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The European Journal of Workplace Innovation (EJWI) is an open-access, net-based, peer reviewed and English-language journal. The Journal invites research-based empirical, theoretical or synoptic articles focusing on innovation and workplace development. The aim of the journal is:

- To develop insights into workplace innovation
- Provide case studies from Europe as well as comparative studies from other continents
- Develop and present new theories in the field of workplace innovation
- To increase international publication within the field
- To become an important publication channel for workplace innovation researches as well as the international research community

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Editorial: The Workplace Innovation Debate Expands

Richard Ennals

Issue 1.1 of the European Journal for Workplace Innovation (EJWI) comprised introductory overview articles by leading researchers. The journal was founded to take forward debates that have been initiated by, among others, the European Workplace Innovation Network (EUWIN). The editorial made it clear that EJWI seeks to be pluralist, rather than imposing a particular view or model. It offers an arena where a number of previously separate discourses can meet.

EJWI is hosted by the University of Agder, Norway. In principle there is scope for development of the new journal, with potential benefits for research, practice and education. Success depends on people registering on the website, and then contributing articles, extending the debate.

The articles in Issue 2.1 make reference to a number of the articles from Issue 1.1, taking them as foundations. As the editors had hoped, they broaden the scope of discussion. This trend continues in Issue 2.2, which is now in preparation, with submissions now under review. In both cases, reference is made to numerous cases across Europe. EU policies and programmes have provided a basis for international benchmarking.

We can conclude that Workplace Innovation is the name of a lively arena for dialogue, where it is important to listen to different points of view, rather than expecting overall agreement. The articles develop a number of debates, in which Workplace Innovation plays an important role, even without formal definition. Indeed, reference to practice as well as to theory saves us from unnecessary pedantry. Workplace Innovation begins to take shape when it is explored against the background of differences. The first article considers Industry 4.0 in Germany, and explores the need for humanisation influenced by Workplace Innovation. We are back in the old debate about techno-centric and anthropocentric systems, technology and human skill, which has been running since the 1980s. As in the past, the focus on technology has been initially popular. Hopes tend not to be matched by experience. Can a complementary focus on Workplace Innovation produce repeatable results?

The second article considers the potential contribution of Workplace Innovation to the work and health of older workers. With a formidable assembly of references on occupational psychology and workplace health, they argue that, rather than customising arrangements for specific groups such as older workers, developing the workplace in line with innovative working practices is likely to bring benefits for older workers. The article is an outcome of the EU WORKAGE project, which involved major interventions in two public sector organisations. We await the findings regarding the impact of innovative working practices on, for example, retirement plans.

The third article, on innovation practices in Swedish municipalities, brings several helpful reminders. Much of the recent literature on innovation has concentrated on the private sector, and in particular on manufacturing. This has left many public sector organisations confused and uncertain. Lessons may be learned from WORKAGE, and the arguments in the previous article. The article highlights the lack of innovation in the public sector, and begins to make reference to the possible implications of Workplace Innovation and innovative working practices.

The fourth article considers High Performance Work Practices, and their diffusion in Europe. There are familiar arguments about leading edge cases, and the long tail of organisations which are slower to change. There is a compendious literature review, and a valuable summary account of different national programmes which are intended to aid and sustain processes of diffusion.

My own article on Wittgenstein and his followers is the last to be included in Issue 2.1. The relevance of the argument may be seen from the inclusion of Göranson and Gustavsen among the followers. The later Wittgenstein was no respecter of grand theory: he recommended the use of practical cases. He emphasised the importance of family resemblances, language games and forms of life. We might imagine the emergence of a new dialogue on working life, in which participants could see beyond their own traditions, and find some resemblances between their cases and those of others.

Workplace Innovation takes a human centred approach to technology and innovation. We find this in many research traditions, including socio-technical systems and even project management, where researchers take an approach which emphasises people rather than systems. As EJWI develops, it is likely to include articles from more different traditions. Issue 2.2 is likely to include Health and Safety, Territorial Development, Education, Participation, Gender and Power. In each case, there is a fresh perspective on Workplace Innovation.

Workplace Innovation invites ongoing dialogue. We are not all obliged to agree. In fact, if we were all to agree, the dialogue would not be sustained. On this basis, it is probably important that we do not rush into tight definitions of Workplace Innovation. EJWI offers a new arena in which many views can be explored. We have the opportunity to draw on both theory and practice. We need accounts of case study experience. These may come from practitioners, without elaborate theoretical underpinning.

EJWI is free, open access and online. It can provide a platform for a fresh collaborative approach to education, in contrast to MOOCs, which tend to be driven by large universities. Taking the twin backgrounds of work and learning, there is an important opportunity to engage in international dialogue, collaborating across borders of countries and disciplines. We can publish articles which are practical in orientation, rather than conventionally academic. We can broker new collaborations and partnerships, creating collaborative advantage.

Workplace Innovation places the focus on people, rather than rival traditions. As conventional economics shows itself unable to cope with the pace and complexity of change, we depend on people, and on our capacity to learn from our experiences and the experiences of others.

EJWI, published from the new University of Agder, offers a modern version of the Penny University, which was first seen in seventeenth century London coffee shops. Today a smart phone gives the user access to debate, dialogue, and a rich learning environment. This can bring innovation and participation to the Knowledge Workplace.

The European Journal of Workplace Innovation has the opportunity to develop a sustainable presence at the interstices of research, practice and education. As Europe experiences financial and economic fragility, governments implement austerity programmes, and the realisation grows that productivity needs to be improved, we can facilitate vital debate. We can respond to demand, and create new opportunities for particular groups, such as Masters students in a network of universities, who need to be able to think outside their local boxes. A Department of Working Life and Innovation can address a global audience.

Why Industry 4.0 needs Workplace Innovation: a critical look at the German debate on advanced manufacturing

Ralf Kopp, Jürgen Howaldt and Jürgen Schultze

Abstract

Behind labels in the international debate such as “autonomics” and “advanced manufacturing” hides the attempt to accelerate the digitalisation of production. In Germany, the future of manufacturing is intimately bound up with the vision of Industry 4.0. Despite considerable uncertainties and risks, and despite negative experiences with such technology-centred approaches in the past (e.g. with concepts such as the “fully automated factory” or “Enterprise 2.0”), there is a broad, almost unbroken consensus between social partners and policy-makers. Widespread implementation of this technology-centred vision appears to be necessary and crucial for competitiveness, and without alternatives, so that only the question of its socially acceptable design remains to be answered. Our article aims to show, however, that there are alternatives to a concept based on a one-sided, technology-oriented understanding of innovation. It therefore makes an important difference whether Industry 4.0 or Workplace Innovation stands at the centre of such far-reaching plans for the future.

Keywords: Autonomics, advanced manufacturing, smart factory, social innovation, Workplace Innovation, socio-digital system design

Introduction

In the international debate, the digitalisation of industry and development of “advanced manufacturing” occupy an important position as significant factors for maintaining competitiveness and safeguarding jobs. In Germany, in recent years, the term “Industry 4.0” has increasingly featured in this debate. Given that the capabilities of digital systems are unquestionably increasing, there appears to be compelling evidence for the Industry 4.0 model and, despite its essential technological determinist features, it is hardly ever questioned in design-oriented discourse. We argue that the debate surrounding Industry 4.0 is in need of considerable relativisation, or rather reorientation, in light of a new innovation paradigm, so that the real challenges in the transition to a knowledge-based society are not missed. Effective approaches should build on existing strengths. One suitable approach which could excellently integrate the various participative working cultures specific to Europe and the new requirements of Industry 4.0, is a consistent orientation to high involvement innovation practices. Similar approaches have been developed in many European countries, with names such as “high performance workplaces”, “high involvement workplaces”, “innovative workplaces”, “sustainable work systems” and “employee driven innovation” (cf. Pot 2012, p. 262). In essence, these concepts are about emphasising the close relationship between “organisational performance (labour productivity, innovation capabilities)” and “better jobs (competence development, wellbeing at work)” (cf. Pot & Dhondt forthcoming). Furthermore, a sustainable approach should take into account the contribution to be made by future industrial structures to addressing the big social challenges. After briefly outlining the concept and its significance in the international discussion, we define the contours of a new innovation paradigm, which focuses on the question of the conditions for developing and maintaining modern societies’ capacity for innovation. We then we use two examples (“Halle 54” and “Enterprise 2.0”) to illustrate the dysfunctionalities and contradictions of a technology-centred approach, whose excessive automation ambitions, despite having failed repeatedly, are currently experiencing a resurgence in Industry 4.0. In contrast, the development of sustainable and integrated business models, and the enhancement of companies’ ability to innovate through comprehensive utilisation of the potential of their employees and of society, tend to receive little exposure in the questionable debate.

Vision, core objective and promoters of Industry 4.0 in Germany

Accents have shifted considerably in recent years in the current debate on the future of the German economy. While terms such as “lean production”, “knowledge-based economy”, “knowledge work” and “Enterprise 2.0” until a short time ago influenced many views of the future, they have increasingly fallen into the background in recent years with the spread of the Industry 4.0 concept (cf. Bauer et al. 2014, p. 12). According to a current definition, Industry 4.0 is a term which refers to “the fourth industrial revolution, a new level of organisation and management of the entire value chain across the product life-cycle. This cycle is geared to increasingly individualised customer wishes, and extends from the idea, the development and production work, and the delivery of a product to the end customer, to recycling, including the associated services. It is based on the availability of all relevant information in real-time as a result of networking all the parties involved in value creation, and on the ability to infer from the data the optimal value stream at any time. Linking people, objects and systems creates dynamic, real-time optimised, self-organising and inter-enterprise value creation networks which can be optimised according to various criteria such as costs, availability and resource usage” (Plattform Industrie 4.0 2015, p. 3)

The term Industry 4.0 was introduced in 2011 at the Hanover Fair in Germany and covers the most important activities and projects from the German government to promote computerisation of the manufacturing industry (smart factory). In 2012 it became the focus of a working group on Industry 4.0 chaired by Robert Bosch GmbH and acatech. Their implementation recommendations to the German federal government were presented in April 2013 again at the Hanover Fair in a final report. The three industry associations Bitkom, VDMA and ZVEI followed on from this to create an “Industry 4.0 platform”, “to put the pre-competitive conditions in place for the economic implementation and realisation of the Industry 4.0 vision [...]. Through dialogue involving different sectors, the aim is to develop concepts for technologies, standards, business models and organisation models, and promote their practical implementation” (ibid.) According to its protagonists, the “Internet of Things” is increasingly penetrating all social aspects of production, services, trade and consumption. The authors of one of the key studies on the topic write that Industry 4.0 centres on “the real-time capable, intelligent, horizontal and vertical networking of humans, machines, objects and ICT systems for the dynamic management of complex systems” (Bauer et al. 2014, p. 18). Custom products should be manufacturable at bulk-product prices, as a result of humans, machines and artefacts communicating with each other, and the emergent product is so computerised that it can optimise its own production process. Industry 4.0 holds out the prospect of a completely new logic and quality of production management, which should make it possible for “intelligent products, machines and equipment to exchange information autonomously, initiate actions and control each other independently in real-time” (ibid.) Networking does not end at the factory gate, rather it encompasses the relationship between factories and suppliers, with the result that it can extend to form widespread value creation networks. The concept is being driven “by computer scientists, engineers, innovation policy actors, influential business associations and larger technology-intensive enterprises” (Hirsch-Kreinsen 2014, p. 421). The Industry 4.0 working group represents the core of the promoters (cf. Kagermann et al. 2013). The question of designing the future of work assumes a central position in this discussion, and is influenced by social partners (cf. Botthof & Hartmann 2015; IGM NRW 2013) as well as by social science and work science (cf. Hirsch-Kreinsen 2014). Impacts at the level of production systems and on the various enterprise hierarchy levels and functions are currently debated in terms of opportunity and risk, depending on the specific design. These debates are also concerned with quality of work, and with “concepts for job structures that are geared to acceptance, potential for achievement and development, well-being and the health of working people. This is about questions such as how well working environments in *Industry 4.0* promote learning, the interaction between machines/robots and humans, as well as new opportunities linked to employment policy solutions” (Botthof & Hartmann 2015, p. VI).

Similar discussions and strategies can be observed internationally. In the United States, similar development activities are being promoted by the Smart Manufacturing Leadership Coalition (SMLC) (cf. SMLC 2011). “SMLC will lead the industrial sector transformation into a networked, information-driven environment in which an open Smart Manufacturing Platform supports real-time, high value applications for manufacturers to optimise production systems and value chains, and radically improve sustainability, productivity, innovation and customer-service. [...] SMLC is developing a shared infrastructure (SM Platform) that will enable the implementation of Smart Manufacturing capabilities, to create a step change in manufacturing. The SM platform will promote next-generation economic, energy, sustainability and EH&S manufacturing performance and global competitiveness” (SMLC 2015). China is seeking to advance Industry 4.0 with a national strategic programme called “Made in China 2025”, which was announced in March 2015. A recent comparative study

(looking at the United States, China and Europe) by the Fraunhofer Institute points out that China has edged slightly ahead with regard to the number and quality of relevant patents (cf. Fraunhofer IAO 2015).

The European approach centres on raising the competitiveness of industry and industrial production (advanced manufacturing), while securing innovative capacity, productivity, growth and employment. Related discussions about “high-tech manufacturing processes” and “key enabling technologies” are embedded in an overall concept which addresses both the changed demand for high-quality and sustainable products, and aspects such as resource efficiency and economic sustainability. From this perspective, advanced manufacturing does not mean technology-centred manufacturing, but rather human-centred manufacturing and designing the workplaces of the future. The projects funded so far under the “European Economic Recovery Plan” cover the entire spectrum of manufacturing/production (Factories of the Future, FoF at a Glance): supply chain configurations, virtual factories, material processing and handling, programming and planning, customer-driven design, energy efficiency, emissions reductions, new processing technologies, new materials, upgrading of existing machines and technologies. Horizon 2020: the EU Framework Programme for Research and Innovation 2014-2020 which pools European development programmes and activities, plays an important role. Special importance attaches to the new contractual Public-Private Partnership (PPP) programme, e.g. Factories for the Future (FoF) as well as SPIRE and the European Factories of the Future Research Association (EFFRA).

Below the European level, the situation is characterised by a large number of different national initiatives. Independent approaches, with their own label, can be identified in nearly every country. The German debate is conducted with “Industry 4.0” as the term of reference, often giving the impression that this is not just a desirable but ultimately an inevitable development, which fundamentally has no alternatives. Yet this fails to appreciate that, as Kärcher also points out, any “statement concerning Industry 4.0, its design and its consequences [...] at the present time [is] necessarily speculative.” So far, there are only limited concrete experiences in industry” (Kärcher 2014, p. 19). Noticeable reserve in wide sectors of industry (cf. Becker 2014) is also often ignored. Sometimes the vehemence of the debate strongly suggests that it is a fad, such as Kieser (1996) diagnosed in the 1990s as ever new management concepts kept emerging.

A look at the European discussion shows that there are not only alternative ways of implementing Industry 4.0, but also that the development of alternative concepts to Industry 4.0 is possible and necessary. The hype surrounding Industry 4.0 appears to be a German phenomenon, and so far it has occurred primarily at the discursive level¹. Even though the vision starts with existing information and communication technology (ICT) conditions and a small number of dedicated Industry 4.0 pilot projects, it has received only a modest reception at the practical level, especially among broad swathes of Germany’s *Mittelstand*. This is not necessarily due to information deficits, a lack of innovative spirit or slowness to react. It could also be interpreted as prudence or as a greater affinity for alternative innovation and production approaches, which certainly exist aside from Industry 4.0. It is still completely open as to which forms and labels will become established in the medium and long term. “There is no ‘natural law’ by which the future reality can be determined in advance. The future will depend on many decisions that are taken in politics, science and especially in business” (Kärcher 2014, p. 22).

A new innovation paradigm

In terms of innovation strategy, Industry 4.0, trusting in the power of engineering, pursues the approach of a technological “push”: a concept that is closely associated with a one-sided technology-focused understanding of innovation. Yet the potentials of the knowledge-based society and economy could be better unlocked through alternative strategies as part of a new innovation paradigm (cf. Bullinger 2006; FORA 2010; Howaldt & Schwarz 2010). Key categories here are the opening of the innovation process towards society, orientation to social challenges, social innovation and the capacity for innovation. Particularly the opening of the innovation process towards society (cf. FORA 2010, pp. 15 ff.) is a central feature of a changed innovation paradigm. Businesses, universities and research institutes are not the only relevant actors in the innovation process. Citizens and customers no longer serve only as suppliers of information about their needs (as is the case in classical innovation management), as instead they bring information about solutions into the development process for new products. Terms and concepts such as “open innovation” (Chesbrough 2003), customer integration (Jacobsen 2005), and networks (Howaldt et al. 2001) mirror important aspects of this development.

At the same time, social innovations come into focus, in the sense of the reconfiguration of social practices and their establishment in particular sectors of society (cf. Howaldt & Schwarz 2010). Examples range from civil society (environmental movement, new forms of living arrangements) to the area of state action (social insurance), and the economy (learning organisation, new management concepts, new services) (cf. Gillwald 2000, pp. 3 f.) A significant milestone in anchoring social innovations in German innovation policy is the German federal government’s new high-tech strategy. The intention is clearly formulated: “We are focusing on a wider understanding of innovation, including not only technological but also social innovations, which involves society as a central actor. We are looking at the whole picture and we consider together that which belongs together” (BMBF 2014, p. 4). Thus attention is shifting from the market potential of individual technology fields to society’s need for sustainable solutions and their realisation. “Now it is a matter of bringing these strands together and considering all key aspects of a comprehensive research and innovation policy in context. This creates an optimal environment for ideas, their implementation in marketable products and services, more value creation and potential for new future-proof jobs” (ibid. 11). Considerations focus on enhancing innovative capacity by stepping up dialogue with a wide variety of stakeholders across organisational boundaries (networking, open innovation): including a broad spectrum of social actors. However, the development of innovative capacity in this sense is a process that depends on many conditions and creates major challenges for the actors involved: in business, science, politics and society. While the debate surrounding national and regional innovation systems is predominantly concerned with the structural, political and institutional conditions for innovativeness at national and regional level, in the BMBF programme “Working – learning – developing skills – innovative capabilities in a modern working world”, interest focuses in particular on management and work-related aspects of innovativeness. Terms such as organisation, qualification, technology and health are of central importance here. To enhance innovative capacity, attention at the enterprise level focuses on activities and the creation of conditions conducive to innovation by initiating and supporting learning processes, skills development, and participative forms of organisation (cf. Hartmann 2014).

