

book appears to be aimed primarily at the practitioner, so this is not a major criticism. Although, a more general view of multi-criteria methods applied to the energy industry may have been useful to place the ideas presented in the broader context. This may also have allowed a more extensive, and in some cases more concise, discussion on the methodological description of the key techniques introduced.

In the review of Chapter 7, the authors 'review a representative sample of MCDM applications to a range of energy operations, planning and policy problems'. This is achieved through a range of different management problems directly comparing the methods introduced in previous chapters. Each of these applications is different in its goals, but uses the same basic framework of analysis as introduced in Chapters 2–5.

Unusually for a book such as this, the publisher does not state to whom this book is of most relevance. Clearly it is ideal for practitioners working in energy planning and policy development areas. However, in my opinion, it is also sufficiently readable for those requiring a background to the potential use of MCDA in energy applications and other resource applications with specific reference to environmental aspects. It would also be useful to those studying other applicational fields with a similar range of objective elements.

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### Evaluation and Decision Models: A Critical Perspective

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Years ago I wrote a book—Decision Theory: The Mathematics of Rationality, now long out of print (S French (1986). *Decision Theory: The Mathematics of Rationality*. Ellis Horwood: Chichester, UK). My objectives were to express the reasoning and assumptions underpinning decision analysis and to emphasise that understanding these principles matters if individuals, organisations and societies are to make good decisions. Somehow a second edition never has—and I doubt ever will—come up high on my agenda. So, since this book by Bouyssou *et al* shares many of the same aims and achieves them admirably, I am delighted to hand the torch over to them.

Decision making is an essential part of the human condition. Mostly we make choices unthinkingly, relying on

intuition. But sometimes decision making is a more formal activity accompanied by much analysis and perhaps subject to a *post hoc* audit. By what principles would an audit judge the analysis appropriate, complete—or sufficient—meaningful and rational? More importantly, how should the analysis be structured so as to be helpful to the decision makers in their task of choosing a course of action? Answering these questions or, at least, sensitising the reader to the value of answering these questions are the primary aims of this book: and, by and large, I think the authors succeed. The messages in this book are important if we are ever to make effective, auditable decisions.

At one level, it is an easy book to read, peppered as it is with thought provoking examples, raising issues for debate in an engaging fashion. The English, clearly European rather than Anglo-American in style, is admirably clear and the style carries the reader along. Mathematics and quantification is present where necessary and this does, perhaps, limit the readership somewhat; but no reader of *JORS* will have difficulty. Yet, at another level, the book requires much of the reader. It is a book you can put down, but the questions it has asked will linger, teasing the mind. Decision analysis does not have a single, foolproof recipe.

For those interested in the precise details there are ten chapters: introduction; choosing on the basis of several opinions; building and aggregating evaluations; constructing measures; assessing competing projects; comparing on several attributes; deciding automatically; dealing with uncertainty; supporting decisions; and conclusion. But, as should be clear, the precise topics are not as important as the overall message of the book.

As must be equally clear, I like this book and strongly recommend it to you. Which is not to say that I agree with all it says: far from it. The six authors and I could happily spend many an hour in a pub or bistro, interrupting the consumption of some beverage or other with lively debates on the relative merits of the Bayesian and the outranking schools of decision analysis. How should uncertainty be handled? How do we support groups of decision makers? On what basis should decision support systems be designed? And so on. At times I guess our discussion might be heated. But we would be disagreeing on perhaps 20% of the material in this book. At the heart we agree on the key issue: these debates matter. We need to understand how to make good decision making. This book provokes that debate. I recommend it to you.

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