1 An Introduction to the *Research Agenda for Workplace Innovation*

Steven Dhondt, Adela J. McMurray and Peter R.A. Oeij

Introduction

Today, we are inundated and faced with a flood of disruptive transitions, such as the COVID-19 crisis, the Russia/Ukraine war in Europe, environmental change and energy transition, and the ongoing digital transformation in organisations. The rhetoric of Industry 4.0 has strongly influenced the discussion about work. Digital transformation would change the content of work and, according to some, abolish paid work as we know it (Frey and Osborne, 2017). However, the Industry 4.0 Era is pivoting into the Industry 5.0 Era, with new perspectives on how technologies such as artificial intelligence (Tsai et al., 2022) impact the future of work. The COVID-19 crisis has fuelled uncertainty for the global economy with a massive loss of businesses and jobs, aside from the loss of lives. Governments worldwide have launched – and continue to do so – long periods of 'lockdowns', the closing of business, and limited human mobility. These interventions have significantly impacted the way we see and feel about how we function as individuals, work, and experience our freedom and new norms. The Russia/Ukraine war in Europe, which is impacting on global markets, is making us understand what our values are, how fragile our practices are, and what it means to be able to speak out. To date (2022), when writing this book, the war in Europe is at an early stage, with the full impact and implications for generations and the world becoming clearer over time. Currently, all continents across the globe are experiencing altered weather patterns with floods, fires and fluctuating temperatures changing the face of the earth. The impact of these environmental changes may be even more devastating than the two earlier-mentioned disruptive changes. The ecological changes seem to occur much more slowly, and are less coherent on a global scale, although the shortage of resources – connected to the war as well – demands a speeded-up energy transition. This disrupts and prevents consistent policies across the continents. Yet, we may still have time to slow down these changes.

The digital transformation is the last ongoing stream of disruptive change characterised by the growth and dissemination of information technology (IT) applications, social media use, and inventions and innovations related to Big Data, algorithms, artificial intelligence, robotisation, automation, machine learning, blockchain, nanotechnology, 3D-printing and so on. All four transitions disrupt our economies and societies, and consequently our way of life for all generations.

The central thesis of this book is that the key to dealing with these disruptive changes lies in the organisational context. What happens in the workplace impacts all the spheres of our lives. Organisations, managers and employees need to find out how they can cooperate in dealing with these four kinds of disruptive change. The success of this joint action is not defined by profit levels but by the degree that social and environmental value is generated. Organisations, managers and employees must adapt and deliver even more value. Workplace innovation-driven organisations alone can cause such collaborative action. The magnitude of today's challenges requires the wisdom of many and the commitment of all at the organisational level. Digital technologies may or may not pose a threat and are viewed as an opportunity, but this requires everyone within the organisational setting to seize their digital potential. In this volume of 'an agenda for workplace innovation', we focus on one disruption, namely the digital transformation. We will connect this transformation to the other transformations.

Merging workplace innovation (WPI) and technology is not easy for managers and poses leadership challenges, particularly when propelling into Industry 5.0 in which collaborations between humans and robots become the norm, where practical implications and ethical considerations are essential (Tsai et al., 2022). Will companies, as they pivot in times of discontinuity, choose efficiency, reduce costs through lay-offs, and use technology to substitute tasks and replace workers (Frey and Osborne, 2017)? Or will they decide to use new technologies for task augmentation and developing employees' skills (Autor et al., 2020)? The first option seems to be a low-road strategy where WPI is absent, whereas the second one is similar to high-road strategies aiming for 'good jobs' (Osterman, 2018; Rodrik and Sabel, 2019). We assume that basic notions of WPI might be used in the second type of strategy. WPI essentially sees employee engagement in organisations as a precondition to handling change (Oeij et al., 2017), such as the digital transition (Oeij et al., 2019).

A new agenda for WPI research evolves in the light of digitalisation, initiated by the four transitions. In this chapter, we will discuss the main theme (in the

next section) and then present an overview of the book's content and introduce the chapters.

Disruptive transitions, technology, work and organisation: why workplace innovation?