Technological determinism 4.0

In light of the above, the debate concerning Industry 4.0 feels like being transported back to another era. Last century, in the 1950s and 1960s, there were widespread attempts to draw far-reaching conclusions from technological developments for the design of organisational structures and work. In their ground-breaking study for the subsequent debate on the relationship between technology and work, “Industrial labour and worker consciousness” (1970), Kern and Schumann note: “In the literature on the sociology of industry, there is a concept that proved to be particularly appealing, which embeds the historical relationship between industrial technology and human labour in a three-phase model” (Kern & Schumann 1970, p. 27). The model is guided by the assumption that the respective technological conditions lead to workers being employed in particular ways, and determine the skill sets that are needed. One “assumed a rising line of development from skilled crafts and trades to mechanisation (assembly line production) and then to automation; to this corresponded, respectively, the worker-types of the autonomous craftsman, the heteronomous low-skilled worker on the production line, and finally the requalified worker now doing hardly any physical work” (Pfeiffer 2010, pp. 234 f.) In the 1970s, the three-phase model was increasingly surpassed in industrial sociology, and the “end of technological determinism” (Lutz 1987) became the new basic consensus. This was combined with an understanding of innovation in which technological and social innovations are mutually dependent. Nevertheless, at first these insights were slow to have any practical effect. Both in the popular idea of technological development and in the social-science (sociological) discourse of innovation research, the primacy of technology, even if in an enlightened version, remained dominant. This technology-centred view led to spectacular failures in the past, yet seems to be gaining new impetus in the Industry4.0 debate. Thus we read today: “Industry 4.0 is feasible, human 4.0 not so easily” (MTM aktuell 2014, p. 4), or as the headline in *Wirtschaftswoche* magazine declares even more directly: “Let the machine take command” (Eisert 2014). The examples of “Halle 54” and Enterprise 2.0 illustrate the problematic consequences of taking this view, and show clear analogies with the current debate on Industry 4.0.

The notion of Industry 4.0 in general, and of the smart factory in particular, is remarkably reminiscent of the disappointed hopes in the 1980s of a fully automated factory in the automotive industry. “Halle 54” was a production and final assembly hall at Volkswagen’s Wolfsburg plant, which at the time of its commissioning in 1983 was considered to be an advanced computer-integrated manufacturing (CIM) concept and blueprint for a fully automated factory. It was accompanied by promises of higher productivity and the elimination of monotonous activities in favour of the highly-skilled jobs that remained. Its failure became legendary. Instead, new concepts of production and organisation (e.g. “lean production”, teamwork, learning organisation) found their way into the day-to-day activities of many businesses that were aiming to comprehensively exploit the potentials of human labour (cf. for example Kern & Schumann 1984; Minssen et al. 1991). Early on, in experiments with “Halle 54”, and moreover not only due to strategic calculations with respect to acceptance, extreme variants of the notion of a fully automated factory without human workers were replaced by variants more akin to a factory without so many workers. Even at that time, the focus was meant to be on the (remaining) humans, and even then it seemed important to design the new processes and work tasks so that they enabled higher-skilled (through an increase in programming, controlling and analytical tasks) and more humane work (by eliminating monotonous activities). Back then, it was said that “Robby [the robot] does the dirty work” (Autogramm no. 2/1982, p. 5, quoted in Heßler 2014, p. 6) and would free humans from irksome activities to the benefit of new intellectual monitoring and control tasks

(cf. *ibid.*) Today they say “the robot is becoming a co-operating partner” (Wischmann 2014, p. 72). Towards the end of the 1980s, comprehensive full automation ambitions, not only at Volkswagen, began to be abandoned, particularly since complex final assembly could not be carried out to satisfaction in this way, and to this day the use of human labour is indispensable (cf. Heßler 2014, p. 15). Among the main problems were a lack of flexibility and an excessive error rate. There was a marked increase in production stoppages, downtime and rectification work. A large gap opened between desire and reality. In light of this, Hack described the concept of Halle 54 “as a dinosaur of a technologicistic narrowing of rationalisation/modernisation, in which now even the organisations were interpreted ‘as technology’” (Hack 1994, p. 53). Thus the model ultimately failed because of its radically contra-anthropocentric rationalisation strategy. “The idea of a fully automated factory ran up against its material limits just as Taylorism reached its limits as a model for the organisation of work and production” (Pfeiffer 2010, p. 233).

Since then, a “variety of more or less innovative production concepts have emerged” (Heßler 2014, p. 16), which focus on the social and cultural aspects of business organisation and management. According to Heßler, the 1990s are characterised by the coexistence and mixing of different concepts, in which the relationship between humans and machines is configured context-specifically. Nevertheless, robots continued to be developed, and work was indeed successfully done to “enable them to identify errors or deviations in the process themselves, and learn from this” (*ibid.*): in other words, so that they gather experience-based knowledge. These old discussions have striking similarities to the current debate, with the result that in the context of the design of work as well, there are reflections on whether “in precisely the context of Industry 4.0, the time has come to implement a few ‘old’ ideas” (Hartmann 2014, p. 7). The experiences of Halle 54 can teach us not only that the social aspects need to be incorporated into the vision and architecture of technology design from the outset, but also that there is a need for a realistic assessment of the reach of the concepts. It can be assumed, for instance, that such advanced technologies can be usefully applied only in particular industries and areas of production, and that alternative production and innovation concepts are always available. Even if *Industry 4.0* is “treated from the outset as a socio-technical system, in which humans are to remain central as comprehensive decision-makers or as cognitive all-rounders” (Howaldt & Kopp 2015, p. V6), the current debate is astonishingly close to the technology-centred logic of that time. A more recent example of the narrowness and riskiness of technology-driven concepts of production and organisation is the discussion about Enterprise 2.0. At the end of 2010, “Enterprise 2.0” (about which we now hear a good deal less) was being promoted by in some cases the same protagonists who today favour Industry 4.0 (e.g. Bitkom, CeBIT). Even the initial definition of Enterprise 2.0 could not conceal its technological orientation: “Enterprise 2.0 is the use of emergent social platforms within companies, or between companies and their partners or customers” (McAfee 2006, n.p.) With few exceptions (e.g. Koch & Richter 2009; Back & Heidecke 2009), the academic debate largely reflected assumptions from practice (especially those of software providers), which followed the simple equation: Enterprise 2.0 = use of Web 2.0 in enterprises. “In places where a difference is asserted, the term Enterprise 2.0 usually appeared at the beginning of the remarks as a meagre reference to the need for adequate corporate culture and organisational conditions” (Kopp 2011, p. 39). Nevertheless, it was precisely the rare successful models of Enterprise 2.0 at that time which underlined the need to make social innovation instead of technologies the focus of adequate reorganisation measures. As the results of our research project on advanced innovation approaches in the high-tech sector show, in some enterprises the conversion of “Enterprise 1.0” into “Enterprise 2.0” at first took place “almost entirely without the assistance of Web 2.0 tools such as wikis, forums and other social media” (Stamer

2008, p. 74). The key difference lies in the nature and scope of successful self-organisation that an enterprise enables. Whereas Enterprise 1.0 (in the textbook case) is distinguished by hierarchical structures and processes intended to improve its own performance, with Enterprise 2.0 precisely the opposite strategy is pursued: in many places, hierarchies are deliberately dismantled to create the necessary space for successful self-organisation. Any such functioning self-organisation should give rise to a permanent innovation dynamic and creativity. Thus, if there is such a thing as a guiding theme for the transformation into an Enterprise 2.0, it is ‘the art of letting go’” (ibid., p. 61). These thoughts correspond to a specific understanding of socio-technical system design, in which it is not technology that brings about organisational change. Reference to the socio-technical system approach dating from the 1960s underlines the close relationship between technological and social subsystems. Emery, Thorsrud and Trist describe the basic idea with the statement: “In general, management must recognise that the success of an enterprise depends upon how it works as a socio-technical system, not simply as a technical system with replaceable individuals added to fit” (Emery et al. 1969, p. 85).

According to Schelske, “socio-technical theories of sociology assume that the social and economic determining factors predominate when it comes to explaining social change viewed together with information technology” (Schelske 2007, p. 7). However, the use of modern digital technology also marks a significant shift in perspective: or “media-history break” (Münkler 2009, p. 62), with far-reaching consequences for the dynamics of socio-technical configurations. Digital technology enables incomparably more degrees of freedom in the social system than was conceivable in the context of conventional technologies. As a result, the importance of the social realm in social-technical system design increases massively. As Münkler explains, the historically correct thesis according to which the (technical) materiality of media preforms or determines their use, proves to be outdated. Thus modern digital media determine their own use to a much lesser extent than previous technologies did. More than ever, it is the social practices of users and their usage behaviour that configure the new technologies according to needs, and thus assign their purpose. “Digital media do not determine their use; digital media are created through their use” (Münkler 2009, p. 27). In the production sector too, for ever more activities, digital informationisation means a “rapid increase in the potential for design” (Pfeiffer 2010, p. 252). Against this backdrop, the example of Enterprise 2.0 represents a transformation from the socio-technical system approach to the socio-digital innovation system. Socio-digital innovation systems refer to a mix of new organisation and management concepts (learning organisation, knowledge management, network management, scrum) and their modern technological “enablers” from the Web 2.0 repertoire (cf. Kopp 2011). In other words, the narrowing of Enterprise 2.0 to Web 2.0 first had to be overcome in favour of a more comprehensive socio-technical or socio-digital perspective, before it could be successfully implemented in enterprises.

Back to the future with Industry 4.0?

Given how valuable early assessments of possible change trends and design challenges are, assuming a wider diffusion of Industry 4.0, and with regard to the work-related consequences, it seems all the more important to us to emphasise positions that tend to be marginalised in the discourse. These positions highlight the fundamental weaknesses of Industry 4.0 (degree of innovation, reach and risks), and it can be pointed out that alternatives to the current vision of Industry 4.0 are conceivable and definitely present. Even the most fervent advocates of Industry 4.0 concede that despite the existence of the first demonstration systems, very long development periods can still be expected (cf. Kagermann 2012, p. 12). Yet, as Bornemann

notes, technological developments below the aimed-for level of highly complex simultaneous control cannot claim to be particularly innovative (cf. Bornemann 2014). Moreover, the vision of Industry 4.0 is accompanied by considerable risks. Apart from unresolved security issues, it is still too early to tell whether it will be possible to master control over the necessary volumes of data (big data). One Achilles' heel is that a "world language" for machines needs to be created. "Unless there is agreement on one or at least a few industry-wide standards, the entire vision of intelligent production could disappear in a Tower of Babel scenario" (Eisert 2014, p. 5). Expectations regarding the extent of exploitable productivity reserves are also rather unclear. The German National Academy of Science and Engineering (acatech) "estimates that businesses could boost their productivity by 30 percent with Industry 4.0. No-one today can say how realistic these figures are" (Eisert 2014, p. 1). Given the problems and risks outlined above, it is not surprising that the response of businesses: especially small and medium-sized businesses, to the apparent attractions of Industry 4.0 has been lukewarm at best (cf. Tauber 2014).

Probably the greatest risk is that the underlying, strongly technology-oriented innovation approach is not capable of appropriately developing the potentials of digital technology. The fundamental doubts expressed by management consulting firm Arthur D. Little also point towards a preference for integrated innovation approaches: "But the battle of the future will be won on other fields and likely also with other innovation approaches" (2013, n.p.) That, at least, is according to an analyst's statement in a press release from Arthur D. Little. They hold Industry 4.0 to be too product-oriented. In contrast, they say, integrated innovation approaches are more important for the competitiveness of economies. As the example of the automotive industry shows, these consist of "combinations of new mobility concepts, product features, business models and marketing" (ibid.) Another plea for a more comprehensive innovation concept can be found in the "Connected reality 2025" trend study by Z_punkt, which argues that system innovations should help solve social problems. "But [these] cannot be developed and implemented by individual actors. They require partnerships, development alliances and thinking in complex value creation patterns, which a purely technological innovation logic must be subordinate to" (Boeing et al. 2014, p. 55). Greater sensitivity to the need for co-operation between all kinds of stakeholders in the innovation process is characteristic of the new innovation paradigm. In the Digital Agenda for Europe, this concept of open innovation is currently associated with the "quadruple helix model" (cf. Dhondt & Oeij 2014, p. 139; Carayannis & Campbell 2011). Here it states: "Open Innovation is an important component of the foreseen European Innovation System, where all stakeholders need to be involved and create seamless interaction and mash-up for ideas in innovation ecosystem. [...] Open Innovation 2.0 (OI2) is a new paradigm based on a **Quadruple Helix Model** where government, industry, academia and civil participants work together to co-create the future and drive structural changes far beyond the scope of what any one organisation or person could do alone. This model encompasses also user-oriented innovation models to take full advantage of cross-fertilisation of ideas leading to experimentation and prototyping in real world setting" (Digital Agenda for Europe, no date). At the level of enterprises, it is concepts such as Workplace Innovation¹ which aim for comprehensive

1 An overview of the concept and its importance for the innovative capacity of modern societies can be found in the Dortmund/Brussels position paper, which offers the following definition: "*Workplace innovation* is a social, participatory process which shapes work organisation and working life, combining their human, organisational and technological dimensions. This participatory

process simultaneously results in improved organisational performance and enhanced quality of working life." (cf. Dortmund/Brussels paper, p. 1). The initiative is now being promoted by the European network EUWIN.

utilisation of the potentials of human labour as a condition for ensuring innovative ability, and correspond to the outlined alternate innovation orientation (cf. Howaldt et al. 2012; Totterdill 2012). In the context of the discussion about social innovation, management and business literature over many years formed a major research focus. “In this literature, emphasis is put on the role of ‘improvements’ in social capital which can subsequently lead to better-working (more effective or efficient) organisations in the economy, and thereby generate positive effects in terms of social innovation across the sector” (Moulaert et al. 2005, pp. 73 ff.; cf. also Brooks 1982 and Kesselring & Leitner 2008). Germany: against a background of funding programmes such as “humanising work”, “work and technology”, “innovative workplace design and the future of work”, has built up a wealth of experience which, at the same time, constitutes an important competitive advantage internationally (cf. Georg et al. 2012). These programmes were guided from an early stage by the idea of a comprehensive innovation concept. In their analyses of the complex relationships between social and technological innovation processes in enterprises, they provided vital input for a comprehensive understanding of innovation, and developed new strategies, concepts and instruments which have enabled businesses and intermediary actors to compete successfully in the international arena (cf. e.g. the articles in Ludwig et al. 2007; Streich & Wahl 2007; Gatermann & Fleck 2010; and Jostmeier et al. 2014). In the international innovation debate, the orientation towards enterprises and employees is still an unusual feature.

It is therefore logical that the “innovative working environment” theme occupies an important position in the German federal government’s new high-tech strategy. “New forms of work organisation, stronger service focus, changing skills and job profiles, more interactive value creation processes and increasing digitalisation: all these are driving forces of the far-reaching change that the modern working world is undergoing. Today more than ever, being innovative requires complex processes that need interaction with technological development, but also with human resource, organisational and skills development. ‘Good work’ is therefore an important basis for business innovations” (BMBF 2014, p. 22). It seems questionable whether national go-it-alone efforts can succeed in developing internationally competitive platforms quickly enough, but that is beyond the scope of this discussion. In their lack of European co-ordination, the large number of different approaches in European countries brings to mind the situation with regard to Industry 4.0. However, the European Workplace Innovation Network (EUWIN) has started to actively address this, and is attempting to develop common standards with its Workplace Innovation approach. Pot and Dhondt describe the origins of the Workplace Innovation approach like this: “Workplace Innovation, as it developed from the beginning of this century has its roots in sociotechnical systems design (STSD), going back to the restructuring of Europe after the Second World War, starting campaigns for productivity and industrial democracy” (ibid.) Peter Totterdill, one of the leading exponents of the approach, points out that the requirements for Workplace Innovation include quality of work, participation and decentralisation, and goes on to state: “Most importantly, Workplace Innovation is an inherently social process. It seeks to build bridges between the strategic knowledge of the leadership, the professional and tacit knowledge of frontline employees, and the organisational design knowledge of experts. [...] Thus in defining Workplace Innovation it is important to recognise both process and outcomes.” (Totterdill 2015, p. 57) The dual practical benefit of corresponding socio-technical/socio-digital system designs: firstly the improvement in motivation, job satisfaction and employee well-being, secondly the improvement in performance, has also been repeatedly confirmed by research (for a current example, cf. Ramstad 2014). Thus there are many good reasons to emphasise the importance of this perspective and, even in the context of digital manufacturing concepts, to put the job and employees’ potential at the centre of considerations, instead of neglecting this in favour of

a one-sided technology-oriented perspective. A knowledge-based economy, as a prerequisite for maintaining and enhancing the competitiveness of German and European businesses, is inconceivable without the development of management concepts and business structures that promote innovation. “European economies are facing a period of economic crises and there is a political urgency for continuous innovation and growth in productivity in order to realise sustainable growth and welfare provision within the European Union (EU). To achieve this aim, it is not sufficient just to introduce new technologies [...]. It will require the full utilisation of the potential workforce and creation of flexible work organisations” (Pot et al. 2012, p. 261). At European level, this approach has now become an integral part of the policies of the Directorate-General (DG) GROWTH (industrial policy, innovation policy) and the DG Employment (competence development, quality jobs) (cf. Pot & Dhondt 2015).

Conclusion

In view of the growing importance of new technologies in our working and everyday lives, it is hardly surprising that technology-driven utopias such as Halle 54, Enterprise 2.0 and currently the debate surrounding Industry 4.0 attract a lot of attention: especially when they are purposely promoted by influential actors. And yet a look back into the past should make us aware that it is only by analysing the complex interplay between social and technological innovations that we arrive at a realistic vision of the future, which can guide us in designing forward-looking production and work systems. “Anyone who wants Industry 4.0 should critically examine the ‘high-tech obsession’” and “should regard it primarily as a social innovation” (Buhr 2015, pp. 19 f.) This designing takes place in enterprises and organisations, and in the future too will be influenced by a realistic view of the relationships between technical, organisational and human resource aspects. Deuse et al. emphasise the point: “Experiences from the past clearly show that neither distinctly technology-centred nor human-centred design paradigms contribute to a sustained and clear improvement in competitiveness, but rather that under some circumstances they may even have a negative impact. In contrast, organisation-centred approaches to designing production systems have achieved significant progress in improving competitiveness. The hypothesis states that the success of the proclaimed fourth industrial revolution depends crucially on whether it is sustainably anchored in the organisation and implemented in a targeted way. Accordingly, human and technological aspects should be adapted to and aligned with the organisation’s structures and processes” (Deuse et al. 2014, p. 44).

In Germany, the new Industry 4.0 dialogue platform, which was launched in April 2015 under the supervision of the German federal economics ministry, aims to stimulate Industry 4.0 activities. It is to be hoped that the approaches contained in the white paper on research and development themes for Industry 4.0 (2015) regarding the giving of greater consideration to participative working cultures will receive greater emphasis (p. 11). A participation-based understanding of socio-technical systems and design is to serve as a foundation for the development steps towards Industry 4.0 (cf. p. 31). Thus the white paper continues: “It is essential for the acceptance, potential for achievement and development, well-being and health of working people that activity and task structures are geared to these goals. Relevant criteria include, for example, that planning, organising, implementing and monitoring tasks are integrated into a job’s work activities, and that there is an appropriate balance between undemanding routine tasks and more challenging tasks such as problem-solving. Work equipment that is conducive to learning should support a work organisation that promotes learning” (p. 31).

