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Six Principles for Ensuring a Human-Centric Future of Work in the Digital Age

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The initial wave of debate on the introduction to workplaces of digital technology – usually AI with advanced automation – was techno-centric. It emphasized and promoted the capabilities of this technology. It wasn't just that this technology was important, even representing a new 4th Industrial Revolution, it was that this technology would determine the future of work. Indeed, in some accounts there would be no future for humans in work. Instead, the clever robots would do all of the work, pushing humans out of work. The result would be mass unemployment, with possible social and political unrest.

These debates seemed oblivious to past technological revolutions and how, following its introduction – microchips for example - the numbers of people in work had risen not reduced. Debate also ignored the fact that some jobs can't be automated or, even if they can be automated, people might not want them to be automated. Some jobs need humans to do them and some humans don't want to interact only with robots. Past experience suggests that choices exist about how to introduce digital technology in ways that serve not subordinate humans at work.

Towards humanized workplaces

More recently, the European Commission has recognized that what is needed is a human-centric future of work that delivers productivity gains in the context of digital technology. Following the lead taken by the German Federal Ministry of Labour and Social Affairs, the Commission argues for putting the well-being of workers at the centre of the new production processes. The challenge now is to identify how the policy aim can be translated into workplace practice.

The starting point is to recognise that the desire to humanize work in the digital age is a policy push without a theory. As Steven Dhondt and his colleagues have recently argued, that theory might come from a revamped socio-technical systems theory (STS). This theory maintains that for any given technology there is a choice of social organization and that for effective use it is necessary to optimize both the social and the technical system or, as Eric Trist and Ken Bamforth put it in 1951 when they first developed this theory, have 'a social and a technological whole'.

The six principles

With my colleagues David Guest and Angie Knox, I've reviewed past workplace interventions over the 1950s into the 1970s that used STS to integrate machines and people. We've identified important lessons from these interventions which suggest six principles for ensuring the successful introduction of new digital technology in workplaces that would both humanize work and deliver productivity benefits.

The first principle is that the focus of interventions has be tight. This focus should be the workplace. Interventions should improve the quality of working life, not promote wider social change. Jobs and the experience of work has to be the first order priority. There may well be very

welcome spillover effects from workplace interventions based on STS. For example, Marmot et al. (2020) have argued that improving quality of working life would benefit communities, government and society by redressing health inequalities and reducing healthcare costs. However, those benefits would only accrue from first improving job quality.

The second principle is that improving the quality of jobs means focusing on both work and employment practices. Although 'work' and 'employment' are often used synonymously, they are distinct. Work can exist without employment for example. It is the bundle of work practices and employment practices that shape job quality. The UK's Measuring Job Quality Working Group identified seven key practices, representing the dimensions of job quality: terms of employment; pay and benefits; health, safety and psychosocial well-being; job design and the nature of work; social support and cohesion; voice and representation; and work-life balance. Humanizing work needs to cover all seven and understand how digitalization effects each as well as how they interact with each other.

The third principle is that efforts to humanise work require institutional support, particularly from governments. Workplace initiatives require outside institutional support if they are to be diffused and sustained. Employer organisations and workers' representatives including trade unions and works councils have an important role to play here but perhaps the lessons from past STS experiments, particularly in Scandinavia, is that government support is crucial. Voluntary workplace interventions triggered by employer choice or management-union negotiations that aim for best practice should be encouraged and supported by government, including through the provision of evidence-based information and education. However, government should also set minimum standards that ensure decent jobs for all and act as a baseline, based on the dimensions of job quality.

The fourth principle is that workplace initiatives need to optimize mutual interests. Whilst there can be differing interests in the workplace, collaboration is also needed between managers and workers. Focusing only on conflict can overlook the reality of shared workplace interests. The introduction of digital technology has to be based on reconciling the different interests that deliver the joint maximization of outcomes. A useful human resource management (HRM) approach here is that advocated by Kochan and his colleagues in the US and others in Europe to bring stakeholders together, ensuring voice to explore mutual interests and seek win-win opportunities through STS. It is notable that the OECD is advocating job quality as a route to better employee well-being and higher productivity and so in the interests of management and shareholders, not just workers.

The fifth principle is the need to recognize a stakeholder eco-system. Successful interventions recognize that everything is connected to everything else. Drawing again on the HRM literature, this time the work of Michael Beer and his colleagues, it is useful to recognize the interests of a range of stakeholders and therefore the desire for a range of potentially different outcomes. Specifically, they identify shareholders, managers, employees, government, the local community and workers' representatives as stakeholders, to which we would add customers. Each stakeholder seeks distinctive but often overlapping outcomes that can be supported through good design of work.

The sixth principle has two parts. First, expert input into interventions has to integrate the voices and experiences of workers, their representatives and managers at the workplace or organizational level. Experts also need to appreciate these non-experts' capacities and capabilities. Interventions need the support of senior management but, in conception and execution, need to be decentralized and negotiated. Second, the expert disciplinary lens brought to bear upon the problem and its solution must be interdisciplinary. There needs to be a balance between the social and technical in terms of expertise and focus, which means a partnership of the social and engineering sciences. However, if improvements in worker well-being are to be an outcome, the health sciences should also be partners.

This publication draws on an article recently published OnlineFirst in *Human Relations* by David Guest, Angela Knox and Chris Warhurst entitled ['Humanizing Work in the Digital Age: Lessons from Socio-Technical Systems and Quality of Working Life Initiatives'](#).
The review of past workplace interventions around new technology supports [Beyond 4.0](#) thinking about creating an inclusive digital future of work.