Workplace innovation was suggested as an organisational solution for the first time in the 1980s and 1990s (e.g. Weisskopf, 1987). In his seminal study, Weisskopf uses the concept in a study on the relationship between unemployment and the productivity of companies. His (neo-Marxian) approach is something we rarely see nowadays. The idea is that employers either intensify work to achieve higher productivity or follow a WPI path, in which innovations help companies to become more productive. Over the past decades, the focus on WPI has shifted away from the Marxian perspective and has delivered a broad set of new findings and perspectives. Compared to most organisational theories (e.g. humanocracy, business process redesign, lean production), there is no straightforward programme driving WPI. Instead, networks such as the European Workplace Innovation Network (EUWIN)[1], European Organisation Design Forum (EODF)[2], trade unions and whole sets of individual initiatives drive developments in WPI. A new agenda for WPI research is needed. The current agenda needs to respond to the current challenges we face. But the new agenda needs to be more inclusive. Not all answers come from Western scholars. This book finishes with a discussion on jointly developing this new agenda for WPI. This final chapter (Chapter 14) is an explicit invitation to all to collaborate in an open dialogue to improve the thinking about WPI.

More attention needs to be paid to this agenda because thinking in organisations and networks is driven firstly by unrealistic expectations about technology and secondly because solutions for our current disruptions are sought outside the organisation. Many companies and governments are maximising the potential of digital technology. The European agenda of Industry 4.0[3] and the implementation of Web 3.0 expect that our societal challenges can be solved with digital technology. The consequence of this dominant

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1 https://workplaceinnovation.eu/euwin/

2 https://www.eodf.eu/

3 'Industrie 4.0: Mit dem Internet der Dinge auf dem Weg zur 4. industrial Revolution – vdi-nachrichten.com', 4 March 2013 (http://www.vdi-nachrichten.com/artikel/Industrie-4-0-Mit-dem-Internet-der-Dinge-auf-dem-Weg-zur-4-industriellen-Revolution/52570/1).

technology agenda is that organisations are being led astray. Technology is a tool for organisations to bring about change. However, this potential is not realised only by giving the engineers in the company challenging jobs. Digital technologies require constant attention and creativity from everyone in the organisational setting. The wisdom of all is not achieved by treating employees as a 'crowd'. Employees must be educated and trained to understand what is needed to express their requirements for resources and support, and management must develop adequate ways to deal with that.

Solutions to the disruptions we face are being sought in the wrong contexts. Only half of the answers lie outside the organisation. Legislators can decide what they want, but organisations are the context where individual and collective action are synchronous and linked together. There are enormous expectations of what the individual could and should achieve. The empowerment of each individual only makes sense if individuals work together on solutions that transcend the individual level. The answer to our problems not only lies in better-motivated or activated individual employees but is one where the organisational context contributes and significantly matters.

There is no one way of organising. Taylorism was, and largely remains, the primary way we organise our processes. Taylorism promised that standardisation, hierarchy and compliance would increase productivity and effectiveness. The reality is that, despite its economic success, Taylorist organisations show more unwanted side effects and do not solve the problems for which they were created, such as nepotism, arbitrariness and inefficiency. We all are aware of the negative consequences of Taylorism. Therefore, rarely is the idea promoted that our disruptive challenges require more bureaucracy as a solution. The question then is, what can the organisational solution be? Heckscher (2015) proposed that interactive organisations should be the future. Only if organisations can organise more consensus, instead of hierarchy and authority, will we be able to meet these challenges. Organising is then mainly about streamlining individual or group activities. The emergence of agile project management can be reconciled with this idea.

Hamel and Zanini (2020) appropriate the power of organisations to the people who work in them. They propose that a people-oriented organisation is possible, they refer to it as humanocracy, and assert that the problems with bureaucracy can be overcome. Instead of losing a lot of internal energy with bureaucratic fights, human-centred organisations direct decisions at lower levels, let employees give meaning to their actions and make sure that those employees use the resources so that new possibilities are opened. However, more is needed than just abolishing the hierarchy. Platform software like

Mechanical Turk[4] helps to organise processes without hierarchies, but the quality of work is still low and not up to the level of the challenges we face. Bloom and Van Reenen (2011) have shown that organisations with better feedback procedures and methods to prevent waste still focus on streamlining and repeatability for superior performance, irrespective of the cultural context. However, many of their principles fit within contexts where lean production is successful (Womack et al., 1990). The possibility of employees voicing concerns in such organisations is still low.