Today, a society's ability to exploit and systematically develop existing innovation potential increasingly determines its future sustainability. The underlying understanding of innovation is crucial for the full development of technological potentials and their integration into sustainable development processes. Strongly technology-driven concepts of the past (cf. "Halle 54", "Enterprise 2.0") had considerable implementation problems requiring drastic changes of course, which shows that the desired benefits expected by diverse groups of actors only materialised as a result of extensive work-oriented corrections. A wider perspective implies not so much taking additional (social) aspects into account, but rather sets significantly different emphases in tackling social challenges. Rather than promoting a "technological push" and its subsequent socially acceptable design, the focus shifts to enhancing innovative capacity by involving social actors in the development of solutions for the future. At the level of enterprises and organisation, this is a question of integrated socio-technical management approaches, as are combined for example in international work and management research in the Workplace Innovation approach. The new high-tech strategy for Germany, with its emphasis on the need for an innovative working environment, also shows that such ideas have made an impact, and it therefore ties in with the discussion about a changed understanding of innovation. New programmes launched by the German Federal Ministry of Education and Research (BMBF), the German Federal Ministry for Economic Affairs and Energy (BMWi), and also programmes by German states such as the North Rhine-Westphalia lead market competition for the digital working environment and future of work, provide scope for joint activities between academia and practitioners to develop participative management forms as well as new innovation approaches. A characteristic of hypes and management fads is that they are relatively short-lived. As the initial, still undiminished euphoria surrounding Industry 4.0 dies down, the outlined alternatives will become considerably more important once again.

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Dealing with economic and demographic challenges: Workplace innovation practices as a timely and effective response to older workers' needs

Dimitra Gkiontsi & Maria Karanika-Murray

Abstract

There is substantial evidence that workplace practices can support employee health and well-being. In the present paper we focus on and explore the role of workplace innovation (WI) practices for older workers' health and well-being. We start by arguing for a more comprehensive and less fragmented approach to workplace practices and for practices that can create the conditions to support both quality of working life and organisational performance. We then suggest that WI practices offer such an approach and present evidence that links the effects of four types of WI practices (work organisation, structure and systems, learning and reflection, and workplace partnership) to a range of health and well-being outcomes (health, well-being, work engagement, performance, and decisions to delay retirement). Even though no direct empirical evidence currently exists that links WI practices to the health and well-being of older workers, the available research gives rise to a number of propositions for research and practice. These propositions can contribute to the development of a fruitful line of research on the impact of WI on older workers' health and well-being.

Keywords: Older workers, workplace innovation practices, human resource management, health, well-being, work engagement, performance, retirement

Dealing with economic and demographic challenges: Workplace innovation practices as a timely and effective response to older workers' needs

Recent demographic and economic changes have dramatically affected the structure of the workforce in many European countries, in turn resulting in a growing proportion of older workers (Ilmarinen 2001). This has created challenges for organisations in maintaining employee health and productivity and retaining and engaging older workers (Armstrong-Stassen and Ursel 2009; Acas 2011; Armstrong-Stassen 2008). To address this, the ability to identify HR or workplace practices that can support employee quality of working life and prolong working lives is becoming increasingly important for ageing and older workers as well as for the organisations faced with the challenges of the changing workforce demographics (Armstrong-Stassen and Ursel 2009). Although there is substantial evidence that WI practices can significantly benefit both quality of working life and organisational performance, their relevance for older workers is yet to be summarised.

With the present review we propose that age-inclusive workplace practices are essential for supporting all workers through ageing and older workers' health and well-being, and in turn for bolstering engagement and willingness to remain in an employment relationship after official retirement age. Such practices need not to be age-specific, but they do need to be age-aware. The former requires being aware of changes thought the lifespan that all individuals go through, whereas the latter focuses on the needs of specific demographic groups and may inadvertently introduce bias and inequality. Thus, we distinguish between 'ageing' and 'older', and suggest that workplace practices aimed to support ageing workers need to take into consideration how individuals change through the lifespan and be comprehensive so as to provide the foundations for enhanced quality of working life across all ages. We then examine how specific types of workplace practices can support ageing workers' health and well-being, performance and retention. Throughout, we summarise our findings into a number of propositions for future research and practice.

The demographic challenges for maintaining quality of working life for older workers

Demographic changes across the EU have transformed the European economy and society and created challenges for organisations and societies faced with maintaining growth and sustainable development and employing a larger population of older workers. A decrease in birth rate and increase in life expectancy (Eurostat 2015) have changed the workforce composition, which now includes a growing proportion of older workers (Ilmarinen 2001; Winkelmann-Gleed 2010). It is expected that by 2025 there will be twice as many workers over 50 as those workers between 25 and 50 years old in most European countries (Ilmarinen 2001). These demographic and economic challenges have created a dual need to maintain organisational performance whilst at the same time supporting older workers in a labour market that can optimise their skills and knowledge and protect their well-being. In addition, immigration to EU member states provides a source of human capital to cover the needs of labour market shortages due to the on-going ageing population (Pollard et al. 2008). The recent economic recession has also impacted dramatically on the European labour market with older workers being severely affected (Eurofound 2012). Due to the crisis, EU Member State governments are proceeding with cuts in public spending, thus, older workers need to spend more on health and long-term care services (AGE Platform Europe 2012). While some older workers would be willing to exit the labour market voluntarily or because their health condition prevents them from working, there is a proportion of older workers who would prefer to continue working for financial reasons (Winkelmann-Gleed 2010). However,

employers appear to be encouraging early retirement and exit from the labour market (Armstrong-Stassen and Ursel 2009) by placing more emphasis on labour costs rather than on overall productivity (van Dalen, Henkens, Henderikse and Schippers 2010).

Solutions to these challenges have been proposed, including legislative changes such as increasing the default retirement age or pension reforms (Acas 2011), assessment and evaluation of the impact of existing labour policies and legislation relating to older workers, incentives for preventing early retirement, encouraging job sharing, and flexible working arrangements aimed at promoting security and quality of work (AGE 2009). One of the most important measures has been the development of age-specific HR practices (e.g., Atkinson and Sandiford 2016; Kooij et al. 2013) such as flexible working arrangements (e.g., part-time work, job sharing by choice), job enrichment, and training opportunities (e.g. Armstrong-Stassen 2008; Atkinson and Sandiford 2016; Kooij, Jansen, Dijkers, and De Lange 2009; Rau & Adams 2005; Shacklock, Fulop and Hort 2007). However, there is little evidence that HR practices can support older workers. We are lacking a comprehensive set of HR practices that can address both demographic (i.e., prolong working lives via supporting older worker health and well-being) and economic challenges (i.e., maintain organisational performance and productivity).

Age-Specific and Age-Inclusive Human Resource Practices

Research has shown that through HRM organisations can offer opportunities and resources for prolonging working lives, specifically by improving the skills, motivation and attitudes of employees (e.g., Claes and Heymans 2008; Kuvaas 2008). Work-related motives and needs change with age (e.g., Kanfer and Akerman 2004; Kooij et al. 2011) and these changes subsequently affect the relevance and applicability of HR practices to different age groups of employees (Kooij et al. 2013). Theories of lifespan development have offered useful insights into how sources of motivation may change with age. For example, according to the selection-optimisation-compensation model (SOC), when the losses become greater than the gains, older workers will act differently from younger ones to develop adaptive strategies to respond to age-related changes. Specifically, older workers more so than younger workers will tend to use reallocation of resources, Baltes and Dickson 2001). In addition, socio-emotional selectivity theory (SST) outlines how the motive for gaining knowledge becomes stronger when time is perceived as “expansive”, whereas the need for selected social interaction becomes greater when time is perceived as “constrained” (Kooij and Van De Voorde 2011: 229). Thus, a change in work motives with age will be reflected in a change in the utility of HR practices for employees as they age (Filkenstein et al. 2015). For this reason, many scholars have argued for age-related HR practices (e.g., Atkinson and Sandiford 2016; Kooij et al. 2013).

In line with this, a range of studies on HRM and older workers have identified a number of HR practices, such as flexible working arrangements, job enrichment, and training opportunities, among others, as important for older workers (e.g., Armstrong-Stassen 2008; Atkinson and Sandiford 2016; Kooij et al. 2009; Paul and Townsend 1993; Rau and Adams 2005; Shacklock, Fulop and Hort 2007). For instance, Armstrong-Stassen (2008) found that extrinsic rewards, recognition, job design, performance appraisal, flexible working, training and development opportunities, as well as pre and post-retirement opportunities can impact on decisions to remain in the workforce. They support the case for developing age-specific HR practices for older workers. Past research on HR practices for older workers has led to suggestions to introduce bundles of age-specific HR practices that exhibit internal cohesion

and consistency as an alternative to or instead of single HR practices (e.g., Kooij et al. 2010). Although most of these studies have been broad and descriptive than specific and prescriptive, there is evidence that age-inclusive HR bundles are relevant for organisational performance and employee retention across all age groups (Boehm, Kunze and Bruch 2014). However, evidence on the impact of age-inclusive HR bundles on older workers' health and wellbeing appears to be missing.

Ageing is a continuous process. Although the jury is still out (Salthouse 2009) on the extent to which age-related declines in mental and physical resources (Ilmarinen 2001) and cognitive abilities (Peeters and Van Emmerik 2008) impact on work outcomes, we know that cognitive declines start in early adulthood (Salthouse 2009). Work-related needs and motivation are formulated gradually through the accumulated effects of experiences built throughout the working life (Bonnet-Belfais et al. 2014). Thus, successful ageing is determined by the impact of likewise changing, accumulating, or diminishing, personal and work resources (e.g., physical strength, income, social status) on motivation across the life course (Heckhausen et al. 2010). At the same time, because the definition of an older worker depends on a range of changes in biological, psychological, and social functioning (De Lange et al. 2006), researchers have proposed five different perspectives of age: chronological, functional, psychosocial, organisational, and life span (De Lange et al. 2006). Each of these brings different issues into focus when considering work-related outcomes and even intentions to continue work after retirement (Kooij et al. 2008). In practice however, prevailing biased views of severe declines in later adulthood are in the heart of age-specific HR policies, and retirement policies and age management practices tend to apply equally as collective measures to all workers in a given chronological age category, without taking into account or attempting to tailor these to individuals' capacities or needs.

Successful ageing varies substantially among and within individuals. For example, Robson et al. (2006) suggested five criteria that individuals themselves use to ascertain successful ageing in the workplace: (1) adaptability and health, (2) positive relationships, (3) occupational growth, (4) personal security and (5) continued focus and achievement of personal goals. On these, Peeters and Van Emmerik (2008: 359) observed that "the importance of the five domains was related similarly across the age groups". There seems to be more variation within rather than between age groups in perceptions of ageing, and it may be possible that when examining changes in work-related motives and needs researchers may have overestimated the degree to which older and younger workers differ and the dimensions along which they are also similar. Approaching ageing not as a chronological process but from as an on-going developmental perspective makes the boundaries between 'older' and 'younger' fuzzier. In turn, such a perspective raises questions about the usability of age-specific HR practices and the juxtaposition of older and younger workers as well-delineated and distinct groups. Factors beyond chronological age per se may play a larger role in HR management decisions, potentially rendering HR decisions that are solely based on age to be flawed or irrelevant.

To complicate things, there seems to be no clear answer as to what combinations of HR practices can contribute to performance and other work-related outcomes (Guest 2011). There is also uncertainty around what HRM is supposed to do and a lack of an accepted classification of HR practices (Boselie et al. 2005). Because of similarities among individuals in criteria of successful ageing, and work-related needs and motives, it is possible to identify a set of HR practices beneficial for health and wellbeing. Because of differences among individuals related to age, it is also possible to identify HR practices that are more important but not necessarily unique to different age groups. For example, Kooij, Jansen, Dijkers and

De Lange (2010: 1111), in a meta-analysis of 83 studies, found that “that the association between maintenance HR practices and work-related attitudes strengthens with age, and that the association between development HR practices and work-related attitudes weakens with age”. Thus, it is possible that the same HR practices will be important, but to different extents, for younger and older workers’ health and well-being.

We suggest that a comprehensive set of workplace practices that can apply to all workers regardless of their chronological age is more beneficial than specific HR practices developed for older workers (where older is defined in chronological terms). Furthermore, such a comprehensive set of workplace practices can help to address the foundations for quality of working life that affect all workers, and be more proactive than ameliorative, focusing on the organisation as a whole, and supporting essential foundations for promoting employee health and well-being (Karanika-Murray and Michaelides 2013). Therefore, we argue that a comprehensive set of HR practices for health and well-being is more beneficial. In the next section we describe a range of workplace practices that can provide such a comprehensive framework.

Proposition 1: The same set of HR practices will be important for health and well-being among older and younger workers but to different extents

Workplace Innovation Practices

Workplace innovation (WI) practices (Pot 2011; Totterdill 2015) are a type of HR practices that offer a comprehensive approach to promoting the health and well-being of younger and older workers because they are concerned with the dual aims of improving the quality of working life whilst enhancing organisational performance (Pot et al., 2012; Totterdill 2015; Oeij et al. 2015; Kesselring, Blasy and Scopella 2014). They are defined as “developed and implemented practice or combination of practices that structurally (structure orientation or a focus on division of labour) and/or culturally (culture orientation or a focus on empowerment) enable employees to participate in organisational change and renewal to improve quality of working life and organisational performance” (Oeij et al. 2015; Karanika-Murray and Oeij, 2017). Examples include empowering job design, self-organised teams, opportunities for reflection, learning and improvement, high employee involvement innovation practices, the encouragement of entrepreneurial behaviour at all levels of the organisation and representative participation in the decision-making process creating sustainable and innovative organisations (Pot 2011; Totterdill 2015). In view of the lack of comprehensive frameworks of HR practices, the concept of WI offers such a framework that has also been linked to a number of desirable outcomes for older workers.

The defining characteristics of WI practices are that they (1) concern “collaboratively adopted changes” (Oeij et al. 2012; Totterdill 2010), (2) draw evidence from a range of areas including work organisation, human resource management, and supportive technologies (Pot 2011), (3) focus on both structural (job design) and cultural (empowerment) changes (Oeij et al. 2015), and (4) focus on creating the foundations for the use of skills and competencies to the fullest extent (Totterdill, Dhondt and Milsome 2002). A combination of practices can create the necessary conditions for organisations to maintain competitiveness along with enhancing quality of working, or promote both organisational performance *and* employee health and well-being. As Wilson et al. (2004: 567) note, “a healthy organisation is one characterised by intentional, systematic, and collaborative efforts to maximise employee well-being and

productivity by providing well-designed and meaningful jobs, a supportive social-organisational environment, and accessible and equitable opportunities for career and work-life enhancement". WI practice is widespread in many European countries but less so in the UK. For example national programmes grounded in WI have been introduced in the Netherlands and Finland to address the challenges of economic and political crisis (Pot, Dhondt and Oeij 2012; Kesselring et al. 2014) and of productivity in relation to the ageing population (Pot, Dhondt, and Oeij 2012).

Workplace innovation has been linked to reduced levels of stress, high job autonomy, lower physical job demands, continuous development and improvement of skills and better employment relations (Eeckelaert et al. 2012). For example, as Joyce and his colleagues (2010) have suggested, initiatives that give workers more control in terms of working arrangements may affect employee health and well-being positively. Similarly, Karasek (2004) has noted that "task variety, team-working and use of autonomous production groups" can lead to higher levels of worker control which subsequently can result in better psychological health. It has also been found that high levels of worker control relate to better worker health, including reduced anxiety and depression (Egan et al. 2007). In sum, there is considerable evidence for the positive effect of WI and we suggest that it has strong potential to help develop inherently healthy workplaces (Karanika-Murray, Hardy, Michaelides and Wardle 2011).

Proposition 2: Workplace innovation practices can contribute to improved health and well-being and performance, specifically among older workers.

Work Design

Next, we discuss the available evidence on the benefits of specific WI practices (work design, employment relations, learning and collaboration, and employee voice) for older workers. Specifically, we seek evidence related to ageing and older workers' health and well-being, work engagement, performance, and retirement decisions. For some WI practices and outcomes the evidence is scarce, but we draw from a number of diverse literatures to establish the relevance of this group of practices to older workers.

Work autonomy includes job autonomy, flexible working, and self-organised teams. Well-designed jobs play a vital role in employees' ability to address challenges associated with high job demands and low autonomy and can support increased productivity, job engagement, and health and well-being (Häusser et al. 2010; Karasek and Theorell 1990; Totterdill 2013). Job design is a catalyst for addressing the changing mental and physical resources that ageing brings (Ilmarinen 1992 cited in Ilmarinen 2001). It could be assumed that a well-designed job is characterised by a broad skills structure, where employees can exhibit creativity and, in turn achieve improved quality of working life and well-being (Totterdill 2013).. The extent to which employees feel ownership of the tasks can drive motivation for innovative work behaviour, when embedded into job design, multifunctionality and interchangeability of skills can enhance engagement and increase motivation to work beyond completing the operational aspects of the task (Dorenbosch et al. 2005).

However, there is limited evidence on job design for older workers. When older workers have flexibility to apply their skills and knowledge they experience increased satisfaction and engagement. Although social characteristics of the job have not been of much research concern, it is expected that social support and job interdependence increase engagement,

satisfaction, and performance among older workers (Truxillo et al. 2012). Poor job design may have detrimental effects on all employees' health, which can, in turn, lead to early retirement. Furthermore, poor working conditions can have an adverse impact on the quality of work and psychological well-being (Schütte et al. 2014) and are associated with older workers' intentions to exit the labour market early (Kalousova and Mendes de Leon 2015; Siegrist et al. 2007). Finally, job quality more broadly can have a significant impact on health and ability to work until retirement age (Vermeulen 2014).

Proposition 3: Work autonomy is important for older workers' health, well-being and engagement with the potential to affect retirement decisions.

Flexible working can play a vital role for engaging and retaining older workers (Armstrong-Stassen and Ursel 2009; Armstrong-Stassen and Schlosser 2011). It is defined as "any policies and practices, formal or informal which permit people to vary when and where the work is carried out" (Maxwell et al. 2007:138), but also how work is organised, and may involve, for example, part-time employment, job sharing, home-based working, or teleworking (Atkinson and Sandiford 2016). Research has typically focused on working patterns that fit the workers' needs (Atkinson and Sandiford 2016). Flexible working arrangements for older workers is of growing research concern (Atkinson and Sandiford 2016) and may involve practices such as reducing the physical demands of the job to sustain the capacity and motivation for work (Kooij et al. 2010; 2008). Studies have shown that the provision of flexible working arrangements can prevent early retirement of workers over 50 years old (Christensen and Catsouphe 2005).

Proposition 4: Flexible working arrangements can contribute to the engagement and retention of older workers

Work organisation also involves the creation of autonomous or semi-autonomous empowered teams, where employees have power to schedule tasks or control the production line (e.g. Junior and Novaski 2011; Kirkman and Rosen 1999). Several studies have examined the relationship between teamwork and performance, showing, for example, that teamwork that allows to make suggestions about improving production has a positive effect upon performance (Kuipers and de Witte 2005). Similarly, self-managed teams have been shown to have higher performance and better group functioning as compared to traditional teams (Cohen and Ledford 1994).

There is evidence for reciprocal benefits of teams that consist of a mix of older and younger workers. Not only older workers can contribute to team performance but also that teamwork may benefit physical or cognitive decline. The demographics of work teams, as in the whole workforce, are changing due to the growing proportion of older workers (Acas 2011). This can have teamwork management implications. For example, failing to understand the effects of age composition on team performance may result in subsequent failure to develop effective and productive teams (Gellert and Kuipers 2008). Furthermore, teamwork may play an important role in older workers' work-related needs in dealing with the onset of physical and cognitive decline (Kooij et al. 2009). There is evidence that older workers may contribute positively to team performance, and therefore developing workplace practices that focus on

team performance is necessary in order to improve the participation of older workers in the labour market (Gellert and Kuippers 2008).

