Preface

The End User Computing area has grown tremendously over the last two decades. The popularity of the *Journal of End User Computing* (JEUC) testifies to that effect. According to the latest survey of information systems (IS) journals, JEUC has been ranked as 37th worldwide out of a total of top 50 IS Journals in the world (*Communications of the ACM*, 44, 9, September 2001). The present scholarly book is a collection of some of the best manuscripts that were published in JEUC over the last two years. The book is divided into three parts: Part I of the book deals with a new and interesting area, Medical Informatics. It includes six manuscripts. The manuscript by Harris, Donaldson, and Campbell starts the section by investigating predictors of utilization of the computer-based telemedicine in three rural Missouri counties. The findings of the study revealed that for e-mail, behavioral intentions/attitude, age, organizational support, and time were the most significant predictors, while for the World Wide Web, only behavioral intentions and attitude predicted utilization.

The second paper in the section is a case study by Mitev and Kerkham. It details the events surrounding the introduction of a patient data management system (PDMS) into an intensive care unit in a UK hospital. The research showed that PDMS implementation is complex and involved organizational issues related to the cost of healthcare, legal and purchasing requirements, systems integration, training and staff expertise, and relationships with suppliers. It also demonstrated that PDMS has significant impact on working practices. The paper also illustrated how external policies and procedures can interfere with the management of projects and with system implementation.

Lau and Hebert, in the third paper, review a broad range of health information systems projects in Canada. This paper is an attempt to follow up on projects that have been previously reported in the literature. This retrospective analysis suggests the need for organizational commitment; resource support and training; managing project, change process and communication; organizational and user involvement and team approach; system capability; information quality; and demonstrable positive consequences from computerization.

The following research, by Qavi, Corley, and Kay, looked at the nursing staff acceptance of a videoconferencing system within a neonatal intensive care unit and identified a set of recommendations to be integrated into system design to maximize usability of the system by nursing end users. Interestingly, the study showed that nurses limit their reliance on technology and draw heavily upon their own senses and intuition to construct a holistic view of the patient.

The fifth paper, by Chan, describes the implementation of a physician order entry system for medication by using scanning and image processing. The end-user context is presented first, leading to the specifications of design and operational requirements. This is followed by the presentation of the scanning and image processing system (SIPS). SIPS uses specially designed order forms for doctors to write orders that are then scanned into the computer that performs recognition and image processing. This allows the administrative processes to be automated. The paper provides a useful illustration of the need to be sensitive to the profile of the end user group.

The sixth and final paper, by Clark, in this section outlines major health issues associated with VDT use. It provides guidelines for both end users and managers to help eliminate or at least reduce the potential negative health effects of VDT use.

Part II of the book discusses a fairly well-known topic in the end-user computing area. It reviews the role of end-user interface, training, and attitudes on information systems success. The first manuscript in this section, by Shayo and Olfman, examines the role of training in preparing end users to learn related software packages. The objective is to determine what types of formal training methods can provide appropriate "mapping via training" of a new but related software application, given that "mapping via analogy" is also taking place. The results indicate that both task context and the number of software packages learned influence trainees' mental models of the software, their self-efficacy expectations, and their perceptions about the usefulness of the training.

The second paper in this section, by Lehaney, Clarke, Spencer-Matthews, and Kimberlee, investigated the success and failure of information systems within the British tourism industry. Over concentration on technical rather than human issues during the system development process is found to be the main cause for system failure. The need for a more human-centered approach to IS development is supported, and an example of such an approach is provided.

The following paper, by Butler and Fitzgerald, explores the relationship between institutional context, user participation, and organizational change in the development of information systems. With some notable exceptions, researchers have chosen to adopt variance- rather than process-based approaches to the study of these phenomena and have, therefore, failed to capture the complex interrelationships that exist between them. This study addresses these deficiencies and makes several important contributions to the literature.

Whitley and Pouloudi, in the fourth paper of this section, present a framework to help understand the socio-political context in which information systems projects are usually positioned. They then illustrate its relevance using a national information system, NHSNet. Their research shows that the representatives of stakeholders play an important role in system development and usage. They go so far as to say that the IS development team has a responsibility to listen to the stakeholders and the stakeholders have a responsibility to make sure that they are heard.

Citing inconsistent results in previously published studies in the area, Jawahar and Elango, in the fifth paper of this section, investigate the effect of attitudes, goal setting, and self-efficacy on end user performance. Their results show that the former three variables significantly affect end user performance. This prompted authors to suggest that perhaps end user performance can be enhanced by helping shape end user attitudes toward working with computers, teaching end users to set specific and challenging goals, and reinforcing end users' beliefs to effectively learn and use information technology.

Coombs, Doherty, and Loan-Clarke, in the sixth paper, investigate the role of user ownership and positive attitudes in the successful adoption of information systems. Despite the existence of a "best practice" literature, many projects still fail. The authors suggest that two additional factors, user ownership and user positive attitudes, deserve further development and investigation. A multiple case-study approach was used to investigate these factors. Their

analysis indicates that both user ownership and positive user attitudes are crucial to the success of an information system. In addition, they identify that best practice variables can also facilitate the development of user ownership and user positive attitudes.

Orr, Allen, and Poindexter, in the seventh paper in this section, point to the need for computer competence on the part of citizens to function efficiently on a personal level in a society but also to develop, advance, and success in professional lives. In spite of that need, the literature reports high levels of anxiety and negative attitudes on the part of people towards using computers. The authors, in this research, investigate the relationship between computer attitudes and factors that are likely to affect computer attitudes (e.g., computer experience and selected demographic, educational, and personality variables). Their objective is to develop an understanding of these variables.

It will be difficult to find even one computer end user who has not been affected in one way or another by a computer virus. In the last and final paper in this section Stu Westin, who has been serving JEUC for a number of years as an associate editor with distinction, considers the past and current status of computer viruses, the so-called "defensive computing" and the degree to which the situation has been clouded by hype, misinformation, and misunderstanding.

Part III of the book deals with a couple of well-known tools in the end-user computing area: decision support system and artificial neural network. McHaney and Cronan, in the first paper of this section, discuss the organizational impact of discrete event computer simulation, classified as a representational decision support system. They focus on the external validity aspects of two instruments, the Davis Measure of User Acceptance of Information Technology and the Doll and Torkzadeh Measure of End-User Computing Satisfaction, that can be used to measure organizational impact of this type of decision support system. They find that the Doll and Torkzadeh instrument retain its psychometric properties better than the Davis instrument when applied to users of discrete event computer simulation.

The second paper, by Le Blanc, Rucks, and Murray, describes a decision support system that is designed for prescriptive academic advising. Using this system a student, with a minimum of computer knowledge, can obtain an optimized course listing in less than five minutes without the assistance of a human advisor. This allows advisors to spend time on more substantive or developmental advising issues, such as choice of electives, career options, and life career goals.

In the third paper, Crossland, Herschel, Perkins, and Scrudder describe the impact of task and cognitive style on decision-making effectiveness in the context of a geographic information system. They investigate as to how two individual cognitive style factors such as field dependence and need for cognition relate to decision-making performance for a spatial task. They find significant relationship between the individual cognitive style factors and two dependent performance variables, solution times and percent error.

The fourth paper, by Sandy Staples, tests a number of relationships that were suggested in the literature as being relevant in a remote work environment. As the practice of employees working remotely from their managers and colleagues grows especially in view of the World

Trade Center bombing on September 11, 2001, so does the importance of making these remote end users of technology effective members of organizations. The author found more frequent communications between the manager and employee to be uniquely associated with higher levels of interpersonal trust for remote workers. Cognition-based trust is also found to be more important than affect-based trust in a remote work environment.

In the fifth paper, Headrick and Morgan develop and test a methodology that can measure the impact an information system may have on the behavioral climate of an organization. The authors argue that traditional concentration on short-term, readily quantifiable functional factors in designing information systems has resulted in the development of systems that can produce the required output but often fail to promote the general behavioral climate objective of the organization. They authors claim that their methodology, utilizing pre- and post-implementation assessments of an organization's behavioral climate, allows systems developers to identify specific potential design criteria which will increase the degree to which the organization's behavioral goals and objectives are met

In the sixth and final paper, Mahmood and Sullivan use a powerful yet underutilized tool, artificial neural network, to evaluate business ethics. So far, empirical studies have used traditional quantitative tools, such as regression or multiple discriminant analysis (MDA), in ethics research. The authors argue that more advanced tools are needed to understand ethical decision making. In this exploratory research, they present a new approach to classifying, categorizing, and analyzing ethical decision situations. A comparative performance analysis of artificial neural networks, MDA, and chance show that artificial neural networks predict better in both training and testing phases.

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