

Preface

As computer use becomes more widespread, its applications become broader. Computers are used today as information sharing entities and mediums for all kinds of communication. Ever more frequently, computers are being used as a source of collaboration among workers, students and teachers, and organizations. Collaborative technologies offer simpler ways of managing virtual organizations and supporting distance learning initiatives. In order to get the most from these technologies, managers, teachers and researchers must have access to the latest research and practice concerning the development and use of collaborative technologies. The chapters in this book represent a wide array of applications and developments of collaborative technologies and the authors, all renowned experts in their respective fields, represent a diverse organizational and cultural background and provide the most current insights into this emerging field.

Chapter 1 entitled, “Extending Collaboration Support Systems: Making Sense in Remote Innovation” by Thekla Rura-Polley and Ellen Baker of the University of Technology (Australia) examines the role of collaboration and collective learning in regional and industry-wide innovation and how innovation through electronic collaboration can be enhanced by comprehensive computer support tools. The chapter describes a Web-based computer system called LiveNet that incorporates sensemaking aids to facilitate remote innovation.

Chapter 2 entitled, “Conceptual Linkages: An Analysis of the Organizational Learning, Collaborative Technology and Intellectual Capital Literature” by Robert Neilson of the National Defense University (USA) establishes a conceptual link between three distinct bodies of literature dealing with learning organizations, collaborative technologies and intellectual capital. The author offers the results of a content analysis of the literature, explores the theoretical bases of organizational learning and technology use and focuses on an integrated critical review of the three literature bodies.

Chapter 3 entitled, “Process Improvement and Knowledge Communication” by Ned Kock of Temple University (USA) discusses the need for knowledge sharing, organizational learning and knowledge transfer. This chapter specifically looks at evidence to suggest that the number of knowledge-bearing communication exchanges in improvement processes is much higher than that observed in routine processes. The chapter also shows that the proportion of knowledge content in communication exchanges is much higher as well.

Chapter 4 entitled, “The Effects of Collaborative Technologies” by Ned Kock of Temple University (USA) presents and discusses evidence pointing to an increase of process improvement group efficiency due to computer support. The evidence indicates efficiency gains are reflected in reduced group cost, lifetime and reliance on managers and also points to increases in perceived group outcome quality and organizational learning effectiveness. The results presented in this chapter provide a sound endorsement for the use of collaborative technologies in process improvement.

Chapter 5 entitled, “The Collaborative Use of Information Technology: End-User Participation and System Success” by William Doll of the University of Toledo and Xiaodong Deng of Oakland University (USA) uses a sample of 163 collaborative and 239 non-collaborative applications to answer three research questions: is user participation more effective in collaborative applications?; what specific decision issues enhance user satisfaction and productivity?; and can permitting end-users to participate as much as they want on some issues be ineffective or dysfunctional? The chapter reports on the results of the study designed to answer these important questions.

Chapter 6 entitled, “Promoting Collaboration among Trainers in the National Weather Service” by Victoria Johnson and Sherwood Wang of the Cooperative Program for Operational Meteorology, Education and Training discusses the use of science operations officers (SOO) by the National Weather Service to train local meteorologists in the latest technologies in their field. The authors discuss how technology has improved collaboration in these training efforts and the lessons learned in this massive undertaking of modernizing the National Weather Service.

Chapter 7 entitled, “A KM-Enabled Architecture for Collaborative Systems” by Lina Zhou and Dongsong Zhang of the University of Arizona (USA) proposes a knowledge management (KM)-enabled architecture for collaborative systems. The authors discuss current research issues related to knowledge management in the new architecture and show that, by applying the architecture to a virtual global business company, the proposed architecture would be able to support and integrate collaborative systems and knowledge management effectively.

Chapter 8 entitled, “Computer-Mediated Inter-Organizational Knowledge-Sharing: Insights from a Virtual Team Innovating Using a Collaborative Tool” by Ann Majchrzak, Nelson King, and Sulin Ba of the University of Southern California, Ronald Rice of Rutgers University and Arvind Malhotra of the University of North Carolina at Chapel Hill (USA) generates three propositions about the likely behavior of a team using a collaboration tool and reusing the knowledge put in the knowledge repository and then conducts a research study of these three propositions. The reports of this study are reported in the chapter. Finally, the authors discuss the theoretical and practical implications of their findings.

Chapter 9 entitled, “Alignment of Collaboration Technology Adoption and Organizational Change: Findings from Five Case Studies” by Bjørn Munkvold of Agder University College (Norway) presents an analysis of the alignment process of the adoption of collaboration technology and related organizational changes through a multiple case study in five organizations. The authors place special emphasis on the sequential relationship between technology adoption and organizational change. The case studies discussed illustrate how elements of learning and maturation in the implementation process can help in overcoming barriers to adoption.