So, what does the human-centric turn in organising really mean? WPI recognises that better-performing organisations require more commitment from employees and require employees to have a say in the distribution of benefits. Workplace innovation-driven organisations enable employees to look and search for anything that brings a solution to the challenges of an organisation. Such organisations build the required skills needed for the challenges. Such skills cannot be bought in the labour market. Technology is at least as necessary as collaboration with colleagues. In this book, we examine and provide propositions on how WPI helps to address the significant disruptive changes. A workplace innovation-driven organisation will not solve the COVID-19 pandemic challenge by itself. However, workplace innovation-driven organisations can better deal with the challenges of lockdowns and hybrid working, including learning. Eurofound's research (2021) shows that organisations identified as WPI driven before the pandemic were better able to cope with the drastically changed environment. These organisations reoriented their entire business practices to cope with the changing and disruptive environment. They took less profit and invested their scarce resources in their employees' competencies to develop new products, processes, services and technologies. For example, during the health crisis pandemic, the World Economic Forum declared that the success of digital health is improving human health by using technological power in order to save people's lives through the collaborative leadership model (Hovenga and Hullin, 2022: 35). Organisations that had chosen the 'low road' found nothing better to do than to rely on public money and lay off all their staff (Eurofound, 2021). The challenge with our environ-

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[4] Mechanical Turk (MTurk) is a crowdsourcing marketplace that makes it easier for individuals and businesses to outsource their processes and jobs to a distributed workforce who can perform these tasks virtually. This could include anything from conducting simple data validation and research to more subjective tasks like survey participation, content moderation, and more. MTurk enables companies to harness the collective intelligence, skills and insights from a global workforce to streamline business processes, augment data collection and analysis, and accelerate machine learning development (www.mturk.com).

ment demands that organisations do everything they can to not squander resources. Now, with the Russian–Ukrainian crisis, companies all around the globe are doing everything they can to continue the green transition. It is a time for responsible leadership to come to the forefront. We propose that the responsible leadership dialogue be facilitated at the global level and further enhanced across contexts during times of discontinuity such as a war or pandemic, as evidenced in our current generation (Haque, 2021). Workplace innovation calls for everyone to take responsibility for using alternative energy sources, reducing consumption and using technology to reverse dependence on globalised transport chains (Breque et al., 2021). But this book addresses global values and inventiveness. Breque et al. emphasise the importance of organising, putting the solution to the new challenge not only in individual freedom but also in better organising for humanity, as comprised of both current and future generations. This book looks for examples in countries on different continents to solve similar challenges.

The content of the book

After having outlined why this book is relevant for the present discussion on disruptive transitions, technology, work and organisation, and the role of WPI, we now turn to the content. This book contains three themes across thirteen chapters. The themes are: (1) organisational-level digitalisation and new technology; (2) dealing with those new technologies at the organisational level, and (3) dealing with them at the individual level. A fourth theme addresses the practical, policy and research sides of WPI in the light of digitalisation.

Part I – **Technology and organisation** – looks at new technology as a driver for change in the organisation, for both its work processes and the work of its employees. The first three chapters illustrate that technology is not the single driver for change, and a technologically deterministic view is implicitly denounced. In Chapter 2, the opening chapter to this Part, Dhondt, Oeij and Hulsegge examine WPI as a means to improve business performance and job quality by employee engagement. This study, part of the H2020 BEYOND4.0 project (www.beyond4-0.eu), is focused on informing the debate with actual data from companies dealing with digital transformation. The comparison between many cases informs us of the decisions taken with digital technology and its impacts on employment. The main focus is to understand what companies do when facing digital transformation. The four main research questions are: What do they do with their employees? Are they starting new learning and training programmes? Are they recruiting new profiles of employees? Is their

current human resources and organisational practice helpful for these companies to deal with this digital transformation?

In their contribution, 'Analysing production disturbances for aligning work organisation, human resource management and digital transformation' (Chapter 3), Dessers, Ramioul, Vereycken, Bal, Smits and Van Hootegem, from Belgium, clarify the conceptual relation between the three domains of work organisation, human resources, and technology. These three domains contain interventions of WPI. Using the concept of production disturbances in case studies on virtual teams and WPI in a machine production company, they illustrate how these disturbances affect organisational performance and quality of working life. They show how the COVID-19 pandemic may cause production disturbances. The authors contend that a combined approach of these three intervention domains – work organisation, human resources, and technology – is needed to control unwanted production disturbances. Therefore, analysing production disturbances is critical for further WPI research in times of digital transformation and pandemic disruption.

