

Preface

Modern organizations are constantly in search of more effective and efficient technologies and managerial techniques to manage their ever-evolving information resources. While researchers and educators study various critical factors effecting strategies and technologies utilized by organizations, practicing managers apply emerging technologies and methodologies to increase the firm's returns made in information resources and technologies infrastructure. *Advanced Topics in Information Resources Management, Volume 5*, provides information technology researchers, scholars, educators, and practicing managers with the latest research on managing the technological, organizational, and human aspects of information utilization and management. This volume presents current trends and challenges in implementing and strengthening information resources strategies in organizations worldwide.

Chapter I, "Multimedia Impact on Human Cognition," by Hayward P. Andres, North Carolina A&T State University (USA), discusses the increasing costs organizations need to train employees in today's high technology environment. This study suggests that trainee/learner cognitive processing capacity, information presentation format and complexity, and multimedia technology should be leveraged in order to minimize training duration and costs and maximize knowledge transfer. It presents a causal model of how multimedia and information complexity interact to influence sustained attention, mental effort and information processing quality, all of which subsequently impact comprehension and learner confidence and satisfaction outcomes.

Chapter II, "IT Project Managers' Perceptions and Use of Virtual Team Technologies," by Catherine M. Beise, Salisbury University (USA), Fred

Niederman, Saint Louis University (USA), and Herb Mattord, Kennesaw State University (USA), presents the results of a case study pertaining to the use of information and communication media to support a range of project management tasks. In this study, “virtual” describes the extent to which communication is electronic rather than the extent to which team members are geographically separated. Although the number of respondents was limited, the richness of the data collected leads to the conclusion that successful project managers and teams become skilled at adapting a variety of existing communication technologies to match the project task or process, the receiver, their own role as sender, and the content of the message. This study suggests that groupware designers and developers need to better understand project management methods and best practices in order to provide better tools for practitioners, particularly as organizations expand globally and increasingly outsource various functions of their IT development and operations.

Chapter III, “Information Sharing in Supply Chain Management with Demand Uncertainty,” by Zhensen Huang and Aryya Gangopadhyay, University of Maryland, Baltimore County (USA), presents information sharing as a major strategy to counteract the amplification of demand fluctuation going up the supply chain known as the bullwhip effect. However, sharing information through inter-organizational channels can raise concerns for business management from both technical and commercial perspectives. The existing literature focuses on examining the value of information sharing in specific problem environments with somewhat simplified supply chain models. The present study takes a simulation approach in investigating the impact of information sharing among trading partners on supply chain performance in a comprehensive supply chain model that consists of multiple stages of trading partners and multiple players at each stage.

Chapter IV, “The Impact of IT Personnel Skills on IS Infrastructure and Competitive IS,” by Terry Anthony Byrd, Auburn University (USA) Bruce R. Lewis, Wake Forest University (USA) and Douglas E. Turner, State University of West Georgia (USA) describes the critical importance of the knowledge and skills of information technology (IT) personnel as the strategic value of IT in modern organizations has become apparent. In addition to technical skills traditionally expected of IT personnel, organizational, functional, and managerial skills have been increasingly cited as mandatory for these employees. This chapter uses a well-accepted typology of IT personnel knowledge and skills, and investigates its relationship to desirable technological traits in organizations and to technological variables that have been closely aligned to competitive advantage in organizations. Implications of these findings and a call for further research into the strategic value of IT personnel knowledge and skills are discussed.

Chapter V, “A Socio-Technical Heuristic for Analysis of IT Investments: Results from Two Case Studies,” by Grover S. Kearns, University of South

Florida (USA), states that a majority of CEOs have experienced failed information technology (IT) investments. While such investments have the potential for providing competitive advantage, actual returns have varied widely. Numerous methods exist for investment evaluation, but traditional methods do not adequately account for the intangible benefits that characterize strategic investments and lack other features of portfolio selection. This chapter presents a framework based upon the analytic hierarchy process, combined with integer programming, to overcome the deficiencies associated with traditional approaches to economic evaluation of IT investments. Based on socio-technical theory and observations from two case studies in which the framework was applied successfully, a heuristic is developed for the investment process. Findings and implications are discussed.

Chapter VI, “Global Service Provider Strategies and Networking Alternatives,” by Rob Landi, WorldCom (USA) and Mahesh S. Raisinghani, University of Dallas (USA) discusses how deregulation and liberalization of the telecommunications markets have led to tough international competition. This chapter presents well-established approaches used by large telecom service providers in assessing the technical and market forces impacting their network planning and strategies. This chapter, in the form of a tutorial, takes the reader through the assessment and analysis processes dealing with the requirements, design, and implementation issues facing global communications carriers today. Four generic telecommunication network models (varying based on the degree of capital intensity required) are presented to demonstrate that a strategy of employing these generic models to appropriate settings generates cost savings and network efficiencies. A specific case analysis conducted by the global communications carrier for a regional network in Italy is included that discusses strategic planning for the provision of new data and Internet services, and assesses alternative network designs and technologies to provide optimized solutions and service delivery.

Chapter VII, “Toward a Greater Understanding of End-Users’ Acceptance of ERP Systems,” by Fiona Fui-Hoon Nah, Xin Tan, and Soon Hing Teh, University of Nebraska-Lincoln (USA), states that despite huge investments made by organizations in ERP implementation, maintenance, and user training, ERP implementation failures and less than expected productivity improvements are not uncommon. End users’ reluctance or unwillingness to adopt or use newly implemented ERP systems is often cited as one of the main reasons for ERP failures. To understand the lack of end-user acceptance of ERP systems, we examined end users’ attitude toward system use and symbolic adoption; the latter refers to users’ voluntary mental acceptance of a system. Four instrumental beliefs — perceived usefulness, perceived ease of use, perceived compatibility, and perceived fit — were modeled as the antecedents. The research model was tested using a survey on end users’ perceptions in adopting and using a newly implemented ERP system. The study provides managerial impli-

cations for organizations in engendering positive user acceptance of enterprise systems and applications.

