BEYOND 4.0

WORKPLACE INNOVATION – MAPPING THE DEVELOPMENT IN DIFFERENT SCIENTIFIC DISCIPLINES

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Workplace Innovation (WPI) is a concept that appears in several scientific disciplines. The definitions are quite different, but what all the definitions have in common is that WPI is a driver for the 'advancement of work' and contributes to a 'good jobs strategy'. Or put simply: better jobs. Recently, we ploughed through all publications we could find on workplace innovation: more than 170! Not only scientific journal articles but also grey literature and several websites. In this blog we share our observations about four social scientific disciplines with 'work' as a central theme, namely sociology and organisation research, safety science and organisation research, economic strategy and human resources research, and psychology and behavioural research. Whether we see convergence in topics and interests between those streams is a question we had in mind. The figure below presents the four disciplines that look at workplace innovation and a good jobs strategy, and map the historical development. We will explain what four disciplines that look at WPI have to say. We try to identify the main 'thought line' in each of the disciplines. If there are shifts in the thoughts about WPI, we try to identify if there is convergence or divergence between the authors.

The Beyond 4.0 project takes its name from Industry 4.0, a term coined at the turn of the last decade to promote the technological upgrading of German industry and popularised by Klaus Schwab (2016) via his leadership of the World Economic Forum. Over the past decade, it has gained significant traction in discussions of technological or industrial revolutions, despite not being well defined (Kowalikova et al., 2020); according to Schwab, it relates to cyber-physical systems, whereas to others, it relates to advanced ICT and/or AI and robotics. Either way, this fourth revolution has been heralded by some as the saviour of our futures while perceived by others – sometimes in tandem, sometimes opposingly – as the cause of job and skill losses, regional declines and further threats ahead.

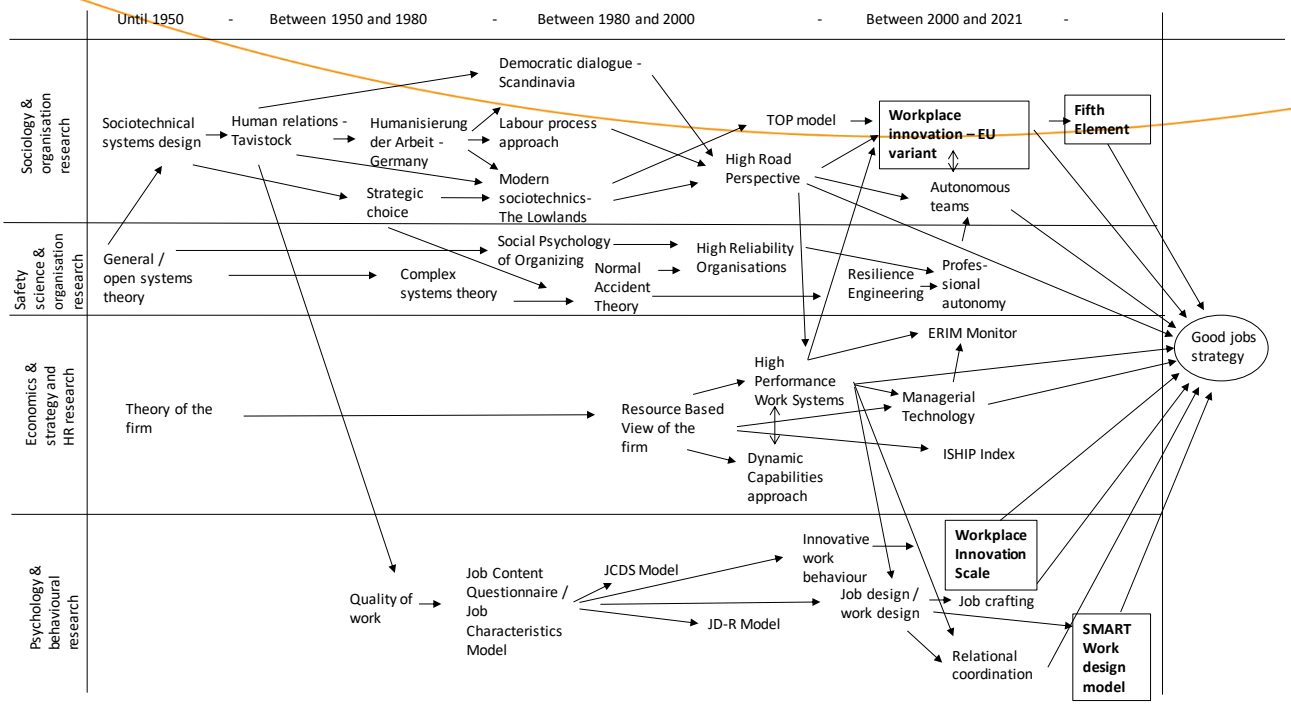

Figure: Four research streams connected to workplace innovation a good jobs strategy

