

## ***Analysing Organisational Crossroads for Job Quality in the Digital Age***

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Businesses are embracing new technologies to improve their effectiveness and resilience. Understanding these technologies' evolution, application, and impact is crucial for achieving human-centered organisations and securing a decent future of work for all. New technologies offer potential to enhance business processes and job quality (Eurofound, 2019). However, technology projects can fail or harm job quality, with the same technology leading to both positive and negative outcomes (Bal et al., 2021). Ultimately, the success depends on how technology is deployed (Dessers et al., 2023). This study focuses on how the division of labour and the employment relationship within an organisation influence the change in job content and job quality brought about by digital technology, both for general employees and specifically for line managers. This paper comprises five sections: theoretical background, literature review, methodology, main findings, and conclusion.

### Theoretical background

Sociotechnical systems (STS) theory emphasises that for any system to reach its ultimate performance, joint optimisation of the social and technical components is required. Consistent with STS principles, it is recommended that non-technological innovation should complement and integrate with technological innovation (Kaye Parker & Boeing, 2023). Based on STS, Huys et al. (2013) developed a model, a model suggesting that an organisation can be viewed as the outcome of integrated choices made in areas of division of labour and employment relationship (including human resource practices and social dialogue). In this study we will apply this model to investigate the impact of digital technologies on job content and job quality of employees, and more specifically of line managers, mediated by choices in the field of labour division and employment relationship (Smits et al., 2022).

### Literature review

#### Division of labour, employment relationship and technology

Recent literature on the ongoing digital transformation has highlighted the interconnection between the division of labour, the employment relationship and digital technology (Dessers et al., 2023). Shamim et al. (2016) suggest that digital

transformation necessitates a division of labour characterised by decentralisation and teamwork for better innovation and change management. Fast decision-making and flexible responses to challenges are crucial (Veile et al., 2019). Rigid structures hinder implementation of digital changes (Fettig et al., 2018), whereas technologies in decentralised organisations foster innovation (Wilkesmann & Wilkesmann, 2018). Technology use is influenced by existing organisational structures (Lall et al., 2016). Cagliano et al. (2019) observe a shift towards more decentralised structures with increasing technical complexity. Job design adaptations for new technologies can enhance wellbeing and decrease stress (Veile et al., 2019).

The role of HRM in changing corporate culture is crucial, with an emphasis on learning, openness, creativity, and entrepreneurial mindset (Veile et al., 2019). Kiel et al. (2017) highlight a flexible culture reflected in leadership, training, and employee involvement. Rapid learning from failures is vital (Veile et al., 2019). Kadir and Broberg (2020) advice remuneration following task complexity, training opportunities, teamwork and social support. New technologies challenge traditional HRM and leadership practices, promoting autonomy (Hertel et al., 2017). Digital skills acquisition through training or hiring specialists is key (Veile et al., 2019). Employee involvement is essential for successful implementation and impacts wellbeing and performance (Kadir & Broberg, 2020), also ensuring support for changes and equal focus on job quality and organisational performance (Vereycken et al., 2020).

#### [Line managers in the age of digitalisation](#)

Line managers are key in translating policies into practice and are crucial for technology implementation success and employee well-being (Blanco-Oliver et al., 2018; Hasson et al., 2014). They are defined as first-line responsible managers in lower management layers (Hutchinson & Purcell, 2008). Krüger (2018) noted a lack of focus on line managers in digital technology literature, but highlighted their role's growing complexity and potential support from new technologies. Little research has been done since, but Khoreva et al. (2022) found line managers influential in the digitalisation process, aiding employees' adaptation to change. Drent et al. (2022) observed a shift in line managers' roles from operational control to coaching and people management, with HR tasks devolving faster than decision-making, financial, and knowledge powers. Meijerink et al. (2022) found that gig work changes and challenges the conventional work of line managers, rather than diminishing their role.