Chapter VIII, “Inclusion of Social Subsystem Issues in IT Investment Decisions: An Empirical Assessment,” by Sherry D. Ryan and Michael S. Gates, University of North Texas (USA), describes how researchers have attempted to augment the traditional cost/benefit analysis model used in the IT decision process. However, frequently social subsystem issues are inadequately considered. Survey data, collected from a U.S. sample of 200 executives, provides an empirical assessment of how these issues compare with other IT decision criteria given differing decision types. The social subsystem issues considered most important by decision makers are also identified, and the manner by which they consider these issues is investigated.

Chapter IX, “Effect of Tasks, Salaries, and Shocks on Job Satisfaction Among MIS Professionals,” by Fred Niederman, Saint Louis University (USA) and Mary Sumner, Southern Illinois University, Edwardsville (USA), contrasts attitudes and attributes of current and former positions of IT professionals who have changed jobs within the IT field. It also examines relationships among key variables of tasks performed, salary, job satisfaction, and external influences or “shocks” that may have precipitated turnover. Survey data were collected from 169 MIS professionals. A number of significant relationships among variables between some tasks and salary, some tasks and job satisfaction, and low former job satisfaction and response to particular “shocks” relative to turnover emerged from the data.

Chapter X, “Empirical Evaluation of an Integrated Supply Chain Model for Small and Medium Sized Firms,” by Toru Sakaguchi, Northern Kentucky University (USA) Stefan G. Nicovich, University of New Hampshire (USA) and C. Clay Dibrell, Oregon State University (USA) explains that, with increased global competitive pressures, companies operating in these competitive environments are not only looking to their distribution division to save money, but also to generate competitive advantages. One technique is the integrated supply chain. This chapter draws on resource dependency theory and the realities of ever-increasing information technology sophistication as enablers of successful supply chain integration, resulting in the creation of our model to guide managers throughout this process. Through a Web-based survey, 329 responses were collected and analyzed through a structural equation modeling technique using LISREL to confirm the relationships in the model.

Chapter XI, “Identifying and Managing the Enablers of Knowledge Sharing: An Exploration in the UK Healthcare Sector,” by W. A. Taylor, University of Bradford (UK) and G. H. Wright, Manchester Metropolitan University Business School (UK), presents the idea that knowledge sharing in public services has not yet received much attention in the research literature. This chapter investigates knowledge sharing in one public service context, the UK National Health Service (NHS), and identifies factors that influence the readiness of an

organization to share knowledge effectively. Using participant observation, document analysis, interviews and a survey of managers, data are presented to highlight enablers of effective knowledge sharing in health care service delivery.

Chapter XII, “Tranquilizing the Werewolf that Attacks Information Systems Quality,” by Evan W. Duggan, University of Alabama (USA), discusses a variety of available user-centered and process-oriented systems delivery methods, philosophies, and techniques, which may be used in innovative permutations to tranquilize the dragon beyond its capacity to generate terror. The application context for these approaches, their strengths and weaknesses as indicated by the research literature, and reported practitioner experiences are also discussed.

Chapter XIII, “Testing and Extending Theory in Strategic Information Systems Planning Through Literature Analysis,” by Irwin T. J. Brown, University of Cape Town (South Africa), states that strategic information systems planning (SISP) has been, and continues to be, a key concern to information systems managers, and much research effort has been devoted to studying it. SISP has been theorized in terms of an input-process-output model, with well-defined categories, and a set of hypotheses to be tested. Based on this theoretical framework, a comprehensive analysis of academic literature published since 1991 is undertaken. The analysis reveals the extent to which the various categories and hypotheses within this framework have been researched, as well as identifying additional hypotheses that are suggested from the literature.

Chapter XIV, “Business Process Reengineering: The Role of Organizational Enablers and the Impact of Information Technology,” by Hamid Reza Ahadi, Iran University of Science and Technology in Tehran (Iran), examines organizational factors that affect the implementation of business process reengineering (BPR) when applying two specific information technologies (i.e., Electronic Data Interchange and/or Internet technology). This research uses a survey methodology to gather information about how organizational enablers and information technology affect BPR implementation. By determining the factors that affect BPR implementation, these factors can be managed in the best interest of customers, employees, and organizations. From the nine hypotheses tested in this study, six factors were found to be positively associated with successful implementation of BPR: top management supports, change management, centralization of decision making, formalization of procedure, organizational culture, and customer involvement. By determining the factors that affect BPR implementation, these factors can be managed in the best interest of customers, employees, and organizations.

In today’s information society, organizations more than ever revolve around information resources management to improve their strategic posture and to stay competitive. From organizing data to providing effective communication, technology facilitates impressive growth and success for both organizations

and their stakeholders. Effective management of information resources has become a necessity, and learning from the latest research and advances of practitioners, researchers, and educators within the information resources management and information technology field provides others with the opportunity to learn from the success and pitfalls of other organizations. An outstanding collection of the latest research associated with the effective utilization of information technology, *Advanced Topics in Information Resources Management, Volume 5*, provides insight on how to successfully implement and expand information resources and technology in modern organizations globally.

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