Preface

Information technology is having a profound effect worldwide; however, the effect is largely influenced by the social and economic culture of the area where the IT is being introduced or used. To maximize the global potential of information technology and information systems, researchers, practitioners, teachers and students must have access to the most recent research and practice concerning information technology implementation and use in developing countries throughout the world. The chapters in this book provide insights into specific countries' uses and adaptations of IT and general comments on modifying IT implementation to meet cultural expectations. From Brazil to Egypt and from the software industry to local government's use of IT, the chapters in this book provide comprehensive coverage of IT management in developing countries.

Chapter 1 entitled, "IT Industry Success in Small Countries: The Cases of Finland and New Zealand" by Rebecca Watson of PA Consulting Group (Australia) and Michael D. Myers of the University of Auckland (New Zealand) examines the factors of IT industry success in small developed countries and compares two such countries, Finland and New Zealand. Finland and New Zealand are alike in many respects, yet Finland's IT industry is more successful than New Zealand's. The chapter identifies three major factors that impact the development of a successful IT industry.

Chapter 2 entitled, "Can National Information Infrastructures Enhance Social Development in the Least Developed Countries? An Empirical Investigation" by Peter Meso and Nancy Duncan of Kent State University (USA) studies the relationship between information infrastructure and social development. The chapter establishes a clear correlation between levels of information infrastructure and social development and the growth rates of information infrastructure and social development. The findings suggest that governments of less developed countries may enhance growth by developing strategic plans for national information infrastructures.

Chapter 3 entitled, "Information Technology for Relational Business Ecosystems: A Case Study in Brazilian Engineering Industry" by Luiz Antonio Joia of Rio de Janeiro State University (Brazil) presents a framework to integrate effectively different information technologies in order to coordinate a relational business ecosystem. The chapter describes information technologies needed to create this new business environment along with an integrated business model to explain the environment. The chapter presents a case study of a major engineering company in Brazil using the proposed model of integration.

Chapter 4 entitled, "Geographic Information Systems in Developing Countries: Issues in Data Collection, Implementation and Management" by Brian Mennecke of Iowa State University and Lawrence West of the University of Central Florida (USA) presents a framework for geographic information systems (GIS) adoption in less developed countries and discusses the constraints in the context of the framework. The chapter also offers ideas for technical, managerial and policy initiatives that should be helpful in addressing the impediments to GIS adoption.

Chapter 5 entitled, "Transfer of Information Technology to the Arab World: A Test of Cultural Influence Modeling" by Detmar Straub, Karen Loch and Carole Hill of Georgia State University (USA) addresses the questions of whether or not cultural beliefs affect the information technology transfer (ITT) in the Arab world and whether contact with technologically advanced societies impacts ITT and systems outcomes. The authors establish and test a cultural influence model of ITT where cultural beliefs and values are one major construct, and the counterbalancing variable is the external influence of technologically advanced society.

Chapter 6 entitled, "Information Systems Leadership Roles: An Empirical Study of Information Technology Managers in Norway" by Petter Gottschalk of Norwegian School of Management (Norway) presents the results of a survey conducted in Norway on general leadership roles as well as specific IS leadership roles. The analysis indicates that strategic responsibility and network stage of growth influence the extent of the informational roles, while the extent to which the chief executive uses IT influences the extent of the decisional role and the extent of IT use among subordinates. The chapter outlines specific predictors of IS leadership roles.

Chapter 7 entitled, "Out of Scandinavia—Facing Social Risks in IT Development in South Africa" by Helana Scheepers of the University of Pretoria (South Africa) and Lars Mathiassen of Aalborg University (Denmark) considers the development and implementation of information technology in the social context of South Africa. The chapter draws an analogy between the trade unionist systems development tradition in Scandinavia and the possible application they could have in South Africa. The chapter describes the situation in South Africa and the underlying unionist principles that have been developed by Scandinavian researchers and evaluates these principles from a South African perspective.

Chapter 8 entitled, "Dysfunctional Development Pathways of Information and Communication Technology: Cultural Conflicts" by G. Roland Kaye and Stephen Little of Open University Business School argues that there are three factors which counter the inevitable movement towards globalization: first, the incremental force of technology as illustrated by the growth stage model is flawed; second, the imperialism of technology overcoming all barriers fails to reconcile the cultural dimensions of developing contents; and third, the assumption of universal economic access and development is incompatible with the reality in both developed and developing countries. The chapter discusses these perspectives and illustrates them with examples from Asia and the United Kingdom.

Chapter 9 entitled, "The Context of Introducing IT/IS-Based Innovation into Local Government in Columbia" by Mahmoud Watad of Fairleigh Dickinson

University (USA) examines the dynamics of introducing IT/IS into local municipalities in Columbia and addresses the factors that drive the introduction of geographical information systems into public organizations. The results are based upon data generated from documents and direct interviews in two municipalities. The findings indicate that middle managers are often the driving forces behind technological advances.

