



## **Making Hard Decisions with DecisionTools Suite**

by [Robert T. Clemen](#), [Terry Reilly](#)

<http://www.amazon.com/exec/obidos/tg/detail/-/0534365973/104-7345667-1295137?v=glance>

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★★★★★ **Understanding Hard Decisions**, October 20, 2000

Reviewer: [Ileana Costea, Ph.D.](#) (Los Angeles, CA USA) - [See all my reviews](#)

Understanding Hard Decisions

So that you know where I am coming from: I found this book while selecting a new text for my senior "Decision & Risk Analysis" course. There are numerous books on this subject, but none are perfect: either the presentation of the subject is hard, talking way above the heads of the audience, or too theoretical, or requiring a high level of math skills, or the presentation is at a too low level, or too narrow in focus, or not covering the whole spectrum of Decision Analysis. I chose this book for various advantages it has. The technical level of math that it requires is low, yet the analysis is high. It is written in a very easy way to read, follow and understand manner. It can be used both as a textbook for a course as well as a reference. It makes use of the most common generic tool for calculating and solving problems, the Excel spreadsheet for the suite of software that comes with the book (Palisades Decision tools) are integrated with it. The book offers a rather complete presentation of decision analysis concepts and techniques: there is a whole chapter on the important topic of sensitivity analysis, another chapter on simulation; and risk and forecasting are also presented.

I find the reference section in each chapter excellent, for it helps the reader tie the literature to the concepts presented. The last chapter which gives an annotated decision analysis reading list is also very helpful. All textbooks need to have these two ingredients. It is true that numerous of the references given in the book are fairly old, but the topic is not in the fast changing computer science field, and many of the original articles and books in the decision analysis area are classics and need

to be looked at carefully. (Maybe there is a lesson to learn here for those who give a minus when "old" references are included in a scholarly work.)

The book is very modern for the concepts it presents (influence diagrams - a relatively newcomer in decision analysis, issues of recent interest, such as assessment, ecology and AIDS) and because it also ties with the web. The reader is directed to the web page of the Decision Analysis Society of INFORMS and this gives an important tool for keeping the knowledge presented in the book constantly updateable and broadening the spectrum of the interested reader. Another advantage: the book emphasizes structuring decision problems rather the more traditional approach to stress modeling of uncertainty and preference.

I like both the structure of the book (that follows the decision analysis process) and that of each chapter which consist of an introduction, presentation of concepts and techniques, a summary section, challenging case studies accompanied by questions referring to the concepts just presented, references, and an epilogue.

Best qualities of the book: clarity, good structure, interesting real or realistic fictitious case studies - extremely important to keep the student interested in a topic which other books present in a dry way and with just "toy" problems.

Yes, the book is rather expensive, but do not disregard the fact that it comes with a set of software tools which although a student version (with limited-size problems and expiring after a while) it can be time-unlocked for a cost. Most importantly the software does not represent a separate school-only tool, for there exist commercial standard and professional versions that the student will be able to use on real-life problems without the need to go through an additional learning curve, if willing to pay the larger, but non-prohibitive cost. Clear instructions for how to use the software is given in the appropriate sections of the book.

What I would add? A glossary of decision analysis terms, either for each chapter or, with preference, a global one at the end of the book.

A special touch: most chapters end with an epilogue. Each epilogue has a different flavor (a game, a comment on a debated case, etc.) The epilogue does not directly summarize the main "action" of the chapter. It is more like the conclusion section of a musical composition - it brings some additional intriguing element that will keep the interest of the student aroused. This is as artistic in nature as decision science must be!

Review by Ileana Costea, Ph.D. Professor of Engineering, California State University, Northridge Email: [icostea@csun.edu](mailto:icostea@csun.edu)

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