Proposition 5: The quality of teamwork is associated with older workers' intention to retire

Employment Relations

The second element involves management support, increased sense of fairness and appreciation as well as openness. Because organisational walls and increased layers of hierarchy can halt and undermine the way people work together, co-create and innovate preventing employees from benefiting from different expertise, skills and knowledge around them (Totterdill 2015), increased job autonomy ought to be accompanied by decentralisation of authority. Introducing autonomous working teams and reduced hierarchies can improve communication and autonomy in non-managerial employees (Appelbaum et al. 2000), whereas decentralised structures and systems that are consistent and fair and “reciprocated communication” between line managers and employees are important for developing a culture of trust (Saunders and Thornhill 2003).

Additionally, high involvement and participation are associated with a sense of fairness within the workplace. When employees feel that their efforts are fairly rewarded they are more likely to innovate, going beyond the fulfilment of work tasks, but when they feel that their efforts are under-rewarded, they are less likely to exhibit innovative work behaviour (Janssen 2000).

However, it is unclear whether extrinsic rewards are more relevant than intrinsic rewards. Research has shown that expectations of financial rewards (extrinsic motivation) that are met can increase a sense of fairness (Frey et al. 2011) and drive innovative behaviour (Ramamoorthy et al. 2005). The consensus is that the convergence of extrinsic rewards and intrinsic motivation have an accumulated positive effect upon employees' creativity, eliminating the “over-erosion” effect of extrinsic rewards (Zhou et al. 2011:88). Specifically, rewards revolving around active encouragement, higher job responsibility, increased learning opportunities and career development, and good relationships among co-workers can support intrinsic motivation and innovative behaviour (Zhou et al. 2011).

With regards to older workers, the more motivated they are by their work, the less likely they are to exit the labour market (Kanfer and Ackerman 2004). In contrast, Sterns and Miklos (1995) suggested that job control greatly matters for older workers. Despite the limited research on ageing and work motivation (Kanfer and Ackerman 2004), it is known that opportunities to pass knowledge to younger workers can affect older workers' decision to remain in employment (Mountford 2013). Furthermore, intrinsic motivation can have a positive effect on health and the sustainability of work (Vermeyleylen 2014).

Proposition 6: Increased sense of fairness in how work efforts are rewarded can have a positive effect on older workers' motivation and intention to stay.

Collaboration

Through high employee involvement organisations can benefit from the exchange and combination of workers' skills and expertise (Cooke 1994). Participative ways of working can result in improved organisational performance and employee commitment unleashing

opportunities for continuous learning and reflection (Totterdill 2015). This is the founding idea behind the concept of employee-driven innovation where “*employees are systematically and actively contribute to the generation of new ideas which create value when they are implemented*” (Høystrup et al. 2012:7), which underpins working relationships from bottom-up to top-down. This type of learning in the workplace is essential, as inadequate learning opportunities may leave older employees without the necessary up-to-date skills to perform their work and achieve motivation and fulfilment. Of course, the provision of tailored learning opportunities is among the organisational practices linked to older workers’ contribution to work (e.g. Patrickson and Hartmann 1995). In summary, training and learning opportunities can create supportive working environments that can contribute to the retention and engagement of older workers (Mountford 2013).

Proposition 7: The provision of opportunities for learning and reflection can benefit older workers in terms of retention and engagement.

Employee Voice

The first three WI elements could not work in isolation from employee voice or workplace partnership, which is often defined as “a loose label for an approach to union-management cooperation that encompasses a wide range of variants” (Haynes and Allen 2001: 67). Workplace partnership has been defined in terms of a number of activities related to industrial relations, HRM, and work organisation (Totterdill et al. 2009), involving a range of well understood roles that work in partnership to improve employee well-being and organisational performance.

There is evidence that when implemented in isolation, representative participation (or participate in decision making through unions) can affect performance negatively (Guest and Peccei 2001). However, the co-existence of partnership arrangements and participative workplace practices can contribute not only to great levels of trust between employees, unions and employers, but also to enhanced performance (Oxenbridge and Brown 2004; Totterdill et al. 2009).

The opportunity given to employees to have a say either directly or through collective partnerships is conceptualised by many authors as employee voice (Boxall and Purcell 2011; Freeman et al. 2007). In the HRM literature, voice is considered to be a key element for organisational commitment and employee engagement (Wilkinson and Fay 2011). Essentially, allowing all employees to have a say in organisational decisions can increase their commitment (Boxall and Purcell 2003) and lead to the creation of an open employment relations climate. Effective workplace partnership, however, goes beyond industrial relations and can be used as a platform in order to make a meaningful difference (Totterdill 2015). A supportive work environment and collaborative culture that encourages employee participation, can support employee performance and in turn lead to improved organisational performance (Ichniowski et al. 1996).

Workplace partnership and having a collective voice is even more important for older workers, and is more likely that older workers are union members (Visser 2002). A range of motives can justify the use of collective rather than individual voice (Wilkinson and Fay 2011). Employee voice may have democratic roots but also the organisation’s management may be interested in promoting it if there is an expectation of a reward. Union representatives play a significant role in this, establishing new roles and processes through greater

involvement (Bacon and Storey 2000). There are notable examples of business organisations that managed to create breakthrough improvements in performance by strengthening their employee-employer partnership (Totterdill 2015). Workplace partnership offers a huge potential for employees to be actively involved in a range of issues within the workplace, from job design and teamwork to change initiatives within the organisation, in this way acquiring “ownership” of the process as well as generating win-win outcomes for both employees (e.g., higher work engagement) and organisations (e.g., sustainable performance) (Totterdill et al. 2002). It is inferred that the workplace partnership can generate great benefits for older workers as well.

Proposition 8: Workplace partnership can positively contribute to the health, well-being, engagement and retention of older workers.

Implications for Practice and Future Research

There is no sound evidence on whether WI practices can affect older workers in terms of retention and engagement, so research on this is timely and needed for practical reasons. WI practices can greatly benefit older workers and organisations in many ways and therefore research to demonstrate expected positive associations between WI practices and older workers’ retention in the labour market post-retirement age would offer opportunities to develop practices to impact on retirement decisions and supporting work engagement, performance and health and well-being. In the longer term such changes would benefit the whole workforce and ultimately prevent older workers from exiting early the labour market allowing the organisations to benefit from accumulated knowledge and experience of older workers.

Conclusions

The engagement and retention of older workers is an increasingly important issue in an era of an ageing workforce worldwide. It is important to take a comprehensive approach to the workplace practices that can support older workers’ health and well-being. We have suggested that workplace innovation practices can achieve this by focusing on the conditions and foundations for the improvement of quality of working life and organisational performance in tandem (Pot et al. 2012), they can help to develop inherently healthy workplaces and are therefore relevant for workers regardless of their age. In this way, they can also address the dual demographic and economic challenges in a turbulent Europe. By summarising the available evidence into a number of propositions, we hope that this paper will guide future research and practice, with the aim to support the health, engagement and performance, and labour retention of older workers.

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Innovation Management in Swedish Municipalities

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Abstract

Research on public sector innovation is still limited, and increased knowledge of innovation processes is needed. This article is based on a study of the implementation of innovation policies in Swedish municipalities, and gives a first-hand, empirical view of some of the complexities of innovation in the public sector. The study took place in four municipalities in central Sweden. The municipalities varied in size and organisational forms. Interviews and policy documents were used for data collection. The results showed that the innovation policies were not followed by action, which may be described as not mobilizing dynamic capabilities to create innovativeness. Thus, dynamic capabilities, such as learning and HRM, Human Resource Management, were not used in conjunction with innovation. Particularly amongst senior management there was a negative attitude towards the innovative capacity of their organization. Middle management saw possibilities. However, barriers such as extensive control systems removed the focus from innovation. There was a lack of communication between senior management and middle management regarding innovation. The conclusion was that innovation, as both concept and practice, was not fully embraced by the municipalities.

It is suggested that generative leadership, opening up communication within the organisations, especially between employees, could be beneficial, and that a common understanding and definition of the innovation concept is needed. Integration of top-down processes with bottom-up processes, such as employee-driven innovation, is also suggested.

Keywords: Public sector, innovation, innovation capacity, dynamic capabilities, innovation concept, management, barriers, opportunities, employee-driven innovation, thematic analysis, summative content analysis

Introduction

The interest in public sector innovation, such as the use of new methods and technology and new forms of service output, is increasing. Individualisation of services, limited economic resources, demographic change (e.g., an aging population demanding more care), and social problems are seen as requiring innovation and the implementation of an innovative culture in the public sector (Davila, Epstein & Shelton 2005; Bason 2010; Bekkers, Edelenbos & Steijn 2011; Harris & Albury 2009). Attention has been given to how e.g. public procurement can be used to stimulate innovations at providers (Edquist & Zabala-Iturriagoitia 2012; Knutsson & Thomasson 2014), thus in practice outsourcing public sector innovation to other actors (Wihlman, Sandmark & Hoppe 2013). Less attention has been given to the innovativeness of the public organisation, how the public sector can be innovative in itself, where, according to Bommert (2010), research is limited.

Lumpkin and Gregory (1996) offer a description where innovativeness stands for an organisation's willingness, tendency and ability to engage in and support new ideas, novelties, experimentation and creative processes that may result in innovations. Although deregulation, freedom of choice among service providers, and new forms of management, influenced by New Public Management (NPM), have transformed the public sector in recent decades (Christensen & Lægread 2007; Hasselbladh, Bejerot, & Gustafsson 2008), it has not led to increased innovativeness (Hartman 2011). The hoped for effects in making the public organisation more adaptable to today's needs has not been reached (Lindberg, Czarniawska & Solli 2015; Hood 2011). There share this view with the OECD, who are critical of Swedish innovation policy as it "misses the dynamics and potential benefits of innovation in the public sector and society more widely" (OECD 2013, 32).

Objectives and outline of the article

Research into public sector innovation has increased in recent years (Grødem 2014; Matthews, Lewis & Cook 2009) but knowledge gaps remain, and there is a particular lack of empirical research (Bloch & Bugge 2013; Bommert 2010). Also, knowledge of innovation methods and support for what works in fostering public sector innovation, and innovativeness is not extensive. Thus our aim was to study the implementation of municipal innovation policies, within the realm of two research questions:

1. *What were the attitudes of managers towards innovation?*
2. *How did public sector managers describe their actions to implement innovation policies?*

The study takes as its starting points policy documents, and also includes interviews with five senior managers and six middle managers.

All municipalities studied had, in policies (in the article we will use policies as the name of both strategies, policies, visions etcetera), stressed the importance of innovation and innovativeness in the organisations. These policies had been processed at the highest political and management level. Thus, this is the objective for management to achieve.

It should also be noted that this article describes a study, which is part of a larger study with its focus on employee-driven innovation in welfare services. Therefore, our research questions, the analysis, and conclusions in particular include such innovations and the relation of these to management.

The article is organized as follows: At first we introduce the innovation concept itself, then the notion of dynamic capabilities and employee-driven innovation (EDI). The concept of innovation and EDI relates to the attitudes of the management. The management's views on the organisation's dynamic capabilities, and the use thereof, mainly relates to the management's actions. After the description of the methods used, the results are described. Finally, the findings and their relations to theories and our research questions are discussed. We also make some suggestions for further research.

The innovation concept in a public sector context

As innovation is fairly new to the public sector, so are the definitions of innovation in the context and also what is needed to promote innovation capabilities. Yet, research has identified several enablers for public sector innovation, such as support from the top, resources for innovation, encouraging staff to innovate, involvement of end-users, attention to the views of all stakeholders, and change and risk management (Borins 2001; Mulgan & Albury 2003). Also, barriers have been identified. Albury (2005) suggests a framework that includes barriers such as short-term budgets and planning horizons, inadequate skills in active risk or change management, culture of risk aversion, delivery pressures, and administrative burdens.

Besides enablers and barriers to public service innovation, the definition of innovation within a public sector frame seems problematic. Nählinder (2007) stresses the need for conceptual development, noting that we need to consider whether innovation as a concept is applicable to the public sector at all, and also noting (2013) that managers in a municipality studied perceived the concept in different ways. Osborne and Strokosh (2013) as well as Fogelberg, Eriksson and Nählinder (2015) emphasise the need for the double translation of innovation, that is from the private sector to the public sector and from products to services.

Langergaard and Hansen (2013) suggest that, if the concept of innovation should be used within the public sector, it needs to be adapted to the practices and the particular goals of the sector. Such definitions could be those that expand on previous innovation definitions, mostly relating to the private sector, with specific concepts from the public sector, including policy innovation (Windrum & García-Goñi 2008) and democracy innovation (Bason 2010). However, Langergaard and Hansen (2013) also note that these add-ons do not challenge the present innovation theory. They suggest that an all-encompassing innovation concept must be generic, such as "*change that aims at improvement*" (2013, 8), which then should be the base of innovation definitions and adapted to the particular sector. Consequently, in this study we adopted the following definition of innovation: "*The intentional introduction and application within a role, group or organisation of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, the organization or wider society*" (West & Farr 1990, 9). In practical terms, innovation in this study refers to major changes in processes, service output, technology, the introduction of new methods for welfare services etc. Intentionally, issues and processes of a purely political nature were excluded from our study, as this formally was out of scope for management. That it is not to say that management may not be influential in such cases.

The use of dynamic capabilities

An organisational culture where innovation is in focus is highly dependent on the ability to renew (Martins & Terblanche 2003), constituting the innovativeness of the organisation. The renewal may also be described as using dynamic capabilities, e.g. “the ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments” (Teece, Pisano & Shuen 1997). Ellström (2010) notes that support for learning, and an understanding of both implicit and explicit work processes constitute the basis of innovation. Smith et al. (2012) emphasise that innovation connected to learning should be the focus of human resource management, HRM. Dynamic sharing of knowledge and experience is thus essential for organisations eager to change and improve their innovative capability. If subsystems, such as in this case HRM and economic steering, are used to support innovativeness, this indicates the organisation’s commitment to innovation (Glynn 1996) and also the willingness to use dynamic capabilities.

Llewellyn and Tappin (2003) suggest that dynamic capabilities are particularly relevant to the public sector, because the sector focuses on internal resources rather than competitive market behaviour. However, the concept of dynamic capabilities has received little attention in the field of public management (Piening 2013). Piening also suggests that the dynamic capability perspective can enhance our limited understanding of how public organisations change in response to their increasingly turbulent and complex environments. Nisula (2012) argues that the public sector traditionally has fewer dynamic capabilities. There may also be conflicting goals, making renewal challenging (Fernandez & Rainey 2006; Osborne & Brown 2005; Piening 2011).

Innovation management and employee-driven innovation

Management in the public sector faces a different challenge regarding change compared with management in businesses. Swedish public sector managers’ leadership is also highly complex, leading to a high turnover of executives (Cregård & Solli 2008). Compared with private sector managers, public sector managers are often responsible for larger units (Wallin, Pousette & Dellve 2014; Höckertin 2007) and are affected not only by their own superiors but also by the political process, which governs both the sector and the organisation. Borins (2002) argues that if the political leadership has a trusting relationship with the administration, this will encourage bottom-up innovation as well as appropriate crisis response and agency turnarounds; if not, bottom-up innovation, such as EDI, will be stifled. Complexity has also increased due to the effects of NPM, including increased competition between publicly financed providers; for example, school principals in Sweden must handle new functions such as marketing (Kallstenius 2010). As the manager’s role in Swedish municipalities is already highly complex, innovation represents an add-on to this.

Surie and Hazy (2006) advocate *a generative leadership* that creates the necessary conditions that nurture innovation through connectivity and interaction, that is, a communicative culture, rather than focusing on creativity and individual traits. This may also be seen as a democratic dialogue, as described by Gustavsen (2015). The communicative culture may also be particularly useful in situations where communication between users and employees is important, i.e. situations that may lead to user-driven or employee-driven innovation. Having both management and employees learn methods for communication has also proven successful in fostering idea generation (Åteg et al. 2009).

In a general perspective, the municipalities, especially their welfare services, are organisations with many employees. In many respects, they may be seen as service organisations, with the meeting with the customer (or client/user) in focus. Such meetings and relations are also at the core of EDI (Klitmøller, Lauring & Rind Christensen 2007). Another argument for the importance of EDI is that employees have exclusively procedural information about processes (Høyrup 2010). Consequently we use the following definition of EDI by Klitmøller *et al* (2007): *the development and implementation of new organisational forms, service concepts, modes of operation, and service processes in which the ideas, knowledge, time, and creativity of employees are actively used.*

Smith *et al.* (2012) propose that the most relevant factors promoting EDI are management support, autonomy, collaboration, and organisational norms favoring exploration. Saari *et al.* argue (2015) that it is possible to combine this process with a top-down perspective that includes strategic reflexivity. This also highlights the role of central managers bridging activities such as networks, mediating tools and communication arenas (*ibid*). Thus the attitudes of management, the use of dynamic capabilities, and the role of the employees are important for the innovation capacity in municipalities.

Methods

Data collection

Data was collected from four Swedish municipalities that differed in size and organisational form. They were situated in central Sweden.

Data from the municipalities were collected in two steps. The first part was data collected from 53 strategic documents (Table 1), as a background for the interviews. The local governments were asked to present their main strategic documents, such as operational plans, long-term plans, HRM and salary policies, and innovation strategies, for both the local government as a whole and the units included in this study. Documents were also obtained through the web pages of the municipalities. The documents form the background to questions regarding actions and attitudes, as our overarching aim was to study the fulfillment of innovation policies as described in the documents. Therefore, it was necessary to analyse the contents of the policy documents.

In the second step, semi-structured interviews (Table 2) with 11 managers were performed. Five of the eleven interviews were performed with senior management at three of the four municipalities. All senior managers belonged to top management. Six interviews with middle management were conducted; at a day-care centre, a palliative care unit, a nutrition unit/restaurant, a street/park maintenance unit, a unit for short-term eldercare and a support recruitment center for the elderly and for people with physical or mental disorders. All units were strategically chosen for being different organisational parts of the municipal welfare services, this creating a variety. The units had 10 to 55 employees each. A middle manager subordinated to a district manager, or the equivalent, led each unit.

Municipality	Documents identified	Documents mentioning innovation	Organisational form in the municipalities
Municipality A	25	18	Unified organisation, no division between purchaser and producer
Municipality B	12	6	Purchaser-provider organisation, limited separation between the functions
Municipality C	6	4	Purchaser-provider organisation
Municipality D	10	1	Purchaser-provider organisation
<i>TOTAL</i>	<i>53</i>	<i>29</i>	

Table 1 Overview of the municipalities and documents used in the analysis

Organisational level	Number of informants	Number of municipalities	Sex, M/F	Age
Senior management	5	3	3/2	40–65
Middle management	6	4	1/5	35–60
<i>TOTAL</i>	<i>11</i>	<i>4</i>	<i>4/7</i>	<i>35–65</i>

Table 2 Overview of the informants

Semi-structured interviews with managers were held at each manager's offices and were performed by the first author (TW) from June 2011 to January 2013. Interviews were based on a thematic interview guide. Open-ended questions were asked about the innovation concept, innovation processes, support for innovation, strategies, whether and how innovation questions were discussed in the organisation. Also, questions regarding how management acted in relation to subordinates, learning and innovation, barriers to and opportunities for innovation, and the role of human resource strategies and the HR department regarding innovation related issues were asked. All interviews except one were recorded and transcribed. The unrecorded interview was arranged at short notice. For practical reasons, notes were taken instead. In one of the municipalities, no one from senior management was willing to undertake an interview within the stipulated time frame, thus (Table 2) three municipalities took part here. However, the results of the analysis were discussed with two senior managers from that municipality in separate conversations. They agreed that the analysis reflected a fair picture also of their municipality, as they experienced it.