Chapter 10 entitled, “Information Retrieval Using Collaborating Multi-User Agents” by Elaine Ferneley of Salford University (United Kingdom) presents a model that supports collaborative information retrieval from a range of information sources. The system discussed, known as CASMIR, has been implemented as a set of cooperating Java agents communicating in KQML. The chapter discusses the results of an early evaluation of CASMIR using the North West Film Archive’s catalog and queries.

Chapter 11 entitled, “A Framework for the Implementation of a Collaborative Flexible Learning Environment for Academic Institutions” by R. K.-Y Li, S. T. Cheng and R. J. Willis of Monash University (Australia) explains the collaborative learning approach and explores barriers to collaborative flexible learning. The authors then propose a framework to guide the development of a team-based flexible learning environment and show how this environment can be built using existing technology.

Chapter 12 entitled, “Information Technology, Core Competencies and Sustained Competitive Advantage” by Terry A. Byrd of Auburn University (USA) presents and describes a model that illustrates the possible connection between competitive advantage and IT. Furthermore, the chapter shows how one major component of the overall IT resources, the information systems infrastructure might yield sustained competitive advantage for an organization. By showing that information systems infrastructure flexibility acts as an enabler of the core

competencies, the author demonstrates the relationship to sustained competitive advantage.

Chapter 13 entitled, “Fitting EMS to Organizations” by Carlos Costa of ISCTE (Portugal) and Manuela Aparício of Lusocredito-Sociedade de Estudos e Contabilidade, lda. reports on the development of a new electronic meeting system (EMS). The authors developed and implemented a prototype into a corporate environment. The preliminary results show that this approach creates a better fit to organizational needs than traditional electronic meeting systems.

Chapter 14 entitled, “Ad Hoc Virtual Teams: A Multi-disciplinary Framework and a Research Agenda” by Guy Paré and Line Dubé of École des Hautes Études Commerciales de Montreal (Canada) develops a comprehensive framework for ad hoc virtual teams’ success. Ad hoc virtual teams are teams that come together for a finite time to tackle a specific project. The authors discuss the myriad of conditions and factors which lead to the success of a virtual team.

Chapter 15 entitled, “Overcoming Barriers in the Planning of a Virtual Library: Recognizing Organizational and Cultural Change Agents” by Ardis Hanson of the University of South Florida (USA) addresses the interaction among the University of South Florida Libraries, consisting of five separate entities, located at two region campuses and one main campus, in defining and realizing institutional commitment to its virtual library plan. Specifically, the chapter looks at various assignments made and the necessity of organizational change, and attempts to integrate the literature with action.

Chapter 16 entitled, “The Wicked Relationship between Organizations and Information Technology” by Gill Mallalieu, Clare Harvey and Colin Hardy of the University of Sunderland (United Kingdom) describes how the relationship between an organization’s business processes and its legacy IT systems is considered a “wicked problem” (Churchman, 1967) within the framework of the RAMSES (Risk Assessment Model: Evaluation Strategy for Existing Systems) project. The authors then offer a detailed method within the framework of the grounded theory to understand this relationship and solve the “wicked problem.”

Chapter 17 entitled, “Inspecting Spam: Unsolicited Communications on the Internet” by Ellen Foxman and William Schiano of Bentley College (USA) begins with a brief history of advertising on the Internet and then defines spam within a typology of undesirable Internet communications. The authors examine conflicting definitions of spam in light of their suggested remedies. The chapter concludes with recommendations on controlling spam for individuals, managers and policy makers.

Chapter 18 entitled, “Application of Information Management with Meeting Automation Tool” by Andrey Naumenko and Alain Wegmann of the Swiss Federal Institute of Technology (Switzerland) describes technologically supported solutions that assist people within a workgroup to deal with information related to their

common projects. The solution proposed supports different scenarios of group organizations including geographically separated workgroups. The authors suggest that workgroup meetings are a key concept within the project framework and explain their value in the everyday workgroup.

Chapter 19 entitled, “A Distributed Cognition Analysis of Mobile CSCW” by Mikael Wiberg and Åke Grönlund of Umeå University (Sweden) uses a distributed cognition perspective to analyze mobile computer supported cooperative work (CSCW) among service technicians at a telecom operator. The chapter focuses on three aspects: the physical conditions for the interaction, the knowledge necessary for the management of the interaction, and the technology that can support the interaction.

From gaining and maintaining organizational process improvement and competitive advantage to utilizing electronic meeting applications and dealing with spam, the chapters in this book represent the most timely theoretical discussion and practical applications of collaborative technologies. Business people will benefit from the discussion of improving virtual teams and developing effective collaborative applications. Academics will be able to improve their teaching with a better understanding of the theoretical concepts discussed herein. Librarians, and other organizational members will have a greater understanding of how collaborative technologies can be most efficiently and effectively utilized within their respective organizations. This book is a must have for all those interested in improving their organization through more effective communication and collaboration with the benefits of technologies.

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