Preface

Organizations around the world are increasingly focusing on managing their organizational and business transactions using advanced information and communication technology (Haeckel and Nolan, 1999). With the advent of the Internet and the World Wide Web, such transactions have extended beyond the constraints of time and distance to reach all corners of the globe. Respectively, to succeed in the global marketplace, organizations must reposition themselves to tap the sources of sustainable growth and to exploit the vast new opportunities enabled. Information is one of the primary tools that are becoming a vital focus. Information is the way people in business express, represent, communicate and share their knowledge with others to accomplish their activities and achieved business objectives (Marchand, 2000). The world is changing fast and the role of information and communication technology is increasingly having more of an impact on every sector as well as on the society at large. Such technologies are creating business value with information with its related tools and techniques (Marchand, 2000). There is no doubt that information is currently used as a very effective and rewarding competitive tool. Information technology helps creating new reality, adding value to customers, reducing costs and minimizing risks. Therefore, management across different organizational levels should be capable to turnaround their strategies to adapt the role of information and information technology in building an organizational competitive advantage. It is the era of the new organization (Drucker, 1998). As today's businesses undergo change, information and communication technology will be the critical foundation during the evolution of such new form of organization and this will be reflected in the structure, size, skills, and operating performance of every organization among other elements. It will be up to management levels to adapt their organizations and bring them to the age of the information-based organization of the 21st century.

The future of the new organization, to be able to adapt to the themes of globalization, will be affected by a number of factors. It will also be reshaped by fierce global competition, changing markets and technological breakthroughs leading to the emergence of distinct characteristics including an information and knowledge-based environment that is decentralized though densely linked through information and communication technology. The environment is also rapidly adaptable and extremely agile, creative, and collaborative with an environment — based on a team structure, staffed with a variety of knowledge workers and based on self-controlling and strong and shared operating principles (Champy and Nohria, 1998). The management of the organization will require the professional development and management of information networks to be able to globally compete and penetrate new markets and adapt to changing needs across the globe (Charan, 1998).

This book, through its 20 different chapters, provides a variety of issues and concepts that relate to the changing nature of the organization and how this is affecting competition and management practices when it comes to handling innovative and changing information

and communication technology on a global scale. The book contributes with a number of case studies and an analysis of a variety of projects and practices in different parts of the world in an attempt to learn from a set of experiences how societies and organizations are managing globally with information and communication technology (Kamel, 2001a).

The book includes a variety of vital issues to the world of management and the application of information and communication technology in managing organizations, resources and businesses in a global marketplace. This includes information infrastructure requirements, their role and implications on the development of organizations in specific and on the society at large and the re-engineering process required to adopt and adapt the organization to survive, grow and compete in the global economy, the role of information systems as a strategic resource that could be used for the improvement of management practices and the need to adapt the organizational culture to fit the needs of the proper information systems implementation, the changing nature of information systems development in the age of the digital economy and the variances in the structure and form of the information technology industry across different parts of the world, as well as the growing trends of the digital divide and its implications on the development of the information technology industry as well as its contribution in the development of many societies across the world and the possible challenges and opportunities especially in developing nations where the usage of information and communication technology varies according to information dissemination and knowledge acquisition and management and finally the migration to the digital economy and the trends of the electronic business environment with its different components, needs and requirements and the power that can enable small- and medium-sized enterprises as well as developing countries to grow and compete on equal grounds with multinationals and developed nations in the global marketplace and the role of information technology managers on the changing role of organizations and the different innovative roles of information and communication technology and their implications on the development of individuals, organizations, industries, societies and nations. One of the building blocks in that domain is the development of human resources capable to compete and adapt to the changing nature of the environment (Kamel, 2001b).

With the developments of information and communication technology taking place worldwide and affecting different organizational, managerial and industrial levels, the interfaces between corporations and markets, the clear separation between the internal and external disappear (Wigand et al., 1997a). Reflecting the fact to being able to manage on a global scale and at the same time localize such management style to fit the needs and the purpose of the business and that of the organization. This is creating new forms of coordination such as network organizations, cooperative ventures, virtual organizations that are all becoming increasingly popular. Such developments and change in the organizational form and structure represent the reactions to new market and competitive situations and of new information and communication technologies (Wigand et al., 1997a).

