ILPC Vienna 2019

Yesterday's snow becomes fully effective

The adoption of modern technologies in service sectors

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The Buzz…

- Emerging trends for service work: data, information and work-flow management systems, new computing possibilities, big data and crowdsourcing (Holtgrewe 2014) and software over the Cloud (software as a service - SaaS)

- Robotic process automation and AI (Bessen 2015, van der Aalst et al., 2018) for complex problems

- Leap in ERP-Systems: automated or partly automated communication between divisions (machine to machine – M2M) (Börner et al., 2017)

- Social media applications such as 'workplace by facebook', 'Yammer', 'SAP Jam', 'Microsoft Teams' or 'Slack' for documentation, organisation and management (and control)(Evans, Ahumada-Tello, and Zammit 2017; Alimam, Bertin, and Crespi 2017)

Our vantage point 1

Digitalisation and automation technologies extend options for the (re)organisation of work

- Divisions of labour
- Management and control
- Forms of cooperation
- Deskilling, new autonomies and responsibilities

Who determines how and how fast technology is implemented?

Our vantage point 2

1. Expectations overly technologically deterministic
   - 'Social shaping of technology' often missing as a perspective (Mac Kenzie & Wajcman 1985; Williams & Edge 1996)
   - Technology viewed as the sole driver of changes in organisations, labour relations and politics
   - Technology and the consequences of its application often presented in a neoliberal way as the only option (Flecker 2018)
   - ➢ One-sided use of extended options

2. Maybe not as new (and disruptive) as it seems (Valenduc & Vendramin 2017)?
   - Rather continuous trend (or cycle) for the last 30 years

Explorative Sample

- Shop stewards as an initial access to the companies
- Need to be consulted prior to the implementation of significant technologies

In-depths interviews with 4 shop stewards at

- A big software company
- An outsourcing provider
- A bank
- A consulting firm

and 2 technology experts

Focus group with 4 participants (all shop stewards) in

- Logistics
- Hospital
- Public administration
- Telecom company

Extended sample will be covered in two upcoming research projects funded by the Chamber of Labour and by the Anniversary Fund of the National Bank of Austria (project number: 18060)

Changing intra-firm communication processes

Top down and bottom-up

- Through implementation and consistent use of enterprise social media tools, such as Slack, Whatsapp, Workplace by Facebook
- For the organisation of the work process, documentation, management and control
- In some cases initiated by the employees, in others initiated and moderated by the management
- Used for instance at the hospital for coordinating shifts between workers (Whatsapp) or at the telecom company (Workplace by Facebook)

Separation of Planning and Execution

Digital implementation and reorganisation of the work process

- Codification and structuring of knowledge
- Detailed description of tasks in e.g. wikis
- Goes hand in hand with the separation between planning and execution of work
- Documentation and task description can be enriched with detailed timelines and assignments for tasks
- Used extensively at the software company to detail assignments and timelines in small-team projects

Location-independent work is only in the making

Location-independent work is becoming more common

- Through mobile communication tools extended options to work outside the office (mobile access to e-mails…)
- Used in its highly regulated form as home-office in most companies (esp. outsourcing provider, consultancy)
- And remote access to IT-systems of the value chain
- Working at the office, in contrast to working at the client (consulting firm)
- Partly dynamic and unplanned developments

From internal ERP-Systems to B2B over the value chain

Linking IT-systems over a Cloud

- Automated exchange of information (M2M, ERP-systems)
- Not limited to the firm, but includes the value chain
- "Quantitative and qualitative leap" (Technology expert)
  - Potentially extensive systemic rationalizations along the value chain
  - and the automation of clerical work
- Empirical evidence rather sketchy – more research needed

Complex automation and AI

Rare showpieces

- Pilot projects and tests in (few) selected departments
- With limited impact so far
- But expectations are high
- 2 tangible examples:
  - A chatbot for consumer interaction at the telecommunication company (still in "training")
  - A programme for reading and documenting photographed receipts (at the software company)

3 Trends

1. Complementing previous tech use: communication technologies are implemented into the work process and adopted by the workers

2. Continuous evolution: (longer) existing IT-systems are refined and permeate many aspects of the work process
   - Codification of knowledge, documentation and (digital) structuring of work organisation, linking IT systems over the cloud and integration of ERP-systems

3. Disruptive developments: few indications for "hyped" technologies, such as AI and complex automations

Conclusion

Widening of organisational options and ever stronger permeation of work

Continuous trends of the last 30 years (Valenduc & Vendramin 2017)

B2B and integration along the value chain finally effective

Social shaping of tech implementation in skilled service work:

- Slow spread of technology due to adaptation processes
- Simultaneity of top-down and bottom-up developments (esp. in communication)
  - This complicates matters for codetermination (technology pushed by workers)
- Partly unplanned developments of tech use (e.g. location-independent work)
- Involvement of workers‘ reps but tech implementation and use not a bargaining issue

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