Introduction

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Biographical notes: Kurt J. Engemann is a Professor of Information and Decision Technology Management in the Hagan School of Business at Iona College and a Distinguished Professor at The International Institute for Advanced Studies in Systems Research and Cybernetics. He is Editor of *Advances in Decision Technology and Intelligent Information Systems*. His publications include articles in the *International Journal of General Systems*, *Interfaces*, *Information Resources Management Journal*, *International Journal of Uncertainty*, *Fuzziness and Knowledge Based Systems*, *Journal of Business Ethics* and *International Journal of Intelligent Systems*. He has a PhD in Operations Research from New York University.

This special issue reports on recent progress in decision technology. Decision technology is at the crossroads of information technology and decision methodologies. New methodological advances in decision-making, as well as further developments in information technology, continue to foster progress in the field of decision technology. Recently developed decision technologies can provide organisations with a strategic advantage in a competitive environment. The complexity of modern decision-making has brought about the development of improved decision technologies.

The authors of this special issue presented their earlier work at the *Symposium on Decision Technology and Intelligent Information Systems at InterSymp: International Conference on Systems Research, Informatics and Cybernetics*.[1] This special focus symposium provides an annual forum for high quality discussion of recent advances in decision technologies. This volume is an outgrowth of research that investigates contemporary decision methodologies and models, combining traditional approaches with new technologies to provide innovative solutions to important and complex problems.

As a result of the increasing importance of the forensic examination of computer systems, numerous forensic software tools have appeared in the market. Therefore, selecting a tool is difficult and confusing for many organisations. O'Connor examines the main issues surrounding the selection and adoption of forensic software tools for use by computer forensic investigators pursuing digital evidence as part of an organisational, civil or criminal investigation. He presents the results of a series of interviews with computer forensic investigators in a number of commercial organisations involved in forensic computing investigations. The significance of this research is to broaden the understanding of forensic software tool selection in industrial practice by focusing on the issues of concern to computer forensic investigators.

Information quality assessment is the process of inspecting business information to ensure that it meets the needs of the knowledge workers who depend on it. Haughton *et al.* suggest that, prior to making data available to those who will use it, individuals responsible for quality must ensure that the data has been adequately cleaned to meet specific application requirements. They propose that the process of cleaning data include a graphical exploration of the data, and they demonstrate the use of several graphical tools. This approach provides insight into the data before the user proceeds to clean the data. Once the data has been cleaned, it is possible to develop a statistical model of the decision that relies on the data. Using a loan application data set, the authors demonstrate the degree of influence specific fields have on the decision to approve or deny a loan, and the effects of errors in the data on the model of the approval process.

Semantic query optimisation is a considerably new approach to query optimisation compared to the approaches used by commercial databases. It takes the original query into its optimiser and analyses it by the use of automatically derived rules. Sayli and Elibol apply mathematic logic to determine where a transition from one rule to another exists, and from here, produce new rules. Their approach yields considerable time savings on query optimisation, especially when the query answer can be found from the rules.

Dirsmith *et al.* examine the development and transformation of expert systems within the largest public accounting firms. Their field study reveals that this implementation was intended to encode expertise in these systems and thereby, transfer power from practice to administrative partners. However, these new technologies were resisted, transformed and redirected by the practice partners, who, in so doing, ironically, came to internalise these very technologies. The authors conclude that expert systems played three roles within the profession: as an instrumental means of fostering operating efficiency and improving firm profits, as a political exchange among contending factions, and as a means of social discourse used in extending the profession's jurisdiction.

Engemann *et al.* introduce a methodology which provides support for disaster management in information technology through attitudinal and fuzzy modelling. They provide a framework to explore the relationship among threats, events, control alternatives and losses. In evaluating a control alternative, the authors look beyond the traditional expected value as a summary measure of expectation and the traditional variance as a measure of dispersion. A new measure of dispersion is introduced which incorporates the decision maker's disposition. This generalised variance can be used in conjunction with an attitudinal expected value of an alternative's payoffs in order to allow the decision maker to assess the overall value of alternatives.

Note

1   www.iias.edu