It is fair to say that for years to come, innovative information and communication technologies will lead to a fundamental change in the exogenous and endogenous parameters of entrepreneurial decisions at various organizational levels and across different sectors and industries (Wigand et al., 1997a). Technology and its innovations will also bring more knowledge and comprehension about the market, not just the local market and the local forces, but also at regional and international levels. Managing globally, using information and communication technology is a newcomer that contributes to globalization and its potentials to enable information distribution across national boundaries irrespective of time

or distance (Wigand et al., 1997b). Mobility, expansion, diversity, cross-border business development, real-time and online digital transactions are a few terms and directions that represent part of the new digital economy that information and communication technology are very much helping to build and to make it the way to manage, compete and grow as we embark on the 21st century with the motto to succeed is speed, knowledge and the ability to adapt to change.

ORGANIZATION OF THE BOOK

The book is organized into 20 chapters. A brief description of each of the chapters follows:

Chapter 1 explores information technology issues with respect to an organization's transition towards globalization with a focus on the main transitional elements, such as global information technology infrastructure, global business applications, global telecommunication network, and data/information systems improvement as well as a proposition of future research directions to incorporate organizational scopes in the global information technology transition framework.

Chapter 2 explains the need for a new dimension in the evaluation of the benefits of information technology where technology has impact on the broader society rather than just on the organization that implements it. The chapter demonstrates the peculiarities and constraints on public sector use of e-marketplaces through the provision of an evaluation framework that can be used by public sector organizations when examining the adoption and evaluation of e-marketplace procurement that emphasizes the experimental nature of many e-commerce related projects.

Chapter 3 focuses on the development of information systems as strategic resources in the Western world and how the transfer of such management practice to a different cultural environment generates new challenges such as the experience of a Pacific Basin public institution. The chapter explains that the value of the investment in information resources is judged not only on technical merits, but also on the ability of the organization to properly address the cultural and organizational issues related to information usage.

Chapter 4 demonstrates the interaction between new technologies and the process of cultural adoption resulting in convergence with cultures becoming more similar as a result, or divergence when cultures adopt technology in different ways that maintain or even further accentuate their differences. The chapter provides an analysis of several countries' full-service national web portals that offer a variety of services and show evidence of both trends.

Chapter 5 reflects on the results of a comprehensive study of women in the South African information technology industry, while demonstrating the factors affecting the retention of women in the industry and providing valuable insights that can be used by companies world-wide to enhance employment policies as well as recruitment and retention strategies aimed at women in information technology.

Chapter 6 focuses on software systems that tend to be virtual "peer-to-peer" networks of permanent autonomous services called networks' software confederation (SWC), which is orthogonal to the paradigm of the object-oriented methodology. It describes their architecture in global and very large information systems providing many software engineering advantages like incremental development, openness, modifiability, and maintainability. The

chapter demonstrates how SWC supports the trend of large enterprises or modern states to be decentralized, dynamic, and adapt to the needs of globalization especially in supporting decentralization.

Chapter 7 investigates the issues related to the global transition of an enterprise through the application of information technology and information systems. The chapter starts with discussing the issues that are critical to successful transition of an enterprise towards trans-border business operations using information systems leading to the expected outcome that is a global organization that would not be limited to geographical and time zone barriers and would not be restricted by cultural differences. The global transition issues covered include embracing business information systems management, information technology management, people management, end user management, and culture.

Chapter 8 presents the concept of the digital divide being a vital issue in today's development efforts of international and non-governmental organizations and developing countries. The chapter shows that the digital divide do not only include access to new information and communication technology such as the Internet, but also access to the knowledge of how to use such technologies for economic development. The chapter outlines the business model framework and the business model handbook that can help develop a knowledgeable class of e-entrepreneurs that are able to use ICT and to detect the opportunities of the Internet era.

Chapter 9 focuses on knowledge management defined as the ability to create and retain greater value from core business competencies and the role played by information technology as an enabler of knowledge management in regions such as sub-Saharan Africa. The chapter demonstrates how information technology outsourcing could be a better approach to information technology management for an organization considering knowledge management. The chapter presents the outcome of an empirical research of a case organization where information technology outsourcing seems to contribute to a high performance in knowledge management efforts.

Chapter 10 covers the issue of the needs of developing countries with special needs for information and communication so that they are not left behind with the waves of globalization and the need to close the gap between the information rich and information poor. The chapter gives an account of some development problems and current initiatives. It also describes ways that advancing technology can be manipulated by the developing world to gain social advantage through the introduction of the term *leapfrog effect*. This term is used to explain how advancement can be made in a revolutionary fashion and not incrementally, while focusing on experiences in Papua, New Guinea and its possible applicability to many other developing nations.

