Detailed Table of Contents

Section I
Rise and Globalization of ERPs

Chapter I

    Ricardo Salim, Universidad Autónoma de Barcelona, Spain
        and Cautus Networks Corp., Venezuela
    Carlos Ferran, The Pennsylvania State University, USA

The chapter narrates the history of the accounting needs of individuals and organizations and explains their successive technological solutions, up to today's ERPs. The ledger, double-entry accounting, cost accounting, departmental accounting, material requisitions systems for production, human resources systems, and finally the enterprise-wide resource planning or management systems are analyzed in terms of how IT has—and has not—been able to "computerize" and integrate them. The main functionalities of ERPs are explained: the enterprise resource functionality and the planning functionality, as well as to what extent organizations need these functionalities and should pay its high prices. The expectations that have not yet been sufficiently satisfied by current systems, such as the ERP for SMEs, the transfer of "best practices," the interconnection of supply chains via ERP, and the ERP for global organizations, are discussed.

Chapter II

    Paul Hawking, Victoria University, Australia

Companies around the world are placing increasing emphasis on strategy development and implementation. Some argue that this increased emphasis is in response to market forces of increased competition and globalization, and the need to be flexible and adaptive to the business environment. Strategy development and implementation is a multifaceted task reliant on a number of interdependent factors. One of these is the role of information technology which in recent times has become an integral part of most companies' strategies. This chapter discusses the role of strategy development and the importance of the alignment of business and IT strategies in a global environment. It discusses the role of enterprise resource planning systems on strategy development and how these systems underpin many strategic objectives companies strive for in a global environment.

Chapter III

A Conceptual Framework for Developing and Evaluating ERP Implementation Strategies

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Section II
Investment Aspects

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The chapter develops generic strategies for the specification and implementation of an enterprise resource planning (ERP) system in a multinational company. After the presentation of a framework for categorizing companies by their global business orientation, ERP strategies corresponding to each category are derived. Subsequently, various implementation strategies are developed for each type of ERP strategy; they provide decision makers with a high degree of freedom in specifying an implementation strategy in accordance with a company's strategic goals. The results are summarized in a phase model; the overall approach is illustrated by two polar cases.

Chapter IV

Ashley Davis, University of Georgia, USA

Open source software is becoming more prevalent in businesses today, and while still a relatively immature offering, open source enterprise resource planning (OS-ERP) systems are becoming more common. However, whether or not an OS-ERP package is the right software for a given organization is a little researched question. Building on the current real options thinking about platform acquisitions, this chapter proposes the five most critical factors to consider when evaluating an OS-ERP package. To adequately do this, a great deal of detail about the current offerings in OS-ERP software is presented, followed by a review of the real options theory thinking behind using these factors to evaluate OS-ERP options. The international implications of OS-ERP are presented in the "Future Trends" section.

Chapter V

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Enterprise resource planning (ERP) systems are becoming popular in medium and large-scale organizations all over the world. As companies have to collaborate across borders, languages, cultures, and integrate business processes, ERPs will need to take globalization into account, be based on a global architecture, and support the features required to bring all the worldwide players and processes together. Due to the high cost of implementation for these systems, organizations all over the world are interested in evaluating their benefits in the short and long terms. This chapter discusses various kinds of business benefits in a comprehensive way in order to justify the acquisition and implementation of ERP systems in organizations in the present global context.

The role of a global ERP champion is to guide a business through process transformation and ERP system implementation. A "change curve" model that depicts the "Valley of Despair" illustrates what a champion can expect and do to initiate new business processes, to address resistance to change, and to promote the advantages of a globally integrated system. The model, which anticipates a drop in business performance during the transition period, encourages change leaders to minimize time spent in the valley, to minimize the depth of the valley, and to maximize the slope of the value realization path out of the valley. A new perspective, drawn from experience, redefines a successful global ERP implementation in terms of a seamless transition to a new, integrated, efficient global system.