The first discipline that has had WPI for a long-time in its perspective is 'sociology & organisation research'. First ideas were summarised in Socio-Technical Systems Design that stresses the joint optimisation of the social and technical system for success, in conjunction with the presence of (semi-autonomous) team-based work. These ideas were the centre in Human Relations, Humanisierung der Arbeit (Humanisation of work), Strategic Choice, and later on in Democratic Dialogue and Modern Sociotechnics. Subsequently, WPI reappears as the High-Road perspective, eventually feeding into the EU variant of workplace innovation. Common in these approaches is the weight put on a skilled workforce with decent jobs as a driver for innovation and performance. The *EU variant of workplace innovation* stresses a combination of economic and social goals as in the European Social Model. The variant of workplace innovation that is proposed by EUWIN, is the *Fifth Element Model*, which identifies four bundles (or 'Elements') of working practices, namely: 1] Jobs, Teams & Technology; 2] Employee-Driven Innovation & Improvement; 3] Organisational Structures, Management and Procedures, and 4] Co-Created Leadership & Employee Voice. Alignment between these Elements creates a synergy in the form of the 'Fifth Element', a system of mutually interdependent parts that leads to a sustainable culture of innovation and empowerment embedded throughout the organisation. The purpose of both WPI approaches (EU variant, Fifth element) is to achieve win-win outcomes for organisations and their employees. This then links with an arrow to the 'Good job strategy'.

The discipline of ‘safety science & organisation research’ takes another route. The start is, like in the first discipline, the Open systems theory. This connects to the theory of Complex Systems and, the complexity view of, the Social Psychology of Organising, and the Normal Accident theory. From there arrows go over into High reliability organising and Resilience engineering. Both theories build on the need of professionals to deal with risks in a non-standard manner because these professionals must find solutions for problems that are difficult to predict and, therefore, very hard to handle. For this reason, professional autonomy is indispensable and that requires a design of jobs and teams that can operate highly autonomous. Although the term workplace innovation is not used in this context, this type of work must take human needs into account that enable professionals to operate flawlessly under tiring conditions. To attract highly qualified staff it makes sense to follow a good jobs strategy.

‘Economics & strategy and HR-research’ is a third discipline with a focus on the effects of HR-bundles and intangibles of organisational performance. The Resource-based view of the firm (RBV), stemming itself from the Theory of the firm, studies the strategic resources a firm can exploit to achieve sustainable competitive advantage. The RBV focuses managerial attention on the firm's internal resources to identify those assets, capabilities, and competencies with the potential to deliver superior competitive advantages. In a similar vein, the theory of Dynamic Capability is about the capability of an organisation to purposefully adapt an organisation's resource base. Both theories have inspired developers of the High Performance Work Systems (HPWS) theory that studies which elements of ‘HR-systems, bundles and measures’ contribute to a firm’s competitive advantage. On the one hand, the elements of high-involvement and high-commitment of employees, which is part of the HPWS concept, fed into the workplace innovation concepts applied by EU researchers (see first row ‘Sociology & organisation research’). On the other hand it nourished economic and strategic research that was interested to investigate the effect of intangibles on business performance, such as studies into Managerial technology, which states that some aspects of management are considered as a technology or “best practice”, and that adopting organisational best practices would improve productivity. In this stream there is more attention for economic goals, than for a good jobs strategy.

Finally, ‘Psychology & behavioural research’ links WPI to individual and group or team behaviour. The basis is the experiences of the Human Relations school and the Quality of work movement. Job Characteristics Theory is a work design theory, and it provides core characteristics for enriching jobs in organisational settings, namely skill variety, task identity, task significance,

autonomy, and feedback. In addition to the theory, the Job Diagnostic Survey (JDS) and the Job Rating Form (JRF), were created. Various approaches stand on the shoulders of this theory, such as the Job content questionnaire (JCQ), the Job-Control/Job-Demand-Control model (JD-JC), the Job-Demands Resources model (JD-R). A notable offspring is the stream of job design and work design. Since the eighties, there was a growing consideration for the design of work performed by teams. Eventually the concept of role orientation gained popularity, that captures how individuals (and teams) construct their roles in different ways. This was further developed into the *SMART work design model*, which consists of Stimulation (based on skill and task variety), Mastery (based on role clarity and task identity), Agency (based on autonomy), Relations (based on social support and feedback), and Tolerable demands (tolerable workload and stress risks. A final sub-stream is 'Innovative work behaviour' (IWB), which deals with employee behaviour aimed at bringing about innovations. The *Workplace Innovation Scale* (WIS), much applied in Australia and Asia, originated from this stream of psychological behaviour.

The disciplines look at WPI from different perspectives, but add important aspects that support the need for more WPI from a practical standpoint. Scientifically, these disciplines use different concepts, methods and measures to understand the phenomenon. They all contribute to the important goal of high quality of work.

This blog is an excerpt from the forthcoming book 'A research agenda for workplace innovation' (Edgar Elgar Publishing, 2023) which will contain a chapter dedicated to the company case study research carried out for BEYOND4.0 (publication expected 2023).

Source:

Oeij, P.R.A., Dhondt, S. & McMurray, A. (December 2021), *Workplace innovation literature review: a converging or diverging research field? A preparatory study for a research agenda* (TNO: Leiden, the Netherlands). Free download: https://ap.lc/LZHDo

Further reading on workplace innovation :

Oeij, P. R. A., Rus, D. and Pot, F. D. (Eds) (2017). *Workplace Innovation: Theory, Research and Practice*, Series 'Aligning Perspectives on Health, Safety and Well-Being'. Springer: Cham, Switzerland.