Chapter 10 entitled, "Leapfrogging an IT Labor Force: Multinational and Indigenous Perspectives" by Eileen Trauth of Northeastern University (USA) explores two key human resource issues for the global IT sector, ensuring a supply of qualified IT professionals in the host country and managing IT workers in a cross-cultural setting. The chapter is based upon an ethnographic study of the information sector in Ireland and the issues raised represent the experiences of American and Irish managers, Irish policy makers and Irish IT workers.

Chapter 11 entitled, "Enterprise Intelligence: A New Concept of Management for the New Economy" by Marcos Cavalcanti of Federal University of Rio de Janeiro (Brazil) and Elisabeth Gomes of National Nuclear Energy Commission introduces the idea that the economical models based upon three traditional production factors should be revised. The authors propose a new concept for business administration in the Knowledge Society: Enterprise Intelligence. The authors then introduce a model for management of knowledge capital and suggest ways developing countries, like Brazil, should position themselves in this new economy.

Chapter 12 entitled, "Assessing the Software Industry in Egypt" by Sherif Kamel of American University in Cairo (Egypt) illustrates the current status of information technology in Egypt with a focus on the software industry as a major building block of the information technology industry and a possible active contributor to business and socioeconomic development at large.

Chapter 13 entitled, "A Model of a Computer Salary Calculation System in Poland" by Wojciech Jurkowski of the University of Szczecin (Poland) describes a model of a salary calculation system in Poland. The complexity of bureaucratic regulations and difficult laws requires special attention from applications designers. The chapter characterizes the Polish salary calculation process and proposes a model that has been successfully implemented in the commercial sector.

Chapter 14 entitled, "Sticking to the Basics: Information Technology at the Glue Factory" by Charlene Dykman and Charles Davis of the University of St. Thomas describes the centralization of the computerized components of various functions at the company, M.K. Mikels, a large manufacturer that serves the building industry in Israel. The chapter presents a case study describing a 2000 Project. The chapter describes the project team assembled, the feasibility study, the options available and the actual implementation.

Chapter 15 entitled, "Information Technology for Knowledge Management in China" by Michelle Fong of Victoria University of Technology (Australia) highlights the characteristics of internal organizational factors that concern the use of information technology for managing knowledge within state-owned Chinese banks in the People's Republic of China. The chapter focuses on the time between 1957 and

1995 and information was gathered by means of questionnaires and secondary data sources.

Chapter 16 entitled, "Developing an Expert System to Software Selection for Small Business" by Leopoldo Colmenares of University of Simon Bolivar discusses the Expert System to Software Package Selection (ESSS) developed specifically for small businesses to support the software packages selection task. ESS is a rule-based expert system that uses six factors and appropriates point values to these factors to evaluate software packages.

Chapter 17 entitled, "Software Development in Developing Countries: Framework for Analysis of Quality Initiatives" by Syed Hassan of Lahore University of Management Sciences (Pakistan) reports on information collected on the quality and process initiatives at some of the leading software companies in Pakistan. The chapter proposes a framework for analysis of quality initiatives and establishes the need for considering customer and market aspects in assessing an organization's quality initiatives. The chapter also offers recommendations for companies interested in launching quality and process improvement initiatives.

Chapter 18 entitled, "Requirements of IS Development Methodologies Towards the New Organizational Paradigm – A Brazilian Study Using Delphi Technique" by Aline de Abreu of Federal University of Santa Catarina and Ruth Rossi of Itajai Valley University (Brazil) identifies through the Delphi Technique important requirements of an information systems development methodology. The chapter reviews recent literature to develop an initial listing of requirements. The Delphi panel consisted of 31 Brazilian specialists in information systems. These individuals underwent two rounds of surveys and the chapter reports on the requirements ranked most important by these participants.

Every country has its own set of cultural paradigms that influence the way information technology is introduced and used. As countries throughout the world become more technologically advanced, new challenges and opportunities arise for the country itself and surrounding areas. The chapters in this book discuss these paradigms and offer practical guidance and insights into information technology management in developing countries. From South Africa to Scandinavia, all regions of the world are represented and from IT human resources to banking in Communist China, many aspects of information systems use and management are discussed. Practical case studies give easy-to-use advice and comprehensive theoretical discussion provides the necessary background information to appreciating the challenges and advantages of this emerging area of information technology management. This book is a must read for practitioners, researchers and academics trying to establish or improve information technology management in developing countries or trying to understand the varying cultural or economic differences in these countries.

IRM Press
January 2002