## Research question

The literature review shows that while the impact of organisational choices on labour division and employment relationships during technology implementation is increasingly recognised, there is a need for deeper understanding of how these choices affect job content and quality for employees. Additionally, few studies have explored the changes in job content and quality for line managers due to digitalisation.

The main research question focuses on how and to what extent the division of labour and employment relationship influence the change in job content and job quality brought about by digital technology, both for employees and specifically for line managers.

## Methodology

Data was collected through case studies using qualitative methods: semi-structured interviews, document analysis, and observation. 22 organisations across various sectors and sizes were selected in Belgium, all with significant digital technology implementation. This included 10 from production, 5 each from private and public services, and 2 platform-based services. We conducted 121 interviews, averaging 5.5 per organisation, including a 'generalist' (e.g., manager, HR expert), a line manager, and an employee, all with sufficient seniority to assess pre- and post-technology introduction scenarios.

Analysis was mainly deductive, using a conceptual model and variables to guide data collection, categorise data analytically, identify regularities, and ensure comparability between cases. Interviews were summarised in case reports, then coded based on conceptual model concepts. The next paper section describes this analysis per concept.

Next step is to perform a cross-case comparative analysis using pattern-matching to compare empirical patterns with theoretical propositions (Yin, 2003). Detailed results will be in the full paper.

## Main findings

### Introduction of technology

We studied the adoption of digital technology in business functions and the challenges faced during its introduction. Digital technology is central to the production processes in 13 companies, encompassing manufacturing and services, and used for mechanical actions or data management. All 22 cases employ digital tracking for actions or value-adding information. Digital technology is integrated into support functions like administration, HR, and finance in 18 cases, and internal communication in 11 cases, using platforms like intranets. Only 6 cases reported a fully integrated system linking various digital functions. The transition to digital technology has been mixed: half of the companies have completed it, while the rest face ongoing challenges, including employee resistance due to skill changes, GDPR compliance, and dual data maintenance. Every company has an IT function, centralised in 15 cases, decentralised in 3, and outsourced in 4.

### Division of labour

The division of labour concerns the distribution of tasks among employees (task division) and the level of centralisation of control (coordination). High division of labour means employees in a department perform similar tasks, with a centralised control. Low division of labour involves employees handling diverse tasks, allowing for more autonomy at the team and individual levels.

We first categorised cases based on their labour division before the implementation of the digital technology. Eight cases had high, process-oriented labour division, mainly in the industrial sector. Three cases in smaller or medium-sized organisations in tertiary or public sectors had lower labour division with a customer-focused team structure. The remaining 11 cases were a mix, with employees combining multiple tasks or roles for workflow efficiency. Digitalisation's impact on labour division varied. In 11 cases, there was an increase in labour division, especially in small companies, with a shift from execution to planning, leading to uniform procedures and devaluing craftsmanship and knowledge. Seven cases saw a decrease in labour division, dissolving departmental 'silos' and challenging the separation of qualification-based tasks. Four cases showed no significant change. Hierarchical control was highly centralised in three cases, especially in multinational companies. Digitalisation's effect

on control was mixed: in nine cases, control became more centralised, while only one case became more decentralised. In three cases, there were conflicting trends with leaders becoming more coach-like, but headquarters gaining more control through data.

### Human Resources Management

We explored Human Resources Management (HRM) practices, focusing on recruitment, competency management, and disciplinary measures.

In recruitment, 20 out of 22 cases required new hires due to digitalisation. In 13 of these, there was a substitution of less digitally adept employees with new staff. Some companies utilised a flexible workforce of temporary workers, which digitalisation made easier to integrate, as tasks became less dependent on product and customer knowledge.

For competency management, training was essential in 13 cases to handle new digital work forms. Only 6 cases had explicit company-provided training programs, with the rest leaving employees to seek relevant training, with employers covering costs if necessary. Digitalisation also led to de-skilling in 4 cases, where certain job skills became redundant.