Analysis of data

In the document analysis, the official view of innovation was explored by a summative content analysis, as described by Hsieh and Shannon (2005). It was studied how frequently the concept of innovation was used and in which contexts innovation was seen as advantageous, how it was described, and whether particular innovation goals had been set.

A qualitative thematic analysis (Braun & Clarke 2006) of the interview transcriptions was conducted to sort and code the data, in order to get a deeper understanding of the perceptions of managers. The thematic analysis of the dataset comprised six steps. The first step entailed familiarising with the data, including transcribing, reading, rereading, and noting initial ideas and findings. In the second step, the initial codes were generated, and in the third step themes were searched for. In step four, the themes were reviewed and related to the coded extracts, in step five themes were defined and labeled according to their contents. Finally, in step six, the results were tabulated according to the themes identified. This was done in an iterative process. The themes were continuously discussed between the co-authors.

Methodological considerations

The study searched for overall patterns, not being a comparative study of municipalities, and thus the results could be transferable to other municipalities, despite the limitation to four Swedish municipalities.

Lincoln and Guba (1986) state that trustworthiness is an essential factor when judging qualitative research. To enhance trustworthiness and avoid interpretative bias inter-subjective agreement was sought in the analysis, as the emerging themes were continuously discussed among the authors. In addition, quotations were used to illustrate each identified theme, connecting the findings to the original interviews.

In order to counteract the likelihood for informants trying to satisfy the interviewer (Alvesson 2003), the interviewer continuously reframed, repeated and expanded questions as described by May (1991).

Ethical aspects

The recommendations of the Swedish Research Council's (Vetenskapsrådet (Swedish Research Council) 2012) for studies in the humanities and social sciences were followed for this study. To ensure confidentiality, the quotations have been numbered in the Results section. Also to preserve confidentiality, the origins of the examined documents are not described in detail.

Results

In the policy documents, Innovation was described in very general terms, and mostly without specific goals. Innovation promotion activities were mainly restricted to formulating and disseminating the policy documents. From the interviews, gaps between management levels were found. Old-fashioned structures and bureaucracy were seen as hindrances to innovation.

Use of the innovation concept in policy documents

Our overarching aim was to study the implementation of innovation policies as described in policy documents. The policy was decided upon at the political level or the senior management level, serving as an assignment to managers in the organization. Consequently, it was necessary to analyse the contents of the policy documents. A total of 29 documents, representing all the municipalities, containing innovation in some form, were found. However, there was only one policy document found that explicitly was dedicated to innovation. In all the other cases, innovation was a part of long-term strategic plans, HR policies, budgets, and objectives etcetera. We summarise what we found in the different municipalities in the following table:

Municipality A	Innovation was described as directed toward the internal organisation as well as externally to support improvement beneficial to citizens, commerce, and industry. The municipality had a specific innovation strategy document.
Municipality B	Innovation was described as an aim to create a thriving municipality. Incremental internal innovation, although this term was not used, appeared occasionally in connection with the improvement of the administration.
Municipality C	Innovation was described as a means of improving the provision of services but there were also goals for innovation procurement. The external focus was on creating an innovative society together with universities, commerce, and industry.
Municipality D	Innovation was described as for municipality 3 except for innovation procurement, which was not stressed.

Table 3 Overview of innovation in policy documents

The results showed that innovation was mostly described in very general terms, as something beneficial, useful and valuable. Thus, the documents were not very specific. They described innovation as helping to solve grand problems at the societal level such as unemployment and to improve the effectiveness and services at the municipal organizational level. Formal definitions were not made, except in one case where the business oriented OECD² definition was referred to. The documents were in most cases produced by the management, but decided upon at the political level.

Regarding the knowledge of the existence of the documents, middle management only occasionally mentioned the policy documents, and when doing this they referred to goal conflicts. They spoke mostly in general terms of the advantages of innovation. Senior management were well aware of the documents and their contents, such as:

“X Municipality shall be characterised by the promotion of knowledge, innovation, and entrepreneurship in all its activities, in particular, the way they affect society and in particular co-operation with others” (D3)³.

² OECD (2005) covers only the business sector.

³D# = Document number, S#=Senior Management, M#=Middle Management

According to the document analysis, the municipal organisation was also seen as a partner in creating the open and responsive city for all of society: *“An open and responsive city that has the courage to develop its soul constantly. Here differences, ideas, innovations are affirmed: when people meet new ideas are created”* (D8).

Innovation was also addressed directly as a responsibility for the employer who should:

“Provide good conditions in a work environment that promotes innovation and development giving the employees the possibility to perform their tasks in a professional manner” (D8).

Some of the descriptions in the documents were directed towards management and/or employees:

“Through clear mission and focus on results, the Municipal Group creates a modern organisation where the meeting with the client and the user is always at the centre. Good leadership promotes creativity and innovation. Proper communication gives clarity and consensus on the objectives that the organisation aims to achieve. The available resources are used efficiently” (D8.)

According to the documents, three of the four municipalities did not pay attention to employee-driven innovation, but in the fourth municipality this was a rather prominent part, visible also in the major strategic plans.

“X municipality desires proud employees who are given the opportunity to achieve the objectives performing a qualitative and results-oriented work in a work environment that is characterised by openness and "high ceiling", trust, innovation, courage and responsibility” (D9).

Only occasionally the role of innovation was described: *“A good innovative approach is expected to lead to a development that contributes to improved results and achievement of the politically determined objectives”* (D8).

There were also documents specifying what kind of innovations was sought after, and how innovations should come about, such as social innovations or innovation through procurement.

To conclude, we found documents that were not very specific, and therefore, were not concrete in terms of what action should be taken. As mentioned, it was only in one of the municipalities a specific innovation policy was found. Here, one of the departments in that municipality also had very specific objectives regarding innovation, such as how many innovations were searched for and in what areas.

Results: Bureaucracy and gaps between levels

Two main themes were identified in the thematic interview analysis: *bureaucracy and deeply rooted culture*, and *gaps between hierarchical levels*, describing the differences in view between organisational levels.

Bureaucratic conditions and deeply rooted culture

The first theme, *bureaucracy and deeply rooted culture*, was mainly related to senior management. There was a polarity between the optimistic visions of innovation expressed in the documents and the barriers described by senior management in the interviews. Within this theme, there was an absence of management efforts to realise the policies expressed in the documents.

Senior managers doubted whether their organisation had the ability to create and uphold the appropriate work environment and conditions needed to promote innovation and development, as stated in the documents. The capacities or actions were described in a way that did not match the visions articulated in the documents. This may also be regarded as a gap between rhetoric and reality. Senior management admitted that actions in many cases were lacking and gave numerous explanations for this. One document stated: *“We put great emphasis on the challenge posed by traditional structures and on encouraging innovation and original thinking”* (D11). Senior management perceived in the interviews that such directions were not possible: *“The business model in the public sector is such that it is not advantageous to follow new trails”* (S2).

The control systems, often in the form of balanced scorecards, were also frequently mentioned as barriers. Senior and middle managers were dissatisfied with the vast number of goals and measurement of these, which drew attention away from the improvement of matters they regarded as more important. One informant was quite outspoken: *“We may have to switch control systems completely”* (S3).

The current organisational models, with functions separated from each other, were also problematic, according to senior management. As a consequence, diffusion of learning and knowledge was described as difficult: *“We learn about ideas that are interesting, but then we insert them into a structure from the 50s”* (S2).

The traditions and leadership styles of the organisation were described as bureaucratic and old-fashioned: *“In terms of Tayloristic thinking, the public sector is at the forefront”* (S1).

One senior manager viewed his principal task as changing the leadership style for all managers in that municipality, to focus more on relevant goals, not necessarily the current objectives. This was also meant to lead to empowered employees, which could result in innovation. However, this change effort was done in isolation, as further reform efforts toward a more innovative capability were not taken: *“We only think we are creating innovation”* (S1).

A senior manager also described innovation as just a trend or buzzword: *“This is not something new. What was wrong with the old suggestion boxes?”* (S5). Another senior manager declared that quality systems were more important than innovation, as they (the staff) were used to work with such systems.

Senior management also expressed concerns about barriers and deficiencies in the communicative culture. This could mean a pervasive attitude in the organisation that employees were not allowed to think that they were very special people coming up with great ideas. Another barrier mentioned was the striving for consensus, also described as conflict avoidance. Taking an innovation from idea to practice may lead to conflict, as something existing is challenged by something new; the potential for conflict can be avoided by just not advancing ideas: *“There is considerable skepticism about anything different; there is a strong tradition of managing, but not of renewal”* (S4).

Gaps between hierarchical levels

The second theme, *gaps between hierarchical levels*, relates to differences between the management groups in terms of their views of innovation. Senior management described several barriers to innovation. Whereas senior management had a more negative attitude towards opportunities for innovation, middle management perceived and acted upon what they saw as opportunities. Senior management mentioned the difficulty of supporting innovation in action, as opposed to moral support, referring to problems with financing, reward systems, etc.: *“Our weakest ability is to organise and find a system that orchestrates the innovation process”* (S3).

A more specific difficulty experienced by senior management was the lack of employee time for innovation because of what was described as “optimised” staffing: *“Time is a problem because I do not think employees would say that they have time for it”* (S3). Middle management also saw difficulties in finding the time necessary for innovation; still incremental innovation was described as taking place, such as new methods to care for the elderly with dementia. Senior management did however, not recognise these incremental innovations as innovations. Also, innovations were not reported systematically, according to middle managers. Consequently, successful or unsuccessful innovations and their financial, quality, and customer satisfaction effects, were not known.

Middle managers described how they encouraged their employees to be innovative, as described by a relatively new manager: *“as I now have the status of manager, I can encourage good initiatives. I would like to take the opportunity to encourage people to make fun, exciting things”* (M1).

In a few units, the middle manager had encouraged those who wanted to champion innovative ideas, by starting a project. Participation in such projects was seen as an opportunity for employee knowledge development, but sometimes also as a reward. One senior manager dismissed this type of action, seeing it as conflict avoidance where the middle manager did not dare to say no to unfruitful ideas, where the usefulness might be doubted.

A senior manager expressed distrust of middle management: *“For some reason, the message of innovation stops at middle management”* (S5). There were exceptions, however, when middle managers had the full support of their superiors: *“I have made substantial changes to my unit as I want it to be number one in Sweden, and I have the full support for this from both politicians and my boss. The HR department has also helped me with new means of recruitment so that I can achieve my goal”* (M3).

One problem for middle management was the dominance of a short-term perspective and a focus on budget and efficiency. Despite how it was described in the policy documents, innovation was experienced as a second-ranked goal. Senior management admitted that there were contradictory messages; innovation was necessary, but short-term goals, primarily financial ones, were even more important. No actions were mentioned as taken in order to solve these conflicts.

Senior management described that the HR strategy was rarely used in the organisation to support innovation. Only wage policies were used to a small extent in this respect. Besides, there was no systemic follow-up of competencies in the organisation and accomplished learning that could be used as a system for continuous learning from experiences.

Innovation promotion activities were restricted mainly to formulating and disseminating policy documents, holding a seminar on innovation, and having discussions at workplace

meetings. Special funding was not allocated. Nor were process facilitators, experts in innovation, engaged.

In the interviews, middle managers cited examples of innovation occurring in their units, despite the lack of dedicated innovation processes and support from various functions. Such innovations could be additional methods to make elderly people more active, simplified administrative routines, or new ways to inform newly arrived refugees of their rights and obligations.

Middle management argued that innovations such as these were needed, due to increasing competition and demands from the public, politicians, and senior management. Lack of resources and the need to find new ways to work were other driving forces encouraging middle management to promote innovation.

Further differences between senior management and middle management were found in their views on risk. When senior managers were proposing an idea to political leaders, objections such as “*is this evidence-based*” or “*has anyone tried this before*” were frequently raised. In connection with the desire “*not to waste the taxpayer’s money*”, this recurrent questioning of change initiatives was seen as hindering innovation.

In contrast to senior management, middle management expressed less fear of taking risks with new ideas and methods. Middle managers occasionally discussed development issues with colleagues, but also claimed that they rarely specifically talked about innovation processes and innovations made. In line with this, co-operation with other units, and open innovation system initiatives in which citizens or customers could take part, were also rare. When communicating with other managers, this was mainly done to ask if they had made similar innovations or if the colleagues could see any risk with the implementation of a certain innovation.

Thus, innovation was described in very general terms and actions were restricted to local initiatives. Gaps between management levels were found and old-fashioned structures and bureaucracy were seen as hindrance to innovation.

Discussion

The results of this study were differences in perspective between the two groups of managers. The senior managers mistrusted the possibilities of implementation of the innovation policies, while the middle managers acted upon the policies in a concrete way. This suggests that the lack of consolidated action for innovation in the municipalities is mainly a senior management problem.

Attitudes towards innovation - barriers but also opportunities

Innovation policies are difficult to implement, as the findings of this study indicate. The study points to a major barrier, *differences in views between managers on different levels*. In the documents visions of fostering an innovative culture were formulated; to achieve this as senior management described it, substantial structural and cultural barriers had to be overcome. Middle management also experienced barriers, such as lack of resources, prioritisation of adhering to the budget, and conflicting and sometimes irrelevant goals. However, they also saw innovation, based on the ideas and initiatives of employees, as possible. Depending on the hierarchical level, the perception of what constituted a barrier varied.

Senior management described barriers, such as organisational traditions, bureaucracy, and lack of efficient control systems and risk aversion. These barriers are well known in research (Albury 2005; Bommert 2010). Senior management even felt that innovation was not happening at all, and some also saw a conflict between innovation and quality systems.

Middle management experienced conflicts between demands for innovation and other organisational goals and demands, but nonetheless found room for incremental innovation. However, as Brandi and Hasse (2012) note, an innovation is not an innovation until it is recognised as such in a particular cultural context. That senior management did not recognise innovations made at the unit level indicates that these innovations were either limited to the unit context or not communicated to other parts of the organisation.

One of few examples of a strategy for implementing innovative working procedures was found at the middle management level. One manager promoted her vision of change in the unit by recruiting employees committed to innovation, early adopters in terms of innovation diffusion (cf. Rogers 2003). Nonetheless, the lack of structured processes and support systems may sometimes have hindered the implementation of new, innovative ideas.

Actions not taken - missing dynamic capabilities

Senior managers found the policies difficult or even unrealistic to realise. This can also be seen as a missing will to use the existing dynamic capability (Piening 2013), for such a significant change as creating an innovative capacity in municipal organisations), or to extend the dynamic capabilities, for instance in co-operation with external partners.

An important part of the dynamic capability is also learning and support for learning. Learning may be seen as a basis for innovation, as described by Ellström (2010). Smith *et al.* (2012) emphasise that innovation connected to learning should be the focus of HRM, but this was not the case here. Dynamic sharing of knowledge and experience is thus essential for organisations eager to change and improve their innovative capability. If subsystems, such as in this case HRM and economic steering, support innovation, this would indicate the organisation's commitment to innovation (Glynn 1996) but such a commitment was not found in this study.

It can be argued that, in the public sector, capacities for renewal, dynamic capabilities, and innovation are not particularly important (Shleifer 1998). Citizens demand continuity, transparency, and rule of law when dealing with the authorities. Through elections, the citizens have decided how public services should be run. In addition, according to Swedish law, municipalities also have certain mandatory responsibilities (Regeringen (Government Offices of Sweden) 1991). Thus, municipalities cannot just change their business concept, which some senior managers referred to as necessary if they should be able to create an innovative culture. However, in times of recession, with a rapidly aging population, social problems, demands of a well-educated population for the country to remain competitive, etc., it is hard to dismiss the idea that innovative solutions are needed in the public sector. It can also be argued, as mentioned earlier by Llewellyn and Tappin (2003), that dynamic capabilities are particularly relevant to the public sector. According to this study these capabilities are only used to a limited extent. We may see employees, learning and the capabilities of employees as a resource, leading to EDI, and there were also some examples of this, as reported by middle management. However, EDI was not a part of a strategy to become innovative, and senior management did seldom express the possibilities of EDI. One explanation may be as Stewart (2014, 248) describes it: *“these (bureaucratic) obstacles manifest themselves as a series of tensions within the host department, in particular, risk aversion may become, in the implementation frame, an ongoing concern with control.* This

was despite the fact that employees are in frequent contact with customers, and face daily challenges in providing the services (Høytrup 2010), a situation very common to the municipalities.

Thus, the implementation of a high innovative capacity fell short due to several barriers, despite good intentions expressed in strategic documents. It did so in three of the four important aspects Brooke Dobni (2008) describes: infrastructure (i.e. the use of the dynamic capabilities), knowledge/attitude about innovation, and an environment and context conducive to innovation. Innovation arises through the interplay of various actors (Dougherty 2004; Fonseca 2004; Tuomi 2002; Zerfass & Huck 2007), and this interplay was not found in the studied municipalities, something that could have been supported by a generative leadership (Surie & Hazy 2006). Riivari *et al.* (2012) underscores the importance of the congruency of management, the ability to have discussions and supportability, as the organisational virtues, which most effectively can enhance organisational innovativeness. Here we may add that the gaps between management levels in this study thus can also be seen in terms of congruency.

It could also be discussed that the uncertainty of what innovation is, i. e. about the concept of innovation and its use within the public sector, could be a major hindrance to using and mobilisation of the dynamic capabilities and the employees as a resource for innovation.

There may be alternative explanations to these failures. One such is to see innovation as a management fad or as a management virus (Røvik 2011), or as one of the magic concepts Pollitt *et al.* (2011) describes. So if management have a desire to be seen as modern innovation is *the* word to use. However, innovation was not a part of the everyday habits of the public organisations studied. Collaboration and a unified view on innovation were missing.

Current innovation concepts, from businesses and technology, are difficult to translate into the organisational context of the public sector (Langergaard & Hansen 2013), which may be a reason for failures here. Thus, there is complexity with service and authority goals as well as the diversity of stakeholders, including politicians. Cregård and Solli (2008) have demonstrated that the relationships between municipal managers and leading politicians are very close, and that, to survive, managers must act in a way that does not jeopardize these fragile relationships. Sørensen and Torfing (2011) note that public innovation should ideally correspond to the preferences of elected politicians. In addition, Todnem By (2005) claims that research into change management often ignores organisational politics and conflict.

In our study the differences between middle and senior management also indicate a lack of communication between them regarding focus, the definition of innovation, and the type of innovation needed, pointing to difficulties in handling the concept of innovation. In studying a Finnish municipality, Nisula (2012), in line with this study, found the most negative attitude towards innovation at top management.

