Preface

ABOUT THE SUBJECT

Electronic business (eBusiness) certainly is not exclusive for large enterprises. It propels productivity and competitiveness, being sophisticated systems like e-Marketplaces accessible both for both buyers and sellers. So eBusiness represents a great potential and opens opportunities to foster competitiveness.

Electronic business plays a central goal in the economy, facilitating the exchange of information, goods, services and payments. This topic is gaining an increasingly relevant strategic impact on global business and the world economy, and organizations of all sort are undergoing hard investments (in cost and effort) in search of the rewarding benefits of efficiency and effectiveness that this range of solutions promise. But as we all know this is not an easy task it is not only a matter of financial investment. It is much more, as the book will show.

Responsiveness, flexibility, agility and business alignment are requirements of competitiveness that enterprises search for. And we hope that the solutions, tools and case studies presented and discussed in this book can contribute to highlight new ways to identify opportunities and improve managerial practice.

The book project was born under the intention to collect the most recent developments on the organizational, technological and legal dimensions of electronic business, discuss its potential applications. This objective was met, due to the high adhesion of contributors and the quality and complementarity of the manuscripts proposed that allowed a comprehensive whole, addressing all the aspects initially previewed.

ORGANIZATION OF THE BOOK

This book is a compilation of 16 contributions to the discussion of the managerial aspects, solutions and case studies related with e-Business, in order to disseminate current achievements and practical solutions and applications.

These 16 chapters are written by a group of 45 authors that include many internationally renowned and experienced researchers and specialists in the e-Business field and a set of younger authors, showing a promising potential for research and development. Contributions came from all over the world and integrate contributions from academe, research institutions and industry, representing a good and comprehensive representation of the state-of-the-art approaches and developments that address the several dimensions of this fast evolutionary thematic.
“E-Business Managerial Aspects, Solutions and Case Studies” is organized in two sections:

- Section 1: “Managerial Issues” puts the reader in contact with strategies, most of them concerned with SME, to enhance enterprise competitiveness by adopting and exploring the potential of e-Business.

In the eight chapters of Section 1 “Managerial Issues”, the reader will contact with strategies, most of them concerned with SME, to enhance enterprise competitiveness by adopting and exploring the potential of e-Business.

The adoption of E-Business by SMEs is a critical issue for economic development. More than 90% of world companies are SMEs and E-Business is widely recognized as a critical source of competitive advantage. Thus, it is important to understand why SMEs are lagging behind large firms in terms of E-Business adoption and assimilation. In Chapter 1, “SMEs and E-Business: Implementation, Strategies and Policy”, Ferreira looks for explanations through a comprehensive analysis of main topics in terms of E-Business implementation, strategies and policy. It is believed that the inadequacy of existing E-Business adoption incentives and theoretical models may be due to SME specificity. Empirical evidence shows that SMEs have erratic behaviors in terms of ICT investment and need external support to integrate E-Business in the overall strategy of the firm.

SMEs grow requires e-business/IT strategic alignment. Although some techniques have been proposed in literature to find and evaluate business/IT strategic alignment, they largely suffer from lack of objectivity and integration. In “Strategic E-Business/IT Alignment for SME Competitiveness”, Escofet, Rodriguez-Fortiz, Garrido and Chung propose a practical lightweight interview-based method that permits to align e-business and IT strategies and to obtain investment priorities per software development process and area, towards improvements on service quality and business profitability. This method incorporates goal modeling and the Strategic Alignment Modeling techniques to address the growing needs of SMEs, to avoid inconsistencies and to increase confidence in compiled data and modeling results.

In a dynamic and competitive world, understanding the knowledge, skills and competences that managers of SMEs require is an important endeavor, to ensure that both academic and business training institutions offer well formed programs/courses and curricula. Several studies, conducted by academic researchers and business associations focused on identifying managers’ skills and competences, but there is not an overall perspective on today’s requirements of European SME managers. To help overcome this problem, the authors have conducted a study in six European countries through a literature review and several interviews with business associations’ executives. The result is a list of 34 competences, organized in four categories: personal; team management; business; and technical. These competences are presented and discussed in Chapter 3, “SME Managers’ Required Entrepreneurship and Business Competences”, and the findings enable a better understanding of the profile of SME managers and may help in the design of new training programs to fulfill the identified needs.

Preparing for change is an issue for companies large and small; however, there remains a dearth of empirical evidence on how software SMEs operationalise their approach to knowledge management (KM). For an SME, the first step is to take stock of the types of knowledge that are valuable, where it is stored and how it is used. In addition, consideration must be given to knowledge activities, the constitu-
ent parts, of a company’s KM approach. By doing this, the organization can identify where its strengths lie in terms of the type and extent to which knowledge is managed through acquisition, codification, storage, maintenance, transfer and creation activities. In “Preparing for Change: Leveraging Knowledge Activities to Enhance Organisational Preparedness in the Case of an Irish Software SME”, Heavin and Adam identify occurrences of these knowledge activities as a means of assessing an SME’s approach to KM with a view to better facilitating an organization’s ability to be increasingly flexible in the face of a changing environment.

Agility is an essential feature for SMEs and in “Business Agility and Process Agility: How Do They Relate to Each Other?”, Bruno examines if and how business processes, as currently understood, are able to promote it. Over the last years a number of viewpoints have emerged which exerted great influence on the design of notations and languages for business processes: the major of them can be referred to as the centralized viewpoint, the role viewpoint, the conversational viewpoint, the case viewpoint and the cooperative one. These viewpoints provide different levels of agility and then beneficial results can be expected from their integration, which is the purpose of the proof-of-concept notation, AgileBPN. In AgileBPN, business processes are organized around conversations and role processes (encompassing the tasks pertaining to a given role); shared artifacts are represented as cooperative objects. The notation is illustrated with the help of an example referring to a business process meant to handle applications in an organization.

