Editorial

This special issue of the *Journal of the Operational Research Society* is dedicated to papers on the related subjects of knowledge management and intellectual capital. These subjects continue to generate considerable interest amongst both practitioners and academics. This issue demonstrates that operational researchers have many contributions to offer to the area, especially by bringing multi-disciplinary, integrated and holistic perspectives. The papers included are both theoretical as well as practical, and include a number of case studies showing how knowledge management has been implemented in practice that may assist other organisations in their search for a better means of managing what is now recognised as a core organisational activity. It has been accepted by a growing number of organisations that the precise handling of information and knowledge is a significant factor in facilitating their success but that there is a challenge in how to implement a strategy and processes for this handling. It is here, in the particular area of knowledge process handling that we can see the contributions of operational researchers most clearly as is illustrated in the papers included in this journal edition.

The issue comprises nine papers, contributed by authors based in eight different countries on five continents.

Lind and Seigerroth describe an approach that they call team-based reconstruction, intended to help articulate knowledge in a particular organisational context. They illustrate the use of this approach with three case studies, two in manufacturing and one in public sector health care. Different ways of carrying out reconstruction are analysed, and the benefits of team-based reconstruction are established.

Edwards and Kidd, and Connell, Powell and Klein both concentrate on knowledge transfer. Edwards and Kidd discuss the issues involved in transferring knowledge across *frontières* (borders) of various kinds, from those borders within organisations to those between countries. They present two examples, one in distribution and the other in manufacturing. They conclude that trust and culture both play an important part in facilitating such transfers, that IT should be kept in a supporting role in knowledge management projects, and that a staged approach to this IT support may be the most effective.

Connell, Powell and Klein consider the oft-quoted distinction between explicit and tacit knowledge, and argue that such a distinction is sometimes unhelpful. They suggest that knowledge should rather be regarded as a holistic systemic property. The consequences of this for knowledge transfer are examined, with a particular emphasis on what this might mean for the practice of OR. Their view of OR in the context

of knowledge management very much echoes Lind and Seigerroth's focus on knowledge for human action. This is an interesting convergence of views given that, broadly speaking, one set of authors comes from within the OR community, and the other from outside it.

Hafeez and Abdelmeguid present the nearest to a 'hard' OR contribution of the papers in this special issue. In their paper they construct and use system dynamics models to investigate alternative ways in which an organisation might close a knowledge gap or skills gap. The methods they use have the potential to be generalised to any other quantifiable aspects of intellectual capital.

The contribution by Revilla, Sarkis and Modrego is also at the 'hard' end of the spectrum. They evaluate the performance of public–private research collaborations in Spain, using an approach based on data envelopment analysis. They found that larger organisations tended to perform relatively better than smaller ones, even though the approach used takes into account scale effects. Perhaps more interesting was that many factors that might have been thought relevant, such as the organisation's existing knowledge base or how widely applicable the results of the project would be, had no significant effect on the performance. It may be that how well the partnership between the collaborators works (not a factor it was possible to take into account in this study) is more important than most other factors.

Mak and Ramaprasad introduce the concept of a knowledge supply network. This builds on existing ideas of supply chain management, but also integrates the design chain and the marketing chain, to address all the intellectual property connected with the network as a whole. The authors regard the knowledge supply network as the natural focus for considering knowledge management issues. They propose seven criteria for evaluating knowledge supply network architecture, and illustrate their argument with an example from the electronics industry—integrated circuit design and fabrication.

In the paper by Hasan and Crawford, their interest lies in the holistic approach to knowledge management. They demonstrate their argument—that there is no simple IT solution for organisational knowledge management efforts—through two case study investigations. These case studies, in Australian universities, are investigated through cultural historical activity theory, which focuses the study on the activities that are carried out by people in support of their interpretations of their role, the opportunities available and the organisation's purpose. Human activities, it is argued, are mediated by the available tools, including IT

and IS and in this particular context, KMS. It is this argument that places the available technology into the knowledge activity process and permits the future design of KMS to be improved through the lessons learnt by studying these knowledge activity systems in practice.

Wijnhoven concentrates on knowledge management at the operational level of the organisation. He is concerned with studying the transformation of certain inputs to outputs—the operations function—and the consequent realisation of organisational goals via the management of these operations. He argues that the inputs and outputs of this process in the context of knowledge management are different types of knowledge and names the operation method the *knowledge logistics*. The method of transformation he calls *learning*. This theoretical paper discusses the operational management of four types of knowledge objects—explicit understanding; information; skills; and norms and values; and shows how through the proposed framework *learning* can transfer these objects to clients in a logistical process without a major transformation in content.

Millie Kwan continues this theme with a paper about process-oriented knowledge management. In her case study

she discusses an implementation of knowledge management where the knowledge is centred around an organisational process and the mission, rationale and objectives of the process define the scope of the project. In her case they are concerned with the effective use of real estate (property and buildings) within a Fortune 100 company. In order to manage the knowledge about this property and the process by which the best ‘deal’ for internal customers and the overall company was reached, a KMS was devised. She argues that process knowledge is a source of core competence and thus needs to be strategically managed.

Finally, you may also wish to read a related paper originally submitted for this Special Issue, ‘Customer knowledge management’ by Garcia-Murillo and Annabi, which was published in the August 2002 issue of the *Journal of the Operational Research Society*, **53**(8), 875–884.

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