Chapter 4 investigates a relationship between COVID-19 and telework. Japanese researcher Watanabe provides us with insight into augmented telework with avatar technology. Avatar technologies can remotely support close interactions between customers and employees and thus reduce the infection risk. In this way, avatar technologies sustain business continuity. Taking two cases of avatar technologies applied by Japanese companies, the author discusses the impact of avatar technologies on workstyle, skill development and well-being at workplaces, and required actions for WPI. Besides creating customer experiences without infection risks, a new style of hospitality and the associated skill sets would be required. A fundamental change in the workplace concept and new opportunities and challenges in human–technology cooperation at work are emerging.

Part II – **Organising in ways to control impacts: anticipating impacts of technology –** emphasises approaches that effectively deal with digital and technological disruption to enable a good quality of work and business performance. Two chapters are focused on instruments to assess the technology impact. The third chapter looks at the situation in Korea and the institutional limits to discuss technology's impact. The last chapter in this Part analyses how the Australian public sector deals with the Industry 4.0 changes.

Oeij, Hulsegge and Van der Torre discuss 'The impact of technology on work: enabling workplace innovation by technological and organisational choice' in Chapter 5. They present the analysis of two functions where new technologies

affect work content. The application of their Technology Impact Method gathers knowledge to discuss technology choice and quality of work. The exercise unveils choices on how to improve job quality, but at the same time, conflicts of interest between different organisational stakeholders may prevent such choices being made.

In another tool-oriented contribution, Parker and Boeing (in Chapter 6) propose that principles from work design can be used as criteria in the design and use of digital technology to incorporate human needs better whilst also helping to ensure an agile and adaptive system. They present the SMART work design model, which helps to identify criteria for the design and the commissioning, purchasing and implementation of technology to help ensure both quality work and the effective use of technology. SMART studies whether a work design is Stimulating (work in which one uses and develops one's skills, has variety and challenge, etc.), Mastery-oriented (work in which one is clear about one's responsibilities and receives feedback), Agentic (work in which one has autonomy control, and influence over important aspects of one's work), Relational (work in which one has social contact, support and connection), and Tolerable (work in which the emotional, cognitive, workload and physical demands are experienced as manageable). SMART has been applied in a number of projects in Australia, for example, to inform the early-phase design of a military submarine, and has links with the (Australian) socio-technical systems perspective.

For more than a decade, companies in the Republic of South Korea have been exploring the possibilities of WPI. In Chapter 7, 'How can the Korean workplace become conducive to workplace innovation? Learning from a case study of a manufacturing firm', No and Oh present the case of an auto parts manufacturer that produces nuts and tools for automobiles, as an explorative example of how small and medium-sized enterprises (SMEs) can apply a more desirable WPI model. This study defined WPI as an innovative process that encourages employees to take responsibility for continuously changing and improving the quality of their working life and increasing productivity. But in Korea, employee participation requires support from both the employer's side and the unions, which is not always self-evident. Both employers and unions emphasise economic goals, which implies that WPI must contribute to (technological) innovation or economic goals. This case of WPI shows that the firm improved working environments by increasing job quality and decreasing workloads, outcomes beneficial to both management and employees.

The last contribution in this Part (Chapter 8) is a document analysis of WPI factors that hinder or stimulate innovation in Australian states and territory

governments. In 'Examining workplace innovation as a driver for innovation in the public sector: evidence from Australia', Moussa and McMurray investigate three major themes. The first theme embraces barriers to innovation (such as staff resistance, severe rules and regulations, and lack of resources). The second theme addresses leadership which seems to have positive characteristics (such as being supportive, passionate, practical and persistent; influential and inspirational; and decisive). The third theme is organisational climate, which consists of heterogeneous elements. The authors conclude that to minimise the potential barriers to innovation, organisational climate and leadership must deal with the many complexities of the dynamics of innovation.

Part III of the book – **Individual behaviour contributing to performance goals: workplace engagement to improve the business and the quality of work** – brings together research that emphasises individual-level approaches to WPI. The three chapters in this part look at how people in organisations can contribute to innovation by being actively involved in the process of innovation and change.

First of all, McMurray and Scott explain in Chapter 9 'the determination of a psychological workplace innovation construct', namely the Workplace Innovation Scale (WIS). The WIS is an instrument that can be used to assess an individual's psychological orientation within an organisation. The instrument has been used and assessed in several different countries and continents, such as Australia, Pakistan, the USA, Canada, Europe, Thailand and Vietnam. The WIS construct, which captures WPI at the individual, team, climate and organisational levels, is assessed for both validity and reliability. However, the lesson is that using such an instrument requires adaptation to different countries, cultures or circumstances.