Related to the present findings, and as shown in this study, senior management were skeptical of the dynamic capabilities of the organisation, in line with what Nisula (2012) suggests. Efforts to improve the dynamic capabilities were limited. Only minor management efforts were initiated, despite the vision of innovative capacities. As Llewellyn and Tappin (2003) suggest, dynamic capabilities may be crucial for the public sector. The results obtained in the studied organisations should therefore theoretically lead to limited innovation created, and this was what senior management reported, although some incremental innovation apparently occurred as described by middle management.

Suggestions for further research

Based on the results of the study, some suggestions for further research may be proposed. As incremental innovation did occur, despite the lack of proper support, it would be interesting to study what a wholehearted investment in innovation and innovativeness and a clear implementation strategy could achieve. Monitoring such initiatives is likely to deepen our understanding of how public sector organisations can develop their innovative capacity. A hypothesis, well worth studying, may also be rendered; do municipalities fail to create the desired conditions for innovation because different senior managers have different views on the importance and usefulness of innovation and of how to achieve it? Such a study may be worthwhile to undertake also as our results indicated that senior management, in general, did not support efforts to develop innovative ideas or an innovative culture. It may be assumed that new ideas may imply criticism of routines and actions supported or even initiated by management. This could also explain the lack of measures taken to change old structures and working procedures. An alternative explanation could be deficient knowledge of innovation, conflicting perspectives, or insufficient resources to create the necessary amendments. Thus, further studies in this area will be most welcome.

Conclusions

The results showed a gap between the far-reaching innovation visions and goals, expressed in the documents, and what was actually realised in the use of dynamic capabilities to implement the innovation policies. Senior management, in particular, pointed to barriers, such as bureaucratic traditions. Middle managers had a more sanguine attitude towards innovation, seeing opportunities, including EDI, albeit encumbered by some barriers. The gap between management levels can be explained by their different focuses, and by a lack of communication between them regarding their views and experiences of innovation, but also by the difficulties of adopting the concept of innovation to the municipalities, as well as a lack of understanding of both methods and EDI.

In the studied municipalities, innovation appeared to be an explicit policy, but the implementation of the policy fell short, as the capabilities and resources for change, the dynamic capabilities, were not used. Senior management did not acknowledge the incremental innovations implemented in the units, so the potentials of these limited innovations were not realised. The major barriers to creating an innovative culture, according to the senior managers, were traditions and old structures. Thus innovation, as both concept and practice, was not fully embraced by the municipalities, and in this context had troubles with both attitudes and actions.

We conclude that in this study, little action was taken towards the achievement of policies and goals and thereby increasing innovativeness. We suggest that a lack of communication and an understanding of the innovation concept here was a major hindrance to the implementation of the policies. Our results also indicate that innovation was something not established amongst the senior managers. In other words, innovation in this context had troubles both with attitudes and action.

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High-performance Work Practices in Europe: Challenges of Diffusion

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Abstract

Although the evidence supports the role of high-performance work practices (HPWP) in underpinning improvements in organisational performance, it is striking that so few companies in Europe seem willing to introduce them. The purpose of this article is to examine the barriers to the dissemination of HPWPs, and especially the challenges and dilemmas it presents to policy makers at the design stage. The article is based on in-depth, semi-structured interviews with the principal officials responsible for seven HPWP programmes across six European countries, as well as on extensive secondary material. The interviews were analysed to identify key issues of concern and then grouped to provide general insights into the operation of HPWP programmes. The article identifies a number of challenges common to all the programmes that need resolution, including tensions between research and dissemination, whether programmes should aim at breadth or depth, and the role of the social partners. It accordingly advocates a new research agenda that focuses on policies to achieve their wider diffusion, which will be of particular value to policy-makers. It also proposes that research should be directed away from replicating studies that demonstrate the effectiveness of HPWPs and towards analyses of constraints on dissemination and the means to overcome them.

Keywords: Employee participation, Europe, high-performance work practices, organisational performance, quality of working life, *Workplace Innovation*, work organisation

The key to genuinely sustainable competitive advantage, it has been argued, depends on the capacity of the organisation to learn to develop all its resources to the full (MacLeod & Clarke 2009). Successful and sustainable organisations create workplace environments which enable employees at all levels to use their entire range of knowledge, competencies and creativity (Totterdill *et al.* 2002). This view looks beyond standard economic models with their emphasis on quantifiable factors: such as machinery, investment and labour costs (Cressey 2009), to recognise the contribution of those intangible, qualitative resources and relationships that are often hard to measure, such as involvement schemes, teamwork, enhanced training and forms of profit-sharing. Such a perspective fits well within the long European tradition of seeking convergence between market-oriented policies and a healthy socio-economic environment (Kester *et al.* 2003).

Competitiveness is consequently viewed as the outcome of wider social processes in which work is an essential part of human life and individual identity. The term “high-performance work practices” (HPWPs) is often used to describe these processes, though “*Workplace Innovation*”, which extends beyond work practices to cover production and operations management as well, may also be found. Indeed, a distinction may be drawn between high-involvement work practices, such as work organisation and job design, and high-commitment employment practices, which include those forms of employment relations that enhance workers’ commitment and motivation (Boxall & Macky 2009). Terms like the “high road” approach to management and “partnership” may be used too (for a discussion of these terms, see Eurofound 2015: 15-24). In this article, we follow usage elsewhere (for example, Eurofound 2012), which uses “high-performance work practices” to cover a broad range of practices that focus on quality and efficiency at the workplace as well as various forms of voice mechanisms, notably direct and representational participation, and other appropriate management practices. Indeed, Fu *et al.* (2015: 211) define HPWPs broadly as “a system of HRM practices designed to enhance employees’ skills, commitment and productivity in such a way that employees become a source of sustainable competitive advantage”.

Yet there is a paradox at the heart of the debate about HPWPs in Europe. On the one hand, the evidence, though nuanced, generally supports the role of these practices in underpinning improvements in organisational performance (Guest & Peccei 2001). On the other hand, rather few companies across Europe actually seem willing to introduce these policies (Thelen 2001; Bélanger & Edwards 2007). This article focuses on possible reasons for this reluctance, which we call the “challenges of diffusion”. We begin by examining the evidence for the contribution made to performance by HPWP and outlining our research methods, before analysing the content and structure of a variety of diffusion programmes across six European countries: Belgium, Finland, France, Germany (at federal and regional levels), Ireland and Norway. We examine the nature of the challenges they all face and conclude that a new research agenda is required that centres on the constraints hindering the wider diffusion of HPWP.

The contribution of HPWP to organisational performance

Researchers have long attempted to establish a relationship between organisational performance and productivity on the one hand, and a range of human factors on the other. Huselid (1995), for example, considers over a dozen human factors, such as recruitment, job analysis and performance appraisal, as well as specifically involvement practices including information sharing and the use of employee attitude surveys. Indeed, evidence suggests that voice systems: forms of direct and representative participation practices that combine an

emphasis on job design and quality, have the most positive effects on employee attitudes and behaviour relating to productivity, output quality and innovation (Beaumont & Hunter 2005; Teague 2005). They create a climate of trust where individual employees are confident that their contribution will be valued (CBI-TUC 2001). Research also highlights the importance of a set of internally consistent policies and practices in ensuring that human capital contributes to the achievement of an organisation's business objectives, including compensation systems, team-based job design and employee "empowerment" (Huselid *et al.* 1997; Teague 2005).

Such evidence is international. Reviews of Australian, European and North American literature for the European Commission demonstrate a clear consensus regarding a positive relationship between participative forms of HPWP and performance (Savage 2001; Brödner & Latniak 2002). One of the most significant studies, the *Employee Participation and Organisational Change* (EPOC) survey of 6,000 European workplaces, confirms that direct employee participation and teamworking can have strong positive impacts on both productivity and quality of products or services (European Foundation 1998). Similar results on the impact of HPWPs have been recorded in surveys from numerous individual European countries, such as Belgium (De Winne & Sels 2010), Finland (Antila & Ylöstalo 1999), Germany (Lay *et al.* 1996), Ireland (Guthrie *et al.* 2009), Spain (Cabello-Medina *et al.* 2011), Sweden (ITPS 2001) and the UK (Snape & Redman 2010), as well as from the USA (such as Jiang *et al.* 2012).

Studies suggest that HPWPs contribute to higher performance in a variety of ways, for example by strengthening the relationships between employers carrying out distinct functions in settings that require interdependence (Gittell *et al.* 2010); reducing turnover rates and improving customer service (Batt & Colvin 2011); and by helping new ventures to develop into sustainable businesses through sales growth and innovation (Messersmith & Guthrie 2010).

However, some researchers have found little effect of HPWPs on labour efficiency (Cappelli & Neumark 2001), while others conclude that moderate levels of HPWPs may be more effective than higher levels, which are associated with greater stress (Godard 2001). Examples of "partnership" between employers and unions may prove fragile because of competitive labour markets and the threat of redundancies, while in other cases employees may actually prefer adversarial unions because they exert greater influence over pay and conditions than those that are more pro-partnership (Danford *et al.* 2005). Other researchers criticise HPWPs on the grounds that they may lead to greater stress and work intensification (Ramsay *et al.* 2000; Kelly 2004), while yet others have highlighted the methodological and conceptual dilemmas that these attempts entail (Purcell & Kinnie 2010).

Certain organisational theorists therefore argue that the value of general concepts, theories and methods in achieving HPWP objectives is rather limited (Garibaldo & Belussi 1996). Members of an organisation have to create their own future by developing "local theories" to fit local circumstances. In other words, it is necessary to develop HPWPs that create hybrids (Latour 1993), drawing on external experience but customising and improving it through local knowledge, resources, cultures and institutions. The result is a complex body of knowledge that requires careful interpretation. Boxall and Macky (2009: 17) consequently argue that the current state of knowledge on HPWPs:

... implies that there are possibilities for win-win outcomes in certain contexts but not without careful management of inherent tensions for both parties [managers and employees].

Context here might refer to a variety of factors, including the size of the organization involved, the skills level of its workforce, the nature of its product market, the consistency amongst the set of HR practices that it operates, the technologies that it uses and its business strategy, all of which create the conditions for different styles of HRM, high road or low road. For example, a company competing in the information and communications sector, reliant on a high-skilled, flexible workforce, is more likely to pursue high-road HRM strategies than one employing predominantly semi-skilled part-time workers in a canning factory. Cumulatively, then, the research demonstrates that a positive relationship between HPWPs and improved performance does exist, though it is not simple. The impact of people on performance is mediated by a wide range of contextual factors: in short, every case is different.

Overcoming obstacles: the need for public policy intervention

Successive studies have made it clear that the spread of HPWP in Europe is limited. This can be explained by a number of mutually reinforcing factors (Totterdill *et al.* 2002) including: low levels of awareness of innovative practice and its benefits amongst managers, social partners and business support organisations; poor access to evidence-based methods and resources to support organisational learning and innovation; uneven provision across Europe of knowledge-based business services and other publicly provided forms of support; and the failure of vocational education and training to provide knowledge and skills relevant to new forms of work organisation.

A European Commission study (Business Decisions Ltd, 2000) demonstrated that targeted public programmes in some EU countries had begun to address these constraints. Such programmes typically include: accumulating, analysing and distributing knowledge of leading-edge practice and evidence-based approaches to change; establishing closer links between researchers and practitioners; action research to promote workplace innovation; developing new learning resources to support workplace change; providing knowledge-based business support; and creating inter-company learning networks.

The practical challenge for policymakers is multidimensional. The task is less to discover “what works”: for which evidence, as noted above, is available, but rather to discover how to resource and support sustainable HPWPs on a large scale. In this respect, the policy response across Europe has been uneven. In France, Germany and some Nordic countries, for example, the provision of support for Workplace Innovation has been a constant though evolving feature of the policy landscape for more than 30 years. Elsewhere in Europe, however, such support has been either occasional or non-existent, though in the light of the literature on “varieties of capitalism” (Hall and Soskice 2001), this observation should not be surprising.

It is in line with Godard’s (2004) assessment that constraints on the development of HPWPs are likely to be greater in liberal market economies (LMEs), such as Ireland and the UK, than in the co-ordinated market economies (CMEs) of northern Europe. Adopting what he calls a “political economy” approach, Godard argues that HPWPs reflect challenges affecting the LME paradigm in which distrust and commitment problems underpin the employment relationship to a greater extent than in the CME paradigm. This might suggest that programmes designed to advance HPWPs will be more successful in CMEs than in LMEs, as levels of trust are already higher. That is, managers in organisations based in CMEs may be more likely to perceive HPWPs as “opportunities” rather than as “threats” as they fit more snugly within their existing high-trust employment relations systems. By contrast, managers in organisations based in LMEs may be more likely to perceive them as “threats”, ready to

challenge or even undermine familiar top-down management structures, and so may be more likely to reject them. As Kennedy and Fiss (2009: 900) put it:

Framing adoption decisions as either opportunities or threats thus affects whether, when, and to what extent organisations adopt diffusing innovations in technology or administrative practice.

This article analyses the role of HPWP programmes across six European countries, four of which: Belgium, Finland, Germany and Norway, may be regarded as CMEs, with France as a hybrid (Kang & Moon, 2012) and Ireland at the time as a “reforming” LME on account of its national social partnership framework that, before its collapse in 2009, covered pay, taxation, social welfare, education and health (Casey & Gold 2000). These countries appeared to provide the most auspicious terrain for the growth of HPWP given their generally collaborative industrial relations systems, with France and Ireland as outliers. The programmes themselves were all designed to diffuse HPWPs as widely as possible across their territories. The actors concerned have to generate strategies to formulate new rules and practices, transform existing systems and seek co-operation from other organisations and social groups within a “variety of capitalism” that generally supports their activities. Nevertheless, our analysis uncovers a range of challenges or dilemmas that policy-makers need to grapple with in even the most supportive circumstances in CMEs. In this article, we accordingly focus on the *constraints* that actors confront as they attempt to deal with the challenges raised in diffusing HPWPs.

Methods

We had no *a priori* assumptions about the nature of “good” policy based on national experience. Our approach, rather, was inductive and interpretive in that we sought to gain insight into participants’ understanding of: the nature of Workplace Innovation; its policy significance; why intervention is necessary; the factors that underpin successful policy design and implementation; the significance of partnerships with unions, employers’ organisations and universities; and, above all, the challenges involved in diffusing the practice of Workplace Innovation.

Each of the cases included in the study represented between one and four decades’ operational experience. We omitted the well-known Swedish Working Life Programme because it had been abandoned in 1995, and the Swedish Working Life Institute itself closed down in 2007. We also excluded countries like Denmark and the Netherlands because their support for HPWPs comes through *indirect* policy measures, such as programmes designed to promote healthy working or competitiveness, rather than workplace innovation *per se*. A programme launched in 2014 in the Basque country in Spain, designed to promote a “socially responsible Territory”, was excluded simply because there was still little to report. To our knowledge, there are no other operational national or regional-level programmes in Europe.

The EU-funded Work-in-Net project had collected basic data on the structure and organisation of the programmes in each country in 2005 (Zettel 2005). When we embarked on this research in 2009, our first step was to analyse this information, invite the officials responsible for each programmes to update it and to supply us with any relevant new material, which we checked against existing literature on HPWP. We subsequently carried out 18

interviews with these officials and other colleagues to discuss specific themes in greater depth. Interviews, which were not recorded, typically lasted around three hours and were conducted in English, which presented no problems. The interview schedule was semi-structured to give participants the opportunity to raise issues that we had not anticipated. The result was a UKWON report published in 2009 (Totterdill *et al.* 2009), which we used as a basis for this current article.

Programme	Interviewees	Number
Belgium: Flanders Synergy	Director, Programme Manager	2
France: ANACT	Director of International Relations, two Programme Managers	3
Finland: TEKES	Programme Director, Principal Research Officer, Programme Manager	3
Germany: Federal Ministry of Education and Research	Programme Director, Principal Manager	2
Germany: Work-oriented Modernisation Programmes, North Rhine-Westphalia	Director	1
Ireland: Workplace Innovation Fund	Programme Director, Programme Manager	2
Norway: VRI Norwegian Research Council (NRC); Work Research Institute (WRI); Norwegian Confederation of Trade Unions (LO)	Senior Programme Manager, Programme Manager (NRC); Member of VRI Programme Board, Programme Architect (WRI); Union Representative on VRI Programme Board (LO)	5
Total:		18

Tabell 1 List of interviewees by Country/Programme

In February 2015, we invited the same officials, or their replacements, to update their earlier material by means of a questionnaire (they all did so). The major change between 2009 and 2015 was that the Irish programme had come to an end in 2009, though we still include it in our analysis here because of its significance for HPWP in an LME.

A comparative framework

Case studies

This study is not intended to provide a structural comparison of the major workplace innovation programmes in Europe but seeks rather to identify the qualitative factors that inform their rationale, design, operation and sustainability. Direct comparison of programmes is difficult because each has been designed to address challenges within a particular economic, social and political context; each sits in a different relationship with the wider policy framework; and each has followed its own evolutionary path through cycles of learning, evaluation and revision. Here we focus on the lessons, choices and challenges for programme design that can be extracted from their experience.

- In Belgium, **Flanders Synergy** was launched in 2009 as a membership organisation, focusing on improving the quality of working life through action research, the development of learning networks and evidence-based consulting. Funded through private and public source, its projects aim to enhance innovative working behaviour, reduce absenteeism and engage older workers in active employment. It covers around 10,000 workers in over 200 companies.
- In Finland, TYKES (the **National Workplace Development Programme**) was launched in 1996, merging with the National Productivity Programme in 2004. It is a research-based development programme aimed at improving productivity and quality of working life by promoting the development of human resources, innovation and the active engagement of employees in Finnish workplaces through financial support and other means. In 2008, TYKES was transferred from the Ministry of Labour to TEKES (the Finnish Funding Agency for Innovation), indicating that the policy rationale for promoting HPWP had moved from an industrial relations niche to the mainstream industrial and competitiveness policy framework (Alasoini 2011). Its current programme, "Liideri - Business, Productivity and Joy [sic] at Work" (2012-18), focuses particularly on small and medium-sized enterprises (SMEs). So far, it has benefitted some 30,000 workers across 150 companies (Alasoini 2015).
- In France, **Anact** (*L'Agence nationale pour l'amélioration des conditions de travail*) was formed in 1973 against a backdrop of industrial relations conflict, in part a result of the Tayloristic forms of work organisation that predominated in French enterprises. Anact was created as a statutory national agency, involving social partners particularly through regional economic development strategy, but funded by the state with the aim of improving health and safety and reducing conflict through the introduction of a consistent policy framework for new forms of work organisation (Anact 2012). Since 2008, Anact has run the Fund for the Improvement of Working Conditions (FACT) that provides short-term intervention in SMEs or groups of SMEs for projects adopting a comprehensive approach to improving working conditions. By 2014, 102 projects were underway, about 20% of them covering groups of SMEs. ANACT's Social Innovation Fund (FISO), established in 2013 by the President, François Hollande, offers advances to finance socially innovative projects across the French regions. Two further programmes, aimed specifically at the co-operative and social enterprise sector respectively, provide financial support for eligible projects.
- In Germany, the **Federal Ministry of Education and Research** has had a long tradition of national initiatives supporting the development of HPWP since the launch of the *Humanisation of Working Life* programme in 1974. Successive programmes have reflected changing national economic and social conditions as well as the

evolution of policy priorities but have done so within a consistent institutional framework, allowing cumulative learning and the creation of considerable knowledge. Its current programme, “Working, Learning, Developing Competences”, has run since 2007 and forms part of Federal research funding policy. It provides advice and funding for action-oriented research projects, covering so far around 2.5 million workers in 1,500 companies. Further programmes run alongside with different focuses.

