of IT-company

– Used in the automation of semi-complex work processes to substitute human inputs ('macros'); clear set of rules, best for repetitive tasks

– Example: preparation of report; data from other departments is automatically pulled and copied into a report-template, data provided in a dashboard

– Preparation of reports in controlling now much faster

Effects

– Standardization & analysis of tasks ('process mining') prior to using RPA

– Know-how of workers needed to set-up software program

– Tasks disappear *"Obviously, people are going to lose their job."* FS1 INT3

– Controlling department downsized in recent years – causality uncertain

– Deskilling <u>and</u> upskilling

  • Less know-how preparing reports; workers **"superiors of a robot"** (FS1 INT2)

  • But need to interpret data and internal consultants for management

8

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Example 3

Collaboration and communication tools (esp. IT, also logistics, engergy)

– New and refined collaboration tools and for project organisation and documentation (Slack, Confluence)

– Knowledge-intensive jobs

– Every work step recorded in the program

– Team members (and supervisors) have access to documentation

Effects

– Less face-to-face interaction

– Digital natives: *"I was just born into this culture and I feel at ease with it."* FS1 INT5

– Difficult to set boundaries between work and non-work

– Intensification of control in project work

9

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Workers' involvement

– Feedback systems and test phases: for bug-fixing, troubleshooting, but also testing usability and suggest improvements

– Designated department-representatives who are involved in technology implementation

– Most structured in energy company: specific project which requires each department to suggest one area, task, work process for digital transformation/automation

  • Ideas for digitalizing/automizing may be initialized by employees as a bottom-up process

  • Theoretically high involvement, but suggestions have to follow clearly defined company goals and are decided on by management

  • Influence on work organization very limited, except automation of unbeloved routine tasks

10

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Co-determination

- Comparatively strong position of works councils in researched companies
- Focus on specific topics
  - E.g.: Data privacy, working time arrangements, performance control
  - Austria: Works council to be consulted on individual performance control; right to veto
- Company & company level framework agreements very important
- However, early involvement of works councils very rare
  - Few institutionalized committees on technology implementation in companies
  - Work organization rarely discussed
  - Early involvement if management needs the works council's blessing, to lower resistance by the workforce
  - Works councils rely on personal contacts to workers in the IT departments for information

"They [people from the IT] just call me and tell me: 'Watch out, there is something entirely new coming our way." FS2 INT4

11

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Conclusions

- Intensification of work
  - Constantly changing digital tools
  - Additional (administrative) tasks
- Standardisation (and control and surveillance) through the ERP-systems
- Ambiguous trends in work design
  - Reduced <u>and</u> enhanced scope of action
  - Deskilling (repetitive and standardized tasks – ERP) <u>and</u> upskilling (remaining tasks - RPA)
- Individual and collective responses
  - Workers are involved and in some cases can influence implementation
  - Works council focus on specific topics where it can excersise power
  - And rely on personal contacts to IT departments
  - But organization of work rarely discussed

12

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13