E-procurement transactions in Business to Business (B2B) environment showed a constant and positive trend in the last years. The most popular methodologies to support these tools are all related to dedicated protocols able to facilitate the agreements among customers and suppliers. “e-Procurement Process: Negotiation and Auction Approaches for SMEs”, by Renna and Argoneto, propose a Multi Agent Architecture integrated with several multi-attribute auction mechanisms specifically designed to support the e-procurement processes. Moreover, differently from other cases proposed in literature, the suppliers’ proposal formulation is strongly influenced by their production plans. A simulative environment has been developed in order to evaluate different performances: the customer and suppliers’ utilities, the profit distribution among the involved agents and the time necessary to reach an agreement. The mentioned approaches are compared with a negotiation process. The simulation results highlight the weakness and strength points of each auction protocol and why they can be considered as a relevant tool in B2B environments.

The contemporary world is full of innovations, causing both good and bad consequences, including the essential problem of well-being of co-workers. Most troubles of this kind cannot be resolved with measures of the usual management and/or economic theory that have caused these troubles. Therefore, what could be done about the well-being of co-workers, if principles and measures of innovative business, social responsibility, and requisite holism were used in synergy. E-Business plays a central role in the economy, facilitating the exchange of information, goods, services, and payments, being an innovation causing changes influencing well-being. On one hand the e-business raises productivity and competitiveness, on the other hand it negatively effects well-being of co-workers in all organizations, including SMEs. Most humans tend to prefer their established routine, not change, including innovation. In “Well-Being and E-Business as an Influential Innovation”, Žižek, Mulej and Treven discuss the connection between well-being and e-business and both positive and negative effects of this connection.

Even though the energy sector has relied much on the known sources, the production process has gone through some notable changes due to inherent challenges and developments in knowledge management and technology use. The Offshore oil & gas production industry today, at least in the North Sea, is at a
cross-road where the traditional operational concepts are seriously challenged due to various risk factors and commercial uncertainties. Subsequently, ‘Integrated eOperations’ (IO) was adapted as the business solution for a sustainable future seeking major benefits by major players in the sector. SMEs encounter various technical and operational challenges to cope with the mass scale dynamic change process. In order to utilize IO for commercial advantage, SMEs are in the process of exploring various interface solutions today. With respect to the ongoing developments and the scopes of IO, ‘Collaborative business interfacing’ that is discussed by Liyanage in “Copying with Dynamic change: Collaborative Business interfacing for SMEs under Integrated eOperations”, is to enable the SMEs to be ‘smarter together’ to capitalize on the potentials of IO through a strategic capability acquisition process.

The second section of this book, Section 2 “Applications, Surveys and Case Studies” includes eight chapters traducing experiences, best practices, case studies and surveys related to the potential of IT in general and e-Business, e-Commerce, e-Procurement in particular, in enterprises’ competitiveness.

Based on empirical evidence gained by a telephone survey of 375 SMEs, the authors Clear, Woods and Dickson of “SME Adoption and Use of ICT for Networked Trading Purposes: The Influence of Sector, Size and Age of Firm” used logistical regressions as a means of identifying the potential for relationships between three variables: industry sector, firm size, and age of firm - as they influence ICT ownership, ICT use and ICT benefits. Such inter-relationships can then be used to identify networked trading practice and proclivity. Data was gathered for firms on the basis of four industrial sectors (‘Media’, ‘Logistics’, ‘Internet Services’ and ‘Food Processing’) in a region encompassing West London and adjacent counties. Logistical regressions suggest that possession, application and the benefits derived from ICT can be explained on the basis of single and multiple variables or as the result of none, and are individuated as either ‘just sector’, ‘just size’, ‘sector and size’, ‘sector and age’, ‘sector, size and age’ or ‘no variable’.

Innovative organizations are moving away from discrete linear value chains towards open innovation models such as networks. SMEs recognize that they must be equipped with the relevant competencies required to design, develop and deploy innovative solutions that meet the needs of the end user. More and more small firms are collaborating with each other in order to create value added products and access new markets. However, the task of working in a collaborative network is not easy, and there are very few support structures and systems available to guide successful knowledge sharing and collaboration. In “Collaborative Networks: Challenges for SMEs”, Cormican explores the fundamental concepts of collaborative networks and knowledge sharing, synthesizes and presents some of the challenges faced by SMEs and identifies some critical success factors that should be considered to help overcome the barriers identified.

Chapter 11, “E-Sourcing Electronic Platforms in Real Business” by Sampaio and Figueiredo, presents a research carried out within business-to-business (B2B) electronic markets, with the purpose of asserting the major blocks needed to be covered by an e-purchasing tool in order to be successful. Another goal is to identify how this e-purchasing tool allows buyers (firms) to practice Strategic Sourcing. After an enlarged literature review on E-Sourcing Electronic Platforms (ESEP) and e-purchasing markets, the authors defined a methodological framework and construct a case study. Their strategy was to use one case study, and using the data collected in a survey recently conducted by Vortal (Portuguese firm that owns several B2B platforms in different electronic markets).

Search Engine Marketing (SEM) is one of the most effective online advertising channels which let companies efficiently acquire new and reactivate existing customers at low acquisition costs. In “Search Engine Marketing in Small and Medium Companies: Status Quo and Perspectives”, Alby and Funk review
the scientific literature on SEM with respect to managerial decision problems along the levers of SEM, mainly bid optimization, keyword selection, and adCopy creation. Based on a case study they discuss challenges of SEM campaigns operated by SME. After briefly describing the technical requirements for effectively controlling SEM campaigns we focus on keyword selection and how to address the long tail issue in SEM. A/B-Tests are shown to be an appropriate measure for optimizing the combination of ