

# Preface

The End User Computing area continues to grow by leaps and bounds as more and more end users take control of their computing needs. This is causing a friction between the IT department and end user department with each having its own opinion on how to handle the EUC growth. The Journal of End User Computing is contributing to this tremendous growth by encouraging research and publication in the area. The Journal especially welcomes empirical studies on issues related to user-oriented view and IT-oriented view of EUC. The present scholarly book is a collection of some of the best manuscripts published in JEUC during last year. The book is divided into three sections: Section I covers factors that influence end-user selection, commitment, and performance. It includes four manuscripts. The manuscript by Witt and Burke started the section by investigating the applicability of general mental ability and personality test scores in predicting high-performing IT professionals. They compared employees and supervisory responses along technical proficiency, relationship management skills, adherence to documentation standards and requirements, and self-initiated professional development. The results of the study suggest that highly intelligent IT professionals are more likely to be adept in their jobs, among others. The study provides impetus for further research in the area.

The second paper in the section, penned by Turner and Turner, discusses the factors in end-user uptake of computer supported cooperative work (CSCW). The authors claim that this area is mainly neglected in the information systems (IS) literature. They use findings from IS research to structure a meta analysis of uptake issues in the CSCW area supplemented by one of their case studies. Their results show that while there are some factors that seem to be largely specific to CSCW introductions, many of the case study results are very similar to standard IS findings. They conclude by recommending how the two communities of researchers might build on each other's work.

Stone and Henry, in the third paper, use computer-based medical information system end-users in a large hospital as subjects. The theoretical model examined, using the data collected from these subjects, links several antecedents (e.g., past computer experience of the end-user, computer staff support for the computer system, ease of system use, and the degree of system use) to the end user's organizational commitment, mediated by computer self-efficacy and outcome expectancy. The results indicate that past computer experience and the degree of system use positively influence the end user's organizational commitment through both computer self-efficacy and outcome expectancy. The results also show that computer staff support and ease of system use positively impact the end-user's organizational commitment through outcome expectancy. The authors conclude by providing some implications for practicing managers.

Jawahar is the author of the fourth manuscript in this section. He emphasizes that it is important to uncover factors that influence end-user performance because of the significance of this performance to organizational performance. The author claims that prior research has relied mostly on personal factors to predict end-user performance even though several models suggest that both personal and situational factors influence behavior and performance. He examined the influence of both personal and situational factors on end-user performance. The results of the study showed that the three personal factors and four situational factors used in the study, together explained almost 40% of the variance in end-user performance. The author concludes by providing implications for practitioners and researchers and by offering directions for future research.

Section II of the book discusses the effects, outcomes, and quality assessment issues as they relate to end-user systems. McBride and Wood-Harper begin the section by discussing how control has become a major issue in end user computing. The authors claim that the migration of responsibility, resources, and authority from IT departments to user departments as EUC becomes more prevalent is frequently seen as a loss of power by the IT departments and an erosion of cost control by senior management. Such an IT oriented view, the authors suggest, focuses on how EUC causes problems, the additional technology it requires, and the methods and means that should be used to limit, control, and standardize this growth. Authors advocate a user-oriented view of EUC that focuses on the problems it solves, the user's task and the organizational environment it handles. The authors recommend a shift in EUC research away from the technology and the IT-oriented issues towards the political, social and cultural issues associated with the end computing, stating that EUC problems are organizational problems. The authors propose to facilitate such research a dynamic model for EUC in which the progression of EUC within an organization is visualized as a series of inference loops. The authors recommend that the IT people, in order to gain em-

pathy and understanding, look at the EUC phenomenon from the end-user's point of view.

The following research by McGill portrays how organizations rely heavily on systems developed by end users, yet lack of experience and training may compromise the ability of end users to make objective assessments of the quality of these systems. The author investigated the ability of end users to assess the quality of systems they develop. The results of the study confirm that there are differences between the system quality assessed by end user developers and independent experts. In particular, the results of the study suggest that end users with little experience may erroneously consider the systems they develop to be of high quality. The author concludes by discussing some implications of these results.

In the following paper, Karsten started by stating that the working relationship of information technology professionals and end users is an ongoing source of both research and practical concern. The author employed Attribution Theory to examine the causal attributions IS professionals and end users make for successful and unsuccessful user-system outcomes. Results from the study, using a sample of 86 IS professionals and 122 end users, showed no differences in the nature of IS professional and end-user attributions for successful outcomes. The same results, however, did show very significant differences between these two groups following unsuccessful outcomes. Interestingly, post-hoc analysis indicates that for unsuccessful user-system outcomes, the causal attributions of IS professionals and end users who are cross-functional team members are significantly less divergent than the causal attributions of those who are not. The author concludes by discussing the implications of Attribution Theory for IS professional end-user interactions.

Wagner, in the fourth paper in this section, claims that knowledge is receiving recognition as a strategic force in organizations. One form of knowledge capture and maintenance organizations are tempted to use is expert system design by end users. The author discusses difficulties associated with end-user development of expert systems, both in terms of design quality and knowledge content captured in the knowledge base. His analysis of 25 expert systems designed by non-professional developers reveals significant quality and size limitation problems that indicate limited expert system development feasibility by end users. The lack of design quality, the author's research furthermore reveals, may not be easily compensated by a "knowledge advantage" of the end users, as end users may have an advantage in using their knowledge, but not in "knowing" it. The author concludes by offering suggestions for alternate forms of end-user oriented expert system development that consider end user limitations and take advantage of recent developments in information technology.

Morrison, Morrison, Melrose, and Wilson bring this section to a conclusion by discussing a graphical approach for reducing spreadsheet errors. Spreadsheet programs are tools that are widely used by end-user developers in organizations. Recent studies have, the authors claim, shown that spreadsheets often contain significant errors including “linking errors” (e.g., incorrect references to spreadsheet cell values on separate work areas). These errors may affect decisions made out of information provided in these spreadsheets especially those that use distinct work areas spread across several worksheets. The authors describe a code inspection approach that visually represents the structure of a linked spreadsheet and graphically identifies linked cells and their sources. They tested their approach in an experimental study where subjects created a complex spreadsheet. Their results indicate that subjects who used the code inspection approach made significantly fewer errors and experienced no decrease in the spreadsheet production speed or the production process satisfaction.

The third and final section of the book discusses management attitude towards end-user computing, end-user education, and training. Kohli and Gupta start the section by discussing student perceptions of the education and experiences received in Systems Analysis and Design (SA&D) courses taught at academic institutions. The authors themselves conducted an *ex-ante* and *post-hoc* empirical study of students’ perceptions in a SA&D course. Their results indicate that after taking the SA&D course and working with a real-life project, the students’ perceptions improved in the areas of the applicability of structured methodologies across industries, the importance of computer programming in systems analysis and design process, and the role of advanced technologies in SA&D. Students also recognized the importance of user involvement in system design projects.

Kruck, Maher, and Barkhi, in the second paper in this section, claim it is well documented in the literature that electronic spreadsheet models utilized in many professions to enhance decision-making frequently contain errors. The authors further maintain that limited research has been conducted in the area that systematically identifies potential reasons for these errors, and what procedures can be undertaken to mitigate them. They empirically investigate as to how several important cognitive skills are affected by formalized spreadsheet training. Their results show that one cognitive skill — logical reasoning — significantly increases after a six-week training period. The authors further assert that the greater the increase in logical reasoning skill, the more effectively the subject performed in developing competent spreadsheet models. The authors conclude by recommending that future research should focus on providing different forms of instruction and course materials for subjects with different backgrounds and different levels of expertise.

Winston and Dolgite claim prior research studies show that a positive attitude towards information technology among small business owners appears to be a key factor in achieving high quality IT implementations. The authors conducted case studies with small business owners to extend this area of research. A surprising finding of their research, according to the authors, was that high quality IT implementations resulted with owners who had either a positive or a negative attitude towards IT. They found that, by contrast, owners who had an uncertain attitude about IT and who practiced non-entrepreneurial management style had low quality IT implementations. The authors opined that, based on their research results, small business owners with an uncertain attitude towards IT might experience higher quality IT results in their organizations through practicing a more entrepreneurial or shared management style. They conclude by providing insights for both computer specialists and small business owners planning IT implementations.

Huang concludes the book by describing an innovative training strategy adopted by one mid-size organization to provide its end users with adequate, flexible, and responsive training. The author claims that progressive companies are always looking for ways to provide their end users with timely training and resources as end-user training is becoming increasingly important in today's technology-intensive business environment. The author then compares his innovative three-tier training strategy with other models described in technology training literature. He suggests that managers who supervise technology end users in organizations comparable to the one in his research study may want to use the three-tier strategy in their own training programs to improve end-user skills. The author concludes by suggesting that researchers and scholars may find that the idea of three-tier training generates new opportunities for research.

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