This chapter suggests that reengineering is an analysis of existing processes you wish to change to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed. There are two distinct methods of reengineering, technology-enabled and clean-slate, with most global companies choosing somewhere in between. There are also a number of principles any reengineering project team should understand before embarking on a reengineering effort, and these are discussed from a global perspective. The chapter concludes with how to select processes to reengineer, lessons learned from global reengineering, benefits of global reengineering, and future implications.

This chapter studies the deployment of the SAP B2B (business-to-business) procurement application in Ericsson between 1999 and 2003, and argues that it enabled complex organizational change in a three-phase process: the implementation of said application in Spain; the evolution of the application into

a regional B2B procurement platform; and its final transformation into a global, pan-European B2B procurement unit. As described in the chapter, the enterprise system allowed the company to flexibly support the majority of changes that took place during a period of explosive growth of mobile phone sales followed by an unexpected market downturn. In light of the above, this investigation studies how and why enterprise systems are able to support fast-paced changes on a global scale. In other words, this chapter presents enterprise systems as flexible and responsive infrastructures that enable organizational change.

In this chapter we look at the factors that influence the successful implementation of a global enterprise resource planning (ERP) system. We identify 12 issues that need to be considered when implementing such systems. Each one of these issues is expanded upon with relevant literature and examples. In this chapter we also look at factors that lead to the development of information systems by employees in addition to or outside the implemented ERP. We introduce the concept of feral systems to explain this phenomenon. Other factors such as employee mistrust of the system are also discussed. Finally we look at future directions with respect to ERP implementations.

Section IV
Cultural Aspects

The chapter considers the complexities of cultural differences for global enterprise resource planning (ERP) implementation. An extensive review of the literature related to societal and organizational culture is followed by a delineation of the stages of ERP implementation and the actors involved in each stage, reflecting the basic assumption that global ERP systems are not universally acceptable or effective, and that testing the cross-cultural generalizability of ERP systems in organizations will produce a managerial agenda that facilitates the implementation process. The recognition and discussion of these differences can provide a stimulus for identifying and modifying the limitations of technological implementation and use policies to improve the benefits generated by the technology. Topics of explicit concern to ERP implementation in global organizational economies related to organizational and societal culture are discussed, and suggestions for managerial mechanisms for overcoming major obstacles in this process are proposed.

    Maira Petrini, FGV EAESP, Brazil
    Marlei Pozzebon, HEC Montreal, Canada

This research has investigated the implementation of ERP as mediation process—that is, as an interactive process developed between the organization's members and external consultants. The adoption of a mediation lens helps identify how global and local skills have been combined in ERP projects, and how these different arrangements have affected the project results. Underlying our analysis were two main questions: (1) How do patterns of mediation emerge, and what kinds of elements influence their emergence? and (2) What kind of association can be established between patterns of mediation and project results? Our conclusions point towards certain drivers. The local firm's position regarding the head office and the meaning attached to each project have directly influenced the way external consultants are perceived by the local firm's members, and these perceptions influence team members' and consultants' roles. Team members' and consultants' roles, in turn, contribute to reinforcement or transformation of established mediation patterns.

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Section V
Auditing Aspects

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The effort to comply with the Sarbanes-Oxley Act (SOX) has focused management attention in companies all over the world on the importance of assessing, developing, and maintaining an effective and efficient internal control system. Enterprise resource planning (ERP) systems are a crucial factor in developing such a system. Despite the attention this has attracted in practice, little academic research has focused on this area. This chapter addresses the question: How are ERP systems implicated in Sarbanes-Oxley compliance? It aims to show how SOX requirements regarding assessment and improvement of internal controls are related to the functionalities of an ERP system both in local and global implementations. It examines a solution (mySAP ERP) offered by one specific vendor (SAP) and what functionalities are relevant to global SOX compliance. Based on this, the chapter discusses likely developments regarding compliance functionalities in future releases of ERP systems.