Chapter 11 proposes that all business strategies should be harmonized into a single strategy rather than attempting to align information technology strategy with business strategy. It focuses on two hypotheses: firstly, that information technology strategy is not widely aligned with business strategy; and secondly, that information technology is still thought of as something different in businesses.

Chapter 12 demonstrates how developing countries were using information and communication technologies in the management of their business and administrative affairs to improve efficiency and effectiveness and how they innovated the establishment of information services sectors. Some developing countries that have moved from the initial provision of data entry services, as participants in the global software outsourcing movement, have also embarked on the development of software for export. These countries were faced with

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many challenges ranging from a lack of skilled personnel to competition in a fierce market-place. The chapter examines the participation of two small Caribbean countries and describes their education and training initiatives and other policy approaches.

Chapter 13 demonstrates how small- to medium-sized enterprises contribute significantly to the national economies and to the employment levels of different countries and represent a viable source for inventions and innovations especially with the emergence of electronic commerce that can provide different opportunities to the small business sector to overcome its inadequacies. The chapter attempts to depict an agenda for electronic commerce success in small- and medium-sized enterprises made up of 10 influencing factors and trying to better understand the factors influencing electronic commerce success in small- and medium-sized enterprises.

Chapter 14 presents the key factors affecting electronic business such as the law, infrastructure, tax, payment processes, consumers, suppliers, education and business culture. The chapter reveals the outcome of a survey of Thai business executives. It confirms that culture, society, organizational infrastructure and English literacy were found to be internal and external barriers to providing a foundation for future research on developing a holistic framework to guide business in Thailand and other countries; to successfully implement the new generation of e-business activities.

Chapter 15 focuses on the power and challenges of e-business in enhancing competitive advantage in developing countries' industries and reports some results of a survey in the Asian auto-industry. The chapter demonstrates that as many web-based businesses are learning, the real value of e-business comes not in the form of sales but in removing inefficiencies in traditional business models. That is reflected in the fact that most auto manufacturers in Asia use e-business only for internal administration; companies need a clearly planned vision, starting with basic solutions. From there, the strategy will evolve to solutions in wider marketplaces.

Chapter 16 shows that information and communication technology is a growing worldwide industry, penetrating all sectors, and services. Therefore, organizations are formulating different formulas and mechanisms to provide a competitive and challenging working environment to attract the best human resources around the globe to join their infrastructure build-up in terms of humanware. The chapter focuses on Egypt, which has been heavily investing in building its information and communication technology infrastructure with a focus on human resources. However, many organizations are continuously challenged to keep their key human resources due to emerging opportunities at local, regional and international levels. This chapter presents findings of research conducted to understand the overall level of job satisfaction among employees in the ICT sector in Egypt, at identifying major factors that affect their satisfaction and highlighting the driving forces leading to the brain drain of skilled ICT professionals to jobs overseas.

Chapter 17 draws on a survey of CEO and IT managers in local authorities in Egypt to explain the key factors affecting their use of DSS in making strategic decisions. The chapter proposes and tests a Structural Equation Model (SEM) that extends the generally accepted Technology Acceptance Model to assess relationships between an extensive range of constructs and their relation with DSS usage via Perceived Ease of Use and Perceived Usefulness. The SEM approach has enabled the development of a framework that will support a sustainable approach towards the adoption and use of DSS in developing Middle Eastern countries.

Chapter 18 analyzes the perception of managers on the efficiency, access importance, and use as a communication tool, benefits and difficulties of Internet use in Brazilian hotels and showing significant difference on the perception of managers on the impact of Internet use in hotels, depending on variables such as age, experience and hotel standards.

Chapter 19 focuses on applying the best practices in information technology project management in Brazil using the Capability Maturity Model, the Project Management Maturity Model, the Project Management Body of Knowledge and Quality Systems for software. The chapter presents information technology project cases in Brazilian companies based on multiple cases financial services, telecommunications and building materials companies.

Chapter 20 covers Enterprise Resource Planning systems designed to integrate various functions and processes; they are used by organizations as the first-level transaction processing systems in their information architecture. They focus on Asian companies and the developing world, which confront issues that are significantly different from those in the developed world because of differences in the sophistication of information technology use and the cultural and social contexts.

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