Disciplinary measures shifted from visual supervision to measurable targets in 14 cases, sometimes linked to bonuses. In 9 cases, performance evaluations became data-based rather than supervisor assessments. Digitalisation also allowed for greater work flexibility, including remote work, in 9 cases.

### Social Dialogue

We investigated social dialogue around the introduction of digital technology in companies, focusing on both formal negotiations between employers and unions and informal internal discussions.

In the examined cases, union involvement in digital technology implementation is generally limited. In 13 out of 22 cases, there was minimal or no union involvement, especially in smaller companies. In 4 cases, unions were informed but remained unresponsive. However, in 5 cases, unions did play a role, either protesting issues like late communication and hyperconnectivity or assisting employees with task changes, with significant union input in one instance. Employee participation in decision-making

was often just being informed about the technology introduction, either before or after the fact. Only in 3 cases was there a limited form of consultation. In a few cases, there was neither social dialogue nor minimal information sharing.

### Impact on job quality

We explored the consequences of digitalisation on job quality. Per case, only a general assessment was made, while the effects may vary across employee categories.

Digitalisation led to increased task standardisation in 14 out of 22 cases. However, in four cases, tasks became less standardised, especially in sectors where creative use of digital technology is part of the job.

Autonomy, or the independence in task execution, decreased in 7 cases, particularly in production companies, but increased in 5. Task variety, denoting the extent to which a job involves different activities and skills, grew in 11 cases and decreased in 4.

Support from colleagues or supervisors increased in 7 cases due to enhanced connectivity, yet decreased in 5 cases because of reliance on external services and formalised communication. Work pressure escalated in 9 cases, predominantly in smaller companies.

Physical strain lessened in 6 cases in sectors like construction and industry. The complexity of work rose in 9 cases and fell in 5, affecting skill development and responsibilities, regardless of sector or size.

Technostress was prominent in 9 cases, mainly in larger companies, caused by formalised communication, constant monitoring, and feelings of being underqualified. Work-life balance improved in 7 cases due to remote work opportunities, but worsened in 2 cases due to increased connectivity demands.

Subjective well-being, or job satisfaction, decreased in 10 cases, increased in 1, and showed mixed results in 4, influenced by factors such as bore-out, de-skilling, and software dependency.

Employment conditions improved in 6 cases, including target-based bonuses. Job security improved in 3 cases, linked to retention strategies in a competitive job market. In 3 cases, tasks were temporarily adjusted for employees struggling with digitalisation.

## Impact on line manager

We investigated the impact of digitalisation on job content and quality of line managers.

In 9 cases, line managers' roles in work assignment and supervision decreased due to digitalisation facilitating direct data communication between management and employees. This led to a loss of power and status for line managers, through increased digital monitoring, loss of informational advantage, or IT-proficient team members gaining control.

In 18 cases, line managers took on additional roles, including financial tasks, quality control, HRM, and scheduling. This was more prominent in production companies and varied in the tertiary sector.

Line managers also adopted IT coaching roles in 18 cases. Their new responsibilities include assisting employees with lower digital skills and enhancing digital communication.

Work pressure for line managers decreased in only 4 cases. In 13 cases, pressure increased not due to more work but because of higher responsibility and handling system or staff errors.

## Conclusion and next steps

In this short paper, we analysed the impact of digital technology on the workplace, drawing on 22 case studies. Labour division has been affected diversely, with some organisations experiencing increased standardisation and others seeing a reduction in task separation. Human Resources Management practices have evolved, necessitating new hiring and training strategies, and shifting disciplinary measures to more data-based evaluations. Social dialogue around digital technology implementation was found to be generally limited, with minimal union involvement and employee participation. The role of line managers has transformed, with some losing traditional supervisory roles and others expanding their responsibilities to include IT coaching. The impact on job quality and employee well-being varies, with some experiencing increased work pressure and technostress, while others see improvements in work-life balance. Overall, the study shows diverse effects of

digitalisation on different organisations and sectors, with a full comparative analysis forthcoming in the full paper.

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