Chapter XIII

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Raili Pollanen, Carleton University, Canada
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This chapter examines the effectiveness of ERP systems in implementing internal controls in global organizations, particularly controls required by the Sarbanes-Oxley Act (U.S. Congress, 2002), or SOX. It aims to understand the extent to which ERP systems are able to meet these requirements and challenges organizations face in enhancing their ERP systems for this purpose. The chapter reports the results of interviews with ERP systems managers and directors in four organizations with significant global operations. It reveals a substantial degree of completion of SOX requirements by these organizations, often facilitated by consultants, and often accomplished as part of broader systems, processes, and strategic management improvement initiatives. It also highlights some significant technical and cultural implementation challenges, such as systems inflexibility and diversity, systems security weaknesses, and resistance to change, as well as some benefits upon completion, such as improved process efficiency and systems security, and potential intangible long-term benefits.

Section VI
Success Evaluation Aspects

Chapter XIV

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In this chapter we present the factors for the success of ERP implementation projects. In the first section, we present the outcome of three surveys on the process and success factors for ERP projects. The first survey was undertaken in 2003 in Germany, the second in 2004 in the United States, and the third in 2006 in Turkey. The results are discussed in light of Hofstede's model of cultural factors. In the second section we evaluate common ERP lifecycle models. In spite of the great variety of potential advantages, it is also necessary to illuminate the real effects of standard ERP software in practice. Recent studies have revealed that 81% of German companies interviewed using SAP do not fully exploit the software's ability to optimize business processes, though 61% stated that SAP offers very good process optimization opportunities (Ploenzke, 2000). Therefore we evaluated popular lifecycle models with respect to their suitability to implement standard software in a process-driven way (Kuehl & Knoell, 2002). In the third section we present a semi-process-oriented approach lifecycle model for the implementation and release changeover of ERP systems. This lifecycle model was developed from the authors' experience in practice, and its practical relevance was evaluated in real-world projects. This approach is also assessed in light of the criteria presented in the second section.

Chapter XV

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This research observes a global implementation of enterprise resource planning (ERP)/human resources management system (HRMS) software at an international company. The software was implemented in 16 countries. Variables such as cultural differences, communication-distance, management support, trust, and resistance to change were evaluated in the literature review. These variables have an impact on implementation success during global HRMS implementation. Further analyses on specific success factors faced with global implementations were evaluated using semi-structured interviews. The authors prepared a questionnaire to further explore the data. Respondents rated questions related to management support the highest overall. An interesting find was that the semi-structured interview results indicated that the software chosen was not a perfect fit for the global community. The mean for questions related to global HRMS success was higher for respondents located in the United States than those located in other locations.

Section VII
Trends

Chapter XVI

Maha Shakir, Zayed University, United Arab Emirates

This chapter highlights the key trends in the ERP market, with a focus on the challenges related to the implementation of these systems in the Middle Eastern Gulf region. The key trends discussed here include consolidation of the ERP market, diversification of the ERP product, new modes for ERP application delivery, ERP and new technologies, changing ERP pricing structures, ERP support operations, growing demands for ERP vertical solutions, demanding ERP customers, inter-organizational ERP solutions, and regional adaptations for ERP products. The chapter further provides insight into emerging and future trends in the region. Awareness of these issues plus knowledge of the local environment gives us a richer understanding of key ERP issues and how they apply within the unique limitations and opportunities of this region.

Chapter XVII

Carlos Ferran, The Pennsylvania State University, USA
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Enterprise resource planning (ERP) systems integrate into one single system the control and accounting

of all the enterprise resources. Just like the previous systems (material requirements planning and accounting information systems among others) became ERPs, it is highly probable that ERPs will keep evolving towards a different and more comprehensive system. Logically, this evolution will be driven by the unsatisfied expectations of the current markets. One of these expectations is to lower the emphasis on the mid- and long-term planning functionality in favor of some kind of short-term, more dynamic planning functionality. In this sense, the chapter glimpses at a system that could be called ERM, where the "M" stands for management instead of the "P" for planning. The chapter also discusses the potential effects of the Open Source Initiative on ERPs. Other outstanding expectations examined are: (1) lower cost and duration of the implementation process, (2) less dependency on external consultants for the implementation, and (3) improved and standardized interaction functionality—or middleware—between different ERPs.