- In Ireland, the **Workplace Innovation Fund** (WIF) was established to support collaboration and participation at enterprise level. Arising from a recommendation contained within the Government’s National Workplace Strategy, WIF was delivered through *Towards 2016*, Ireland’s last national social partnership agreement, which collapsed in 2009. WIF had been organised into three interrelated strands covering enterprise-level projects in the private sector, initiatives to strengthen the role of social partners in facilitating HPWP and a public awareness campaign to disseminate knowledge of HPWP. However, it was abolished in 2009 with the first wave of austerity cuts, along with the National Centre for Productivity and Performance. Approvals for new projects accordingly ceased, though payments for projects approved earlier are continuing, administered through Enterprise Ireland, the government organisation now responsible for the development of Irish companies (Enterprise Ireland, 2013).
- The **Work-oriented Modernisation** programmes in the state of North Rhine-Westphalia in Germany represent an important example of a regional initiative designed to achieve wide-scale dissemination of HPWP. They represent a relatively rare example of the widespread use of European Social Fund resources to support workplace innovation. Led by GIB (*Gesellschaft für Innovative Beschäftigungsförderung GmbH*, or Innovative Employment Promotion Company), which was set up in 1986 as an agency of the North Rhine-Westphalian regional government, there are five programmes characterised by capacity building, harnessing diverse sub-regional agencies in promoting workplace innovation and recruiting enterprises to the programme (GIB, 2012). For example, “Consulting Services for Developing SME Potential” supports short-term workplace change projects as well as longer-term development of organisational strategy. It has assisted 22,000 companies employing some 770,000 workers since its launch in the year 2000.
- The Norwegian **VRI** (*Virkemidler for Regional FoU og Innovasjon*, or Programme for Regional R&D and Innovation), which runs from 2007 to 2016, differs from programmes in the other five countries included in this study because it treats HPWP as a possible dimension of regional development rather than as a policy objective in its own right. However, HPWP is not privileged within VRI: it appears only to the extent that the regional development coalitions which are the recipients of VRI funds wish to include it within their much wider portfolios of activity. Nonetheless VRI inherits the dialogue-based approach to workplace innovation developed in predecessor programmes from the early 1990s and offers the potential to mainstream HPWP within wider policy frameworks. A further programme, INKLUD, was launched in 2015. However, uptake overall has been limited, with only an action research project in Trøndelag region during an earlier phase of VRI and, currently, a pilot project in Rogaland region.

The challenges of diffusion

All the programmes considered here are designed to promote partnership-oriented HPWPs, which necessarily implies experimentation and learning. Furthermore, they all share a common commitment to publication of actionable knowledge relating to the learning generated. Programme managers in all six countries insisted that a vigorous dialogue did exist with key actors, such as government representatives and social partners. Indeed, by studying countries that were CMEs, or institutionally sympathetic to HPWPs, it was possible to ensure that the wider business environments in which programmes operated were broadly conducive to implementing HPWPs. Any challenges they faced were less likely to stem from the kind of institutional constraints that might be expected in LMEs (such as the nature of labour markets, skills levels and employer hostility) but rather from other factors, possibly related to the very design of HPWP programmes themselves. We turn now to examine the nature of these challenges.

How best to target limited resources?

None of these programmes has sufficient scale to make a significant numerical impact on workplaces throughout its territorial area, facing policymakers with a dilemma: whether programmes should focus on intensive involvement in a relatively small number of workplaces in the hope that they will generate exemplary cases which can then be publicised; or whether they should spread available resources widely, offering as many enterprises as possible just a few days' support, as with Anact's "short diagnosis" or the consultation strand in North Rhine-Westphalia, that aims to create a sustained momentum for change through small amounts of pump-priming.

There is no universal solution: the answer depends largely on the wider policy framework and other sources of tangible or intangible support available to sustain workplace innovation. The German experience, for example, suggests that combining a national research programme to develop leading-edge practice with regional programmes focusing on wide dissemination can be powerful, especially when knowledge generated by the programmes informs the construction of a broader supportive policy and social partner infrastructure.

Social partners as supportive bystanders or active participants?

The engagement of trade unions and employers' organisations is a common feature of all these programmes. Social partner endorsement of key workplace policy initiatives is regarded as an essential precondition in all six countries; moreover, unions and employers play a supportive (though rarely leading) role in recruiting companies to the programmes. The overall role of the social partners in the design and implementation of the programmes is advisory rather than actively participative. In Ireland, the former New Work Organisation programme represented a rare case in which social partners were involved as knowledgeable participants in workplace change projects.

Within each programme, workplace trade union representatives are automatically consulted and involved in projects from the design stage onwards. They are seen as potential sources of knowledge and understanding about "what really works" in an organisation as well as having the power to legitimise the project amongst the wider workforce. However, the extent to

which workplace union representatives are provided with the knowledge or competencies to act as effective participants in change by their unions or employers is often unclear.

Research, consultancy or broader policy frameworks?

European work organisation researchers consistently call for the systemic transformation of workplaces through HPWP that focus on sustained innovation rather than target-driven programme approaches (European Foundation 1998; Totterdill *et al.* 2002; Teague 2005). Indeed, historically through to the present day, several programmes such as those in France, Germany and Norway have been directly or indirectly influenced by socio-technical systems theory, which emphasises the need for system-wide change rather than partial or ad hoc initiatives. Moreover, HPWP emphasises approaches to work organisation that achieve convergence between high levels of organisational performance and a high quality of working life (European Foundation 1998; Totterdill *et al.* 2002).

However, it is unlikely that many workplace projects across the various programmes have led to systemic change. Long-term involvement with individual workplaces is more characteristic of the research-oriented programmes, which are necessarily limited to cases with the potential to generate new knowledge. Other programmes provide short diagnoses of organisational practice, which are sometimes followed up with a limited number of subsidised consultancy days: the gains from these interventions can be tangible and worthwhile, but the company itself would need to drive a more holistic transformation beyond the project period (as in the Finnish programme, which provides continuing opportunities for knowledge sharing and peer support).

Public programmes are also liable to be strongly influenced by politics and by broader policy priorities. In France, for example, the Anact network prioritises actions which reflect national policy goals relating to issues such as musculoskeletal disorders, stress and ageing. On the one hand, focusing on such topical issues may provide a more effective means of seizing a company's attention than preaching the virtues of systemic transformation. On the other hand, there is the danger that a continuous refocusing on transient issues may distract from the need for systemic transformation of work processes.

Niche policy or mainstream policy?

Programmes may be successful in meeting their own targets but remain relatively unknown amongst actors in wider public policy. In the case of innovation policy, for example, support for the creation of new prototypes or products, or for the introduction of new technological systems, often neglects the social and organisational processes involved in their effective use. This lack of organisational or anthropocentric perspective can generate obstacles throughout the development and implementation stages and may result in failure to realise the full potential of technological innovation (Brödner 2002).

Likewise, regional development strategies in much of Europe attempt to tackle issues of employment and competitiveness through labour market, management development and infrastructure projects without opening the "black box" of the workplace, thereby ignoring the organisational factors which lead to job creation and business success (Fricke & Totterdill 2004; Totterdill & Hague 2004). Enterprises themselves and the social partners often regard work organisation as the private concern of the stakeholders in the individual workplace and

not an obvious issue for public intervention. The incorporation of the Norwegian VC2010 programme into VRI and the Finnish Workplace Development Programme into TEKES can, therefore, be seen as an attempt to mainstream workplace innovation within the wider policy framework, taking them both out of the traditional industrial relations sphere and potentially increasing their profile and impact.

What about the services sector?

A further concern about content relates to the sectoral focus. The evaluation of the Norwegian VC2010 programme (Technopolis 2005) criticised its apparent inability to break out of a traditional manufacturing-based paradigm of work organisation; in short it failed to address the needs of the emerging knowledge-based service industries and their employees on which regional and national economic development increasingly depend.

Indeed, much of the current European literature on work organisation continues to rely on iconic examples of work organisation in manufacturing between the 1950s and the 1980s that have profoundly shaped the understanding of older generation researchers and practitioners. Europe's dependence on manufacturing is declining, yet examples of innovation in services to rival the experiences of Philips or Volvo in manufacturing have been slow to emerge (Harley *et al.* 2007). Underlying concepts, such as teamworking and high-involvement innovation, may be transferable between sectors but they are manifested in quite different ways and may require different vocabularies.

Potential for change

Having so far outlined the most serious constraints affecting the wider spread of HPWP programmes, we now turn to consider some of the ways in which they have, in recent years, refocused to become more efficient in diffusing results. In each case, programmes have developed more inclusive framing strategies designed to broaden their appeal through integrating the social partners, encouraging networks, and building relationships and capacity.

Experts or social dialogue?

Some researchers have argued that the design approach, with its strong reliance on expert power, has become a hindrance rather than a stimulant to real organisational change (Fricke 1997). Similarly, qualitative studies demonstrate that expert-led change is often partial, fragmented and unsustainable (Business Decisions Ltd 2000; Engeström 1992). European programmes have accordingly generally abandoned prescriptive, design-led approaches to the implementation of new forms of work organisation. All the programmes discussed here are grounded in discursive approaches to workplace innovation, typically employing explicit references to dialogue, workplace social partnership and practices that recognise the value of the tacit knowledge of frontline employees. Work-in-Net (2012) has begun to benchmark some aspects of the methods used by European workplace innovation programmes (Alasoini *et al.* 2004). Further benchmarking of change processes deployed in these programmes would greatly help to promote shared learning between policy designers and managers.

Casework or network?

Similarly, programmes have refocused from case work policy models towards networking strategies. Traditional business support models in many parts of Europe have focused on subsidies to individual companies to enable them to buy in external expertise in the form of consultancy. The programme manager is often little more than an administrator, with little direct involvement in content. In recent years, however, the limitations of such casework models have become increasingly apparent, including the need to capture knowledge generated by projects effectively, the need to achieve an impact which goes beyond the casework companies themselves, and the quality of learning and innovation that takes place within change projects.

Developments in innovation theory accordingly identify the ability of inter-organisational networks to stimulate and inform change (Bessant & Tsekouras 2001), which can be a valuable tool for policymakers seeking to promote workplace innovation (Ramstad 2009). Learning networks involving interaction between organisations can stimulate real innovation, rather than emulation, through shared reflection and peer support for learning and experimentation (Bessant & Tsekouras 2001). For example, the ED2000 (Enterprise Development) and VC2010 programmes in Norway created collaborative networks between enterprises as a means of stimulating and resourcing incremental organisational innovations, often collectively reformulating models such as total quality management in ways that reflected the specific context and giving ownership to local actors (Gustavsen 2004). Network approaches also offer the potential to create wider ripple effects, so that intervention in one workplace can provide both the momentum and the knowledge required to stimulate wider change. Anact's "Collective Action" strand, for example, involves ten companies receiving intensive consultancy support to address a certain topic that they then share with all the others that have been recruited into the same theme-based network. Anact's approach is a potentially valuable way of maximising return on its expenditure, though the actual gains for the companies in each network are rarely evaluated.

Is anybody listening?

Dissemination strategies – notably the publication of reports and case studies – are necessary but not sufficient. Capturing the learning created by projects creates a knowledge resource but this converts into actionable knowledge only when opportunities are created for dialogue (Seely Brown & Duguid 2000). Some programmes place great emphasis on the creation of relationship-based networks involving extensive face-to-face contact. Such relationship building is particularly notable in the case of North Rhine-Westphalia where the programme management organisation, GIB, is at the heart of a close network of sub-regional development agencies and organisations, enabling it to achieve far higher profile and penetration within the business community.

The Finnish, German Federal and Norwegian programmes all include explicit commitments to capacity building within the wider public infrastructure. Broadly, this means allocating resources to engage research institutes and universities, other public policy agencies and social partners in collaborative workplace innovation projects: an issue that might otherwise be outside their normal range of activity. This polycentric model is one in which new useful knowledge is seen to be generated through dialogue between various innovation centres in society rather than by "trickling" information from "the top down" or from "the core" to "the periphery" (Fricke 1997).

Conclusions

The HPWP programmes analysed in this article all attempt to improve workplace practices through dissemination of best case examples. However, their attempts are hindered by a number of constraints that are arguably intrinsic to the nature of such programmes. These include the most efficient ways to target resources; integrating social partner input; balancing research, consultancy and broader policy objectives; selecting niche or mainstream policy; and sectoral focus. However, in some cases, programmes have gained success by “reframing” their strategies to appeal to wider audiences, through greater integration of social partners and improved networking. These strategies help to improve adoption motivations by encouraging policy makers to regard them as opportunities: “interpreting issues as opportunities enhances the potential for taking action, thus making organizational change more likely” (Kennedy and Fiss 2009: 900).

In the six countries studied, the modernisation of work organisation as a public policy objective is widely accepted across the mainstream political spectrum. Across Europe as a whole, however, it is not, with governments in many EU member states still regarding the organisation of work as a private matter for employers. Likewise, the European Commission’s failure to take effective action in the decade after the much-heralded *Partnership for a New Organisation of Work* Green Paper, or in its EU2020 strategy, demonstrates a continuing lack of policy leadership. This is despite evidence of the impact of work organisation on key policy priorities such as productivity, workplace health, employability and active ageing.

The experiences of Anact and GIB in providing relatively low levels of support to a wide range of companies appear encouraging. Yet these programmes must, in part, be understood in the context of the wider policy and business environment. We would argue that the success of short-term interventions depends on the dense interaction, or “thick soup”, of knowledge and culture conducive to workplace innovation, generally more prevalent in CMEs than LMEs.

The establishment of enterprise learning networks as a means of both stimulating and sustaining change is increasingly recognised, but their potential is still underexploited by most programmes. This is a key lesson. Indeed, evidence suggests that, when clusters of enterprises work together, this proves cost effective for programme agencies and is likely to deliver sustainable results. Programmes that exist in isolation may not generate enough support to secure their own future. Each programme discussed here has, in its own way, made an impact on the wider policy and institutional environment, by building trust-based collaborative networks with other agencies and actors, or by integrating with the policy mainstream.

Social partner engagement also underpins the programmes described here. This has several practical advantages for programme management and creates an industrial relations climate conducive to workplace innovation, though questions remain about its quality. Investment in the competence and capacity of social partner organisations to support and engage in workplace innovation initiatives should be an important dimension of public programmes.

It is striking that all but the Irish programme appear to have succeeded in building a robust political consensus within their national or regional context. In France, for example, there is a broad consensus between left and right concerning the value of Anact, embedded in a political culture which recognises the importance of the quality of working life. However, there is no room for complacency. While the Conservative government’s abolition of the Work Research Unit in the UK under Thatcher was in line with its deregulatory labour market policies, it was more surprising that the centre-right government in Sweden should have abolished the country’s renowned National Institute for Working Life in 2007. There is an important lesson

here for policymakers and programme designers concerned with sustainability, namely, that the political dimension within the LME/CME context remains important and should not be taken for granted.

Indeed, by analysing countries that were CMEs, or institutionally sympathetic to HPWPs, we tried to hold constant the wider business environment in which programmes operated. We reasoned that any challenges they faced would then stem from the very design of the programmes themselves rather than from the kind of institutional constraints associated with LMEs, such as the nature of labour markets, skills levels and employer hostility. This rather proved the case. Hence, given the proven benefits of HPWPs, we conclude that a new research agenda is required in this area, one that, first, examines in greater depth the challenges outlined in this article to clarify the options involved in different programme designs, and, second, analyses the constraints on their wider diffusion and adoption with reference to the differences between varieties of capitalism. Only then will organisations across Europe stand a chance of tapping the opportunities for sustained innovation that their employees could generate.

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Ludwig Wittgenstein and his Followers

Richard Ennals

Abstract

The article connects key ideas and themes from the later philosophical work of Ludwig Wittgenstein with current concerns regarding Workplace Innovation. We consider the work of three of his followers: Stephen Toulmin, Bo Göranson and Björn Gustavsen, and discuss the implications for social science and practical philosophy.

Keywords: Clinical intervention, dialogue, family resemblances, language games, learning from differences, tacit knowledge

Introduction

I accepted an invitation to contribute to a doctoral course at the University of Agder, dealing with the Philosophy of the Social Sciences, and was asked to talk about Ludwig Wittgenstein and his followers. When preparing the talk, and reflecting on the issues, I found what I regard as interesting links between the historic work of Wittgenstein and the current concerns of the *European Journal of Workplace Innovation*, which is hosted by the University of Agder. The key links are revealed through the work of the selected followers of Wittgenstein, including in Scandinavia, which continues today. There are implications for current debates.

This is not simply a piece of academic intellectual archaeology. I regard the issues here as of current practical importance. There is a need today for the kind of clarification which Wittgenstein provided. As you will discover, I regard myself as one of Wittgenstein's followers. I look forward to the dialogue which I hope will follow.

What would Wittgenstein do?

I faced an interesting challenge, as it was far from clear to me that Wittgenstein would have accepted the invitation to give such a talk. Those who taught me philosophy at Cambridge in 1969-70, such as Bernard Williams, did not address these topics through historical introductions. Cambridge academic philosophers did not like summary overview courses, and did not recommend overview texts. They did not like talking about philosophy. They wanted to be engaged in “doing philosophy”, tackling problems which have concerned philosophers over the centuries. My talk is not simply a conventional summary overview, but rather more of a personal reflection, linked to a call for action.

Ludwig Wittgenstein was not a traditional academic philosopher who analysed the work of other philosophers, and discussed schools of thought. He tried to discourage his own students from following careers as professional philosophers. As Göranson and Karlqvist showed in their play “Beyond All Certainty” (Göranson & Karlqvist 1995), Wittgenstein also tried to discourage his students from publishing their notes of his seminars, and thereby building a Wittgenstein industry. At the same time, this approach left a legacy of confusion after his death, not least because his advice was widely disregarded.

I followed Wittgenstein's advice. I moved from academic philosophy to study history, and then to work in artificial intelligence at Imperial College London. I took Wittgenstein's ideas with me; or at least I took what I hoped that I understood.

Who was Wittgenstein?

Wittgenstein had a professional background in aeronautical engineering, and a passionate interest in architecture, which led him to design and build his own house in Vienna. He did not have an obvious background for contributing to the philosophy of the social sciences, or working life. He concentrated on his own ideas, and was less inclined to review the literature written by others.

Wittgenstein had no particular interest in academic publications. Only one of his many books listed in the references below, *Tractatus Logico-Philosophicus* (Wittgenstein 1921) was published in his lifetime. He had tried to burn the *Tractatus*, as he thought it could be damaging to young minds, but this conclusion came too late. The book was in print. The later works were published without his approval.

Wittgenstein did not fit naturally into the Cambridge academic culture, where he developed a dominant role, as he had done in Vienna. He was not concerned about personal reputation. He had given away most of his considerable personal inherited fortune. For his last years he lived in Cambridge as a lodger with Georg Henrik von Wright, his successor as Professor at Cambridge. He spent many of his holidays in a Norwegian hut. He does not appear to have built up a wide range of personal friends.

A fellow lodger with von Wright was Wittgenstein's Norwegian student Knut-Erik Tranøy, whose wife Gene later became my father's second wife. Gene was given the mission of burning three bags of Wittgenstein's personal papers after his death, at specified locations which later housed Wittgenstein archives. She acted as instructed. Years later, von Wright frequently checked with me: what had Gene done with the papers? He monitored any houses of philosophers with past connections to Wittgenstein, in search of publishable papers. I think I may know the nature of the papers which were burnt. As Derek Jarman reported in his film *Wittgenstein* (Jarman 1993), the distinguished philosopher had a troubled and unconventional private life. His affections for others, including students, were sometimes expressed in letters, but were not always reciprocated, as reported by Edmonds and Eidinow (2001). When his former student and close friend Ben Richards died, Richards' Sussex farmhouse was besieged by philosophers seeking personal papers from Wittgenstein. The owners then asked me what the philosophers were looking for.

What was Philosophy to Wittgenstein?

Wittgenstein saw his philosophical task as essentially very simple: "to show the flies the way out of the fly bottle". He wanted to assist clear thinking, removing confusion. It was a form of academic therapy. With the same mission, he helped to explain mathematics to students at Cambridge Technical College, sitting with them in the canteen in the evening.

Wittgenstein's seminars at Cambridge University were improvised and dialogical. The resulting published versions were unauthorised, based on notes by his students, and largely comprised collections of short remarks. As with verses of the Bible, in the hands of ill-informed evangelicals, the remarks are often quoted out of context. His lectures were complemented by anecdotes and novel modes of explanation: Gene reported that Wittgenstein taught the rules of basketball, without the use of a ball, weaving in and out between the trees on the Backs. His audience knew "how to go on".

The Early Wittgenstein

While fighting for Germany in the First World War, Wittgenstein started to formulate the core radical philosophical ideas, based on mathematics and logic, which formed the basis of the *Tractatus Logico-Philosophicus*, (Wittgenstein 1921). Together with his *Remarks on the Foundations of Mathematics* (Wittgenstein 1991), his work posed formidable challenges to established philosophers such as Bertrand Russell. Wittgenstein felt free to roam across the disciplines, without constraints, and he was not worried about the reputations of those he challenged.

Wittgenstein played a central role in the positivist Vienna Circle of the 1920s, for which the *Tractatus* was seen as a campaigning document. He declared that the world is comprised of facts, not things, and his view was based on a picture theory of truth. Language is used for descriptions of the world. On "matters whereof we cannot speak", he argued that we should

remain silent. This was seen at the time as effectively closing the door on many previous subjects for discussion.

Reconciling the Early and Late Wittgenstein

45 years ago, as a Cambridge philosophy student, I began to write an essay which tried to reconcile the ideas of the early and late Wittgenstein, including *Philosophical Investigations*. It was my choice. I cannot blame my supervisor, Roger Scruton.

I encountered a problem. As a social and political activist, I could not easily accept the idea that we should remain silent about so many matters which appear to be of great importance: such as religious belief, politics, ethics, aesthetic appreciation and personal relationships, which cannot simply be reduced to facts. How could Wittgenstein have believed this?

In *Philosophical Investigations* (Wittgenstein 1953) and the *Blue and Brown Books* (Wittgenstein 1958), Wittgenstein explored a fresh approach to language. It is not just used for description. There are more tools in the language toolbox. There is often a purpose to our use of language, with associated actions. This argument was emancipatory.

Wittgenstein memorably introduced the elementary model of language games through working life, with a dialogue between builders engaged in constructing a wall: “Slab”, one builder said as he passed the slab to the other builder. Tom Stoppard incorporated this in his play “Dogg’s Our Pet” (Stoppard 1971), and developed it further in “Dogg’s Hamlet”. Words were closely linked to actions. Language built up, alongside the building. The dialogue had a practical context.

Associated with this account of language is a richer account of knowledge, going beyond simple explicit knowledge in the form of propositions, and opening up discussion of implicit and tacit knowledge. Language draws on experience. We use it for aesthetic, political and religious judgements, and for expressions of emotion.

There is extensive discussion of phenomena such as pain. We can talk about our own pain experiences. We cannot experience the pain of others, such as from toothache, other than through conversation, in which we understand the meaning of words by reference to our own experiences when we use such words.

Wittgenstein here wrote about “the beetle in the box”. He suggests that each of us has a beetle, which we can see by carefully opening the box. We cannot see the beetles belonging to others, so when beetles are discussed, we think in terms of our own beetles.

Øyvind Pålshaugen (personal communication) enabled me to find an answer to my problem, after many years, and I was able to try to finish my essay. He pointed out that Wittgenstein had written a letter to his publisher, in which he noted that there were really “two volumes” of the *Tractatus*, only one of which could be written down. The second was “silent”. The single published volume was inherently incomplete, and such incompleteness was denied.

Let me explain what I think this means. Explicit knowledge is only part of the picture. We are obliged to remain silent if it is not possible to articulate our own tacit knowledge. It is not that we are to be compelled to be silent when speech would be possible. However, when we do use words, we should recognise that these are also actions, with meanings and consequences.

Language

As far as I am concerned, the key insights from Wittgenstein for the social sciences concern language, and the discourses in which we routinely engage, as participants and not merely as observers.

Wittgenstein was not a social scientist. He did not write about the social sciences as such. His students collected some of his remarks as if he had been writing about the social sciences. Later writers such as Winch drew on his remarks in order to set out “the idea of a social science” (Winch 1990).

Wittgenstein argued (Wittgenstein 1967) that in order to make sense of statements by an individual about personal religious belief, it was necessary to observe the individual’s actions. What practical difference is made by religious belief?

Wittgenstein talked of “forms of life”, in which language is used. This approach has been taken up with “communities of practice” (Wenger 1998), and anthropological studies (Douglas 1973). As we learn to use language we learn to follow the rules of how to use it, for different purposes in different situations. In Wittgenstein’s words, we learn to participate in different kinds of language games. Johannessen (1990, 1992, 2006) and Janik (1988, 1990, 1991, 1992) have explained the implications of this approach. Language games are embedded in forms of life. We become familiar with particular forms of life. If we move to a different form of life, we are likely to encounter new games. This has been seen as applicable in international relations (Hollis & Smith 1990).

“The meaning of a word is seen in its use in the language game”. It is not simply a matter of using dictionaries, or even encyclopaedias. This challenges the recurrent tendency to think that complex problems can be solved simply by defining our terms. Even if we agree to use a given set of terms, they will have different meanings in use. This is a problem in a field such as Corporate Social Responsibility, for which a new Dictionary (Idowu et al 2015) has recently been published, following the earlier four volume Encyclopaedia (Idowu et al 2013).

Speech and action are linked through “speech acts” Our utterances have illocutionary force (in action) and perlocutionary force (through action), as explained by Austin, in *How to do things with words* (Austin 1975) and Searle, in *Speech Acts* (Searle 1969)

In fields such as anthropology (Douglas 1973) and international relations (Hollis & Smith 1990), these insights are practically important. They open the way to alternative approaches to social science.

Followers

When I was a student of Moral Sciences at Cambridge University there were followers of Wittgenstein, such as Elizabeth Anscombe, Richard Braithwaite, Renford Bamborough and Roger Scruton. They had chosen to disregard Wittgenstein’s advice with regard to their own careers. They were professional philosophers. Memorably Anscombe, who had translated and edited much of Wittgenstein’s work, gave apparently improvised lectures on Wittgenstein each year: they tended to be word for word the same.

Von Wright gave a memorable series of visiting lectures, on “Explanation and Understanding” (von Wright 1971). He had succeeded in leaving Cambridge, and applying his learning to the social sciences. When working in Finland in the 1980s I was impressed by his influence on debates on technology, and on the peace movement. His students were applying his ideas to current issues.

I want to talk in particular about three followers of Wittgenstein with whom I have worked in Scandinavia: Stephen Toulmin, Bo Göranson and Björn Gustavsen. Each had a central focus on working life, in the context of the social sciences. I recall my delight and surprise in 1987 when, giving an invited talk to a Swedish audience, and drawing on Wittgenstein in my account of skill and the transfer of skill, I discovered the enduring appeal of Wittgenstein's work in Scandinavia. This prompted me to start working with Swedish colleagues, and then with Norwegian colleagues, in each case supported by Stephen Toulmin.

Toulmin

Stephen Toulmin was a renowned British-born philosopher of science and historian of ideas, who published many internationally influential books (Toulmin 1952, 1990, 2001).. He regarded Wittgenstein as his teacher. He had personally made the transition across disciplinary divides, having been an academic physicist, and researched radar in wartime. His writings display an immersion in the classics, and a capacity to refer to philosophers over the ages as if he had known them all personally.

Toulmin had attended Wittgenstein's seminars at Cambridge, in the company of Alan Turing, a fellow Kingsman. He was an eye-witness to the famous argument between Wittgenstein and Popper in Braithwaite's rooms in King's College, as described in *Wittgenstein's Poker*. (Edmonds & Eidinow 2001). Popper and Wittgenstein had been adversaries in Vienna, where Popper had been unusual in resisting Wittgenstein's dominance. In Braithwaite's rooms, when arguing about evidence for the external world, Wittgenstein picked up a poker, and waved it. Popper then cited this as a case of inappropriate behaviour, as one great philosopher appeared to threaten another. This contravened rules of good manners.

Toulmin left the UK in 1955, and was then based in a succession of universities in the USA, finally at the University of Southern California, where his focus was on international and multicultural relations, and on work with medical clinicians. His *Cosmopolis* (Toulmin 1990), *Wittgenstein's Vienna* (Janik & Toulmin 1996), and *Return to Reason* (Toulmin 2001) provide remarkable insights.

Göranson

Bo Göranson had a background in mathematics and computer science, and was a member of a theatrical family. His early research (Göranson 1982) examined the consequences of automation in the insurance industry. The research suggested that the impact of the loss of experience and tacit knowledge only really emerged over about three years. There have been similar conclusions with regard to retirement and restructuring.

Göranson drew on Wittgenstein for his work on professional knowledge and dialogue, which he often located in the context of theatre. This is set out in the six volume *Skill and Technology* series (1988 – 1995), and *Dialogue, Skill and Tacit Knowledge* (Göranson, Hammarén & Ennals 2006). This series arose from the 1988 Stockholm Conference on *Culture, Language and Artificial Intelligence*. Speakers included the philosophers John Searle (Searle 1990) and Hubert Dreyfus (Dreyfus 1990), and several philosophers who worked in the tradition of Wittgenstein, such as Allan Janik and Kjell S. Johannessen..

Göranson argued that there are limits to what can be achieved by analytical thinking. Göranson's work emphasises Dialogue Seminars, analogical thinking, and the significance of tacit knowledge.

The Dialogue Seminar, hosted by the Royal Dramatic Theatre from 1986, and supported by the award-winning journal *Dialoger*, bridged the gap between arts and sciences, and developed concepts such as “Performing Knowledge”. Toulmin contributed to Göranson’s series of “Philosophical Dialogues”, with “Imaginary Confessions” published in *Skill, Technology and Enlightenment: On Practical Philosophy* (Göranson 1995). Great thinkers were presented as human beings. Göranson and Karlkvist’s “Beyond All Certainty” (1995) was published in the same volume.

Göranson developed the Dialogue Seminar Method as a means of accessing tacit knowledge in organisations, such as Combitech and Vattenfall, thus changing corporate culture. The results included a flow of PhD theses, and research on age and tacit knowledge.

Bjorn Nelson and Daniel Alvunger (Alvunger & Nelson 2014) have built on the work of Göranson, taking Dialogue Seminars into the new application field of Vocational Teacher Education, and exploring issues of Vocational Knowledge (Nelson, Alvunger & Ennals 2015). This has led them into new work on regional development, approaches to community learning, and consideration of the role of dialogue in engaging with migrants. Much was learned from the EU COHAB project, involving five countries around the South Baltic Sea. Using metaphors and analogical thinking, they supported dialogue between vocational education professionals across borders.

Gustavsen

Bjorn Gustavsen was trained as a lawyer, and was a leading figure in developing Norwegian legislation to improve the work environment. He developed an account of *Dialogue and Development* (Gustavsen 1992) which he applied in regional development, and in national programmes in Sweden and Norway. Interestingly, very similar principles for “democratic dialogue” were set out and followed by Göranson, and by Jurgen Habermas.

Gustavsen drew heavily on Wittgenstein as he developed dialogues with practitioners and researchers. See also *Work Organisation and Europe as a Development Coalition* (Ennals and Gustavsen 1999), *Creating Connectedness* (Gustavsen, Finne & Oscarsson 2001), and *Learning Together for Local Innovation: Promoting Learning Regions* (Gustavsen, Nyhan & Ennals 2007). His work emphasises dialogue conferences and development coalitions. However, Gustavsen was not simply concerned with following organisational processes.

As a facilitator, Gustavsen used his considerable experience and tacit knowledge to identify and deal with issues of power. Such insights could not fully be written down, but must be learned through experience. Some of his followers and students did not understand this, and regarded the dialogue conference as a “method” in itself, with the facilitator regarded as an “action researcher”. Similar points could be made about Göranson and the Dialogue Seminar Method. How can a method become independent of the originator? How can others “know how to go on”?

Both Göranson and Gustavsen, separately, welcomed advice and support from Stephen Toulmin, John Shotter and Øyvind Pålshaugen. There have thus been indirect connections between the research traditions.

Return to Reason

In *Return to Reason* (Toulmin 2001), which was based on lectures given at Harvard and Cambridge, Toulmin analysed the systemic myths which had underpinned conventional intellectual thinking for centuries.

He exposed the myth of “stability” which had prevailed since the time of Newton, where the heavens were seen as providing an example of order and stability for the nations of Europe.. He explained it in terms of a yearning for political stability in Europe after lengthy war, but it was a yearning which led to intellectual distortions. For example, this meant ignoring the constant element of chaos.

He then turned his attention to the myth of “equilibrium”, which provided a distorted basis for economics in the twentieth century. Economists had become addicted to pseudo-mathematical formulae and systems Toulmin died before the 2008 financial crash, but he had in effect explained it in 2001. Financial market systems are not self-correcting. They can break, with profound consequences. Keynesian economists, many based at King’s College Cambridge, had also warned of the dangers, but were disregarded.

Toulmin challenged the myth of objective detachment in the social sciences. With Giddens (Giddens 1984), he argued that we are ourselves engaged in the problems under study. He argued that social scientists, in their research, should adopt the clinical model of intervention, as seen in medicine. He wrote with enthusiasm about Action Research, which he saw as offering a way forward, and he highlighted work in Scandinavia led by Göranson and Gustavsen. Our utterances and publications must be seen as actions. This implies a central role for Action Research.

Intellectual Emigration

In the UK, the academic environment has been largely unsympathetic to the ideas of Wittgenstein, and their radical implications. It is not surprising that, independently, Toulmin and I, both from King’s College Cambridge, found intellectual homes in Scandinavia. We have been fortunate to work with stimulating colleagues.

Workplace Innovation

The argument shifts from the past to the present. Today it is common to collaborate across borders of countries and disciplines, despite the distinctive patterns of reasoning, and academic institutional structures, which have developed. The implications and complications of that collaboration and multi-disciplinarity are not always understood. It is easy to assume that partners share our views and objectives. Life can be more complicated.

In recent years there has been increasing interest in Workplace Innovation, with a focus on change arising from the workforce, rather than from technology or top-down management. The focus has been on practice, rather than theory. Older workers have also begun to receive attention, as it is recognised that they have accumulated considerable experience, skill and tacit knowledge, and their departure may have an adverse effect on the organisation. The European Commission has seen the need to bring together researchers and practitioners with relevant experience and objectives, from 30 countries across Europe, to build a network to support mutual learning: the European Workplace Innovation Network.

Research in these fields has been complicated by the number of different perspectives being deployed, for example approaches to age focussing on learning, health and work ability, and with different approaches to economics and organisations. Typically these perspectives are incompatible, and rely on different models of explanation, expressed in varied language. We cannot expect to arrive at a single overall conclusion which satisfies the full range of criteria.

The debate tends to involve practitioners, who seek to learn from the experience of others. Academic researchers have shown relatively little interest, as the field is multi-disciplinary and messy. The European Commission are interested for economic reasons, as they try to take forward an integrated policy programme for the European Union, and they care little about academic theory.

We could imagine ourselves back in a seminar by Wittgenstein. He liked to consider practical cases. He tended not to criticise particular schools of philosophy. In a complex world, he noted that language enables us to link previously separate phenomena. Language enables us to identify “family resemblances”. We may know what we mean when we use a word. We assume that others use the same words with the same meaning. We think that we “know how to go on”, but we may be mistaken.

The European Workplace Innovation Network (EUWIN) brings together practitioners and cases from over 30 European countries, with widely varying histories, cultures, economic contexts, and political pressures. It provides an arena for a new set of dialogues. To assist in this, Totterdill (2015) has developed a vocabulary intended to demystify the key factors affecting Workplace Innovation. He has described four “bundles of innovative practices”, (work organisation, learning and reflection, structure and system, and workplace partnership) and he then added the “essential Fifth Element”, which, he argues, brings these together and sparks ongoing innovation. He has been right to resist pressure for precise definitions, which would go beyond the effective use of the language. We may ask what kind of “form of life” has developed to address these issues. What are the distinctive “language games”?

Wittgenstein argued that we should make sense of statements of belief by looking at associated actions. We need live cases which can be interrogated. As we do so, we face the problem of numerous perspectives. We have to accept that there is no “one best way”.

Wittgenstein introduced the idea of “seeing as”, to address the phenomenon of multiple perspectives, which cannot simply be collapsed into one. His “duck-rabbit” could be seen as a duck, or as a rabbit, or indeed as a duck-rabbit. When we consider cases against the background of other cases, we are building on this insight.

We need to recognise that workers are also individuals facing medical problems. We all age. Workers are also earners, members of families, and members of society. We cannot claim objective detachment.

We can describe the sensation of seeing a fresh interpretation of a set of data. Such flexibility and vision would be welcome in the often compartmentalised world of working life, for example as we consider the health of older workers, and the way that workplace innovation can influence decisions on retirement.

Conclusion: No final words

Wittgenstein would not have favoured a continued central focus on his published writings. The one book he had wished to publish, the *Tractatus*, he later wished to burn. The other books were edited by his students, and published over subsequent decades, without his permission. He opposed the Wittgenstein industry. What does this mean for Wittgenstein's followers today?

Wittgenstein would not have favoured an abstruse academic debate between philosophers. He advised his students not to become professional academic philosophers. He had set out key ways of thinking, ways of "freeing the flies from the fly bottle". He showed different "ways of seeing". He introduced "forms of life" and "language games". It is now a matter of engaging, playing those games, and helping our fellow players to know how to go on.

The workplace today is a suitable case for treatment. Warring theoretical structures, drawn from rival paradigms, have failed to communicate, and failed to find practical ways forward. We can follow Wittgenstein's example, and find family resemblances which cross boundaries, and lay the foundations for dialogue. We can identify interesting cases, and learn from differences.

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