

We live in an era of rapid economic and technological change, marked by a high degree of risk, volatility and uncertainty. In the past two years, the world has experienced an economic rollercoaster ride, moving rapidly from hyper-growth – viewed by some as a ‘golden age’ of economic development – to recession and great uncertainty. Volatility has become the hallmark of our times. This volatility is constantly reshaping the economies of Europe and challenging much of the accepted wisdom about how organizations and firms should function, as well as how economic relations should be organized and coordinated. Innovation and learning have become buzzwords in the era of volatility. Organisations must innovate in order to develop and survive, and individuals and organisations must learn in order to provide support and resources for innovative companies. At the same time, innovation – in the Schumpeterian sense – is likely to disrupt any existing equilibrium with regard to resource allocation by introducing new ways of organising production, services, products, sources of supply and so on. Innovation also contributes to higher levels of volatility. How can we innovate, while managing volatility in the lives of millions of workers, who, while not without aspirations towards something better, are primarily concerned with maintaining a secure income and lifelong employability? The answer seems to be the creation of the institutional conditions for supporting a continuous process of learning, increasing the possibilities of finding and developing new and better jobs. The creative reconstruction of knowledge through innovation processes must be accompanied by the interweaving of learning processes through the whole working life. Employee-driven innovation (EDI) is a concept which accommodates both innovation and learning, since there is very little sense in targeting innovation without creating the conditions for continuous learning.

The emphasis in studies of the links between innovation and learning has largely been on the process of workplace learning, which is central to innovation. Workplace learning includes a broad range of learning forms: interplay of institutionalized and informal learning, learning by participation, reflection, experimentation and so on.

Increasing attention is being paid to the importance of cooperative relations between the users and producers of technology. This special issue complements this search for both the sources of innovation and learning and how they take place within organisations and firms in different European countries. We shift our attention away from R&D centres and focus instead on relations on the shop floor and the everyday lives of firms and organizations. We discuss how innovation takes place inside firms, how it is coordinated, who the coordinators are and how it is linked to diverse institutionalized ways of innovating and learning.

In this issue, we discuss how the ability of individuals and firms to respond to the challenges of a volatile period is determined, in large measure, by the capacity of national and European institutions to support individual and collective learning throughout people’s working lives, increasing individuals’ employability over time. There is a premium for institutional environments which are able to respond to these volatile economic conditions by producing, acquiring and collaboratively sharing relevant knowledge and information through the various institutional agents which influence the process of economic development and change. We shall also discuss what institutional

obstacles may exist and how formal and informal learning may coexist to circumvent these obstacles.

Applying the learning perspective to work and innovation makes it possible to conceive basic human activities at work as patterns of coping and complying in a process of adapting to challenges and volatility. But the learning perspective also offers the opportunity to comprehend human activity in relation to volatility in terms of individual efforts proactively to create conditions and potential for innovation. The learning process may take the form of innovative learning which sparks transformational change: novel solutions which challenge existing practices. Innovative learning includes such activities as experimentation, risk-taking and variety-seeking in creative processes. This kind of learning can bring about significant change in the organization of the workplace; it can challenge routines and structures, break up frameworks and call into question the accepted knowledge and culture which hold the organisation together.

One of the key questions in innovation and learning today – a question which resonates for theory, policy and practice – is how EDI takes place. Does EDI evolve organically, through the repeated transactions of economic actors within and between firms? Or can EDI be constructed through careful public policy-making? How can organisations improve their ability to make use of EDI? How can companies develop integrated learning and innovative practices as an everyday process, involving not only specialists but all employees at all levels?

Research into national business systems and workplace learning over the past 15 years has documented the fact that production and innovation, as well as workplace learning, are organised in very different ways in different countries. Therefore, European countries are likely to show differences in routes taken, and have a range of advantages and barriers in moving their business systems towards new networked, employee-driven innovation systems. This EDI special issue of *Transfer* explores these differences and contributes to our knowledge of how private firms and public enterprises organize for innovation and workplace learning in different European countries.

The articles in this special issue are the result of collaboration in the EDI Research Network (see the ‘News and Background’ article by Kirsten Møller, in this issue) between researchers from business schools, universities and research institutions in Europe. The articles address the questions from a variety of perspectives, investigating different types of organisation in five different European countries. The methodologies used by the authors to address the different questions and perspectives include literature reviews and empirical research. The empirical studies cover a broad range of methodologies, including intensive qualitative case studies and in-depth interviewing, extensive quantitative studies and document analysis. Nonetheless, the focus across the articles is on EDI and learning.

The issue opens with an introductory article by Steen Høyrup which sets out the basic concepts, approaches and themes related to employee-driven innovation and workplace learning.

As a background for the research contributions in the issue, Kirsten Møller explores European innovation policy, based on analyses of central public EU documents which deal with the issue of innovation policy in the period 2005–2009 and in the future. A picture emerges of employees as drivers of innovation being restricted to highly skilled professionals and researchers working in technical and scientific fields. The role of the social partners in setting the agenda of European innovation policy, as well as skilled and unskilled employees as drivers of innovation, especially in small and medium-sized enterprises, are discussed.

Peer Hull Kristensen analyses the main features of previous and emerging models of innovation systems, exposing their pitfalls, contradictions and challenges. The current changes towards a global networked innovation system are analysed and the author points to the challenges different countries may face, as well as the possible advantages for employees in the new innovation system.

Kristensen argues that one of the biggest challenges for the trade union movement is to find a new set of roles, centred on the reform of local labour markets, in which they may secure access to further training and horizontal working careers, so that an increasing number of employee groups become part of the global networked innovation system.