Chapter 10 adopts a psychological perspective to the study of WPI in Italy. In their piece 'Job crafting and work engagement among remote workers in Italy: Lessons for workplace innovation', Costantini and Rubini investigate how proactive behaviours (i.e. job crafting) by transforming remote work resulted in different levels of work engagement during the COVID-19 pandemic. At the beginning of the pandemic, remote working prompted employees to actively distance themselves from their work roles, which resulted in lower work engagement. But employees who proactively optimised their work processes reported higher engagement. The authors show that job crafting can hinder or enhance the motivational outcomes resulting from abrupt changes and innovations. As such, they highlight the value of complementing the study of WPI with a psychological perspective.

Muchiri, Pham, Nkhoma and McMurray (Chapter 11) also apply a psychological and organisational behaviour research framework to study 'Ethical leadership as workplace innovation and enabler for employee commitment and innovative work behaviours in Vietnam'. They find indications that ethical leadership positively and significantly influenced both employee commitment and innovative work behaviour. Vietnam has embraced the Industry 4.0 concept through digital transformation and focuses on, among other things, cybersecurity, digital skills, and a modernised government to foster workplace and national innovation. However, if Vietnamese organisations are to see positive change in employee attitudes (such as commitment) and behaviours (such as innovative work behaviours), they will require leaders who exhibit ethical behaviour. This is a challenge for Vietnam and similar Asian contexts that are implementing remote and flexible work arrangements (partly due to COVID-19) in their digitalising ecosystems that require less hierarchy, according to young professional employees.

Part IV – **Convergence, policy about workplace innovation, and the agenda for the future** – concerns a window for the future of WPI in terms of scientific and policy research.

In Chapter 12, by Oeij, Dhondt and McMurray, the scientific and non-scientific literature on WPI is reviewed and categorised against the type of research and the level of analysis. The authors subsequently address the question of whether thinking on WPI is converging or diverging. They first describe how the term 'workplace innovation' is interpreted by authors who apply the term. While there is much variety in definitions, approaches and applications, models and tools, measurement and operationalisation, they see as a common ground that WPI is concerned with the 'advancement of work' and more or less contributes to a 'good jobs strategy'. They outline four social scientific research streams with 'work' as a central theme that they connect to advanced work and good jobs, namely sociology and organisation research, safety science and organisation research, economic strategy and human resources research, and psychology and behavioural research. The streams are connected to different scientific disciplines and arrive at different interpretations, yet add to one another in building our knowledge. The authors conclude that convergence seems hard from a scientific point of view but looks desirable from a practical standpoint: to strive for a good jobs strategy to enable a high quality of work.

Moving on to a scientific research agenda, WPI needs an agenda for policy and practice, which is provided by Pot, Alasoini, Totterdill and Zettel in their contribution 'Towards research-based policy and practice of workplace innovation in Europe' (Chapter 13). They argue that the dissemination of WPI is

still rather limited and address governments and social partners at European and national levels regarding the need for policies and interventions, as WPI connects different policy agendas such as productivity, innovation, skills, digitalisation, quality jobs, social dialogue and the European Pillar of Social Rights. They propose 'learning network' approaches based on the experience of Finnish, German and Scottish cases. Their common rationale is rebalancing economic and innovation policies by embedding the complementarity of technological innovation and WPI and emphasising the important role played by employee participation. The authors formulate research questions regarding the determinants of managerial choices and the interplay between the innovation policy, the industrial relations system and the research system, and the evaluation of programmes.

The closing chapter, Chapter 14, by Oeij, Dhondt and McMurray, develops a viewpoint on how to develop a scientific research agenda for the future. Here the authors argue that a common narrative should come from all involved participants in the debate on WPI: the field is too broad to narrow it down to a couple of simple research lines, and too rich to cast aside everything else, which may mean other useful elements potentially being overlooked. The eventual outcome is that we need organisations to take up WPI practices to improve their business and the quality of work. Most scientific disciplines and professionals can contribute to that in meaningful ways which can be highly different and unique. We need a narrative to combine these insights, and yet remain open minded at the same time.

Coda

The central thesis of this book is that WPI practices are key to dealing with the disruptive changes we are currently confronted with. The multitude of challenges do not beg for one solution but mainly for more resilient kinds of organisations. Workplace innovation offers this resilience to organisations. This book explores how this thesis, namely the application of WPI practices, works out in very different global contexts. At the end of this book, we invite you to collaborate and co-write with us a new research agenda for WPI research. We wish you a pleasant journey through this book and we hope to discuss with you this new research agenda!

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