In his article, Robson Sø Rocha presents the entrepreneurial activities of Danish shop stewards, who are trying to navigate in a world of uncertainty. Danish shop stewards are portrayed as agents who often coordinate organisational opportunities for innovation and learning. They are described as organizational actors who can link different layers and cut across organisational boundaries, becoming the 'driving force' of organisational innovation. These organisational entrepreneurs look for new ways of making use of human resources, new ways of organising and new needs and possibilities for those they represent: in short, new possibilities for organizational survival which can benefit both the company and its employees. They are not only searching for new possibilities with regard to learning and innovating, but also in a continuous state of alertness, seeking out opportunities that others fail to perceive.

Manuel Ahedo analyses the development of EDI in the Spanish context, and points to how structural factors have led to the slow institutionalization of EDI and learning. Fortunately, he argues, there is a relatively broad non-institutionalised space in which marginal but autonomous contexts for creative processes with regard to employee learning have emerged. Both formal and informal dimensions, the author argues, are equally important in understanding the Spanish path towards more widespread use of EDI.

Based on six specific case studies from France, Ann-Charlotte Teglberg-Lefèvre analyses the great diversity of employee-driven innovation: EDI may take very different forms in different organizations. A shared objective is to make EDI into an organisational routine. Across this diversity, a conceptual scheme is presented which seems suitable for analysing the different approaches to EDI. Two major factors which differentiate approaches to EDI are described: *strategic intentions* and *regulation of social relations*.

Analyses reveal that one tendency of French companies is to focus on the development of structured forms of EDI: management authorizes employees to innovate within a framework which creates an innovative space, whose borders are carefully predefined. This may impede more informal and bottom-up approaches. The author proposes alternative ideas on EDI, based on multiple interactions between actors which lead to the kinds of use which often encourage new practices, made possible by the interpretive flexibility inherent in many forms of EDI. In this perspective, EDI is related to learning and transformation going on in the organization.

Volker Telljohann analyses the roles of different forms of participation with regard to the dissemination of experiences of EDI in Italy. The article focuses on the extent to which forms of direct and representative participation have fostered processes of organizational innovation, driven by the knowledge and creativity of employees. The author identifies the specific limits of these forms of employee involvement in processes of organizational innovation and the possibilities found for innovative employee involvement, as well as the ways in which participation and collaboration among organizational actors have taken place in an Italian hospital.

Finally, Karen Evan and Edmund Waite focus on employees in the labour market with low literacy and numeracy skills, exploring the potential of this group to engage in workplace learning and to contribute in valuable ways to employee-driven innovation in the workplace. The authors highlight ways in which interplay between formal and informal workplace learning can help to create environments for employees to use and expand their skills. This workplace learning is a

precondition, a stimulus and an essential ingredient for participation in employee-driven innovation, as workers cooperate with others to vary, and eventually to change, work practices.

Steen Høyrup, Kirsten Møller and Robson Sø Rocha

EDITORIAL

L'ère à laquelle nous vivons est marquée par des changements économiques et technologiques rapides ainsi que par un haut degré de risque, d'instabilité et d'incertitude. Ces deux dernières années, le monde a traversé une période très agitée sur le plan économique: aux périodes d'hyper-croissance – que d'aucuns ont perçues comme étant l'âge d'or du développement économique – ont rapidement succédé des périodes de récession et de grande incertitude. L'instabilité fait aujourd'hui partie de notre quotidien. C'est elle qui refond sans relâche les économies européennes et remet en question tant de choses que nous pensions acquises quant au fonctionnement des sociétés et des entreprises ainsi qu'en matière de coordination et d'organisation des relations économiques. « Innovation » et « apprentissage », tels sont les maîtres-mots en ces temps d'instabilité. Pour se développer et survivre, les entreprises doivent innover, et les individus et les entreprises doivent apprendre afin de soutenir les sociétés innovantes et leur fournir les ressources nécessaires. Parallèlement, l'innovation – dans le sens schumpétérien du terme – pourrait mettre à mal tout équilibre existant en matière d'allocation des ressources en présentant de nouveaux modes d'organisation de la production, des services, des produits, des sources d'approvisionnement, etc. L'innovation contribue donc elle aussi à l'accroissement de l'incertitude. Comment pouvons-nous dès lors innover tout en maîtrisant l'instabilité dans la vie des millions de travailleurs qui, non sans aspirer à un monde meilleur, se soucient avant tout du maintien de revenus sûrs et de la pérennité de leur aptitude à l'emploi? La réponse semble résider dans la création de conditions institutionnelles favorisant la formation continue, augmentant les possibilités de trouver et de développer de nouveaux et de meilleurs emplois. Cette reconstruction créative du savoir au travers de processus innovants ne peut s'effectuer sans la succession de processus d'apprentissage complémentaires au fil de la vie active. Fondée sur le principe qu'il est somme toute peu logique d'ambitionner l'innovation sans passer par la création de conditions favorisant la formation continue, l'innovation participative (EDI - Employee-driven innovation) est un concept alliant innovation et apprentissage.

Les études menées sur le lien existant entre l'innovation et l'apprentissage ont largement mis l'accent sur le processus d'apprentissage sur le lieu de travail, clef de voûte de l'innovation. L'apprentissage sur le lieu de travail englobe un large éventail de processus d'apprentissage: interactions entre l'apprentissage institutionnalisé et informel, apprentissage par participation, réflexion, expérimentation, etc.

De plus en plus, l'accent est mis sur l'importance de l'existence d'interactions entre les utilisateurs et les producteurs de technologie. Ce numéro spécial se veut le prolongement de cette recherche des sources d'innovation et d'apprentissage et explique la manière dont elles s'agencent au sein d'entreprises et de sociétés dans différents pays européens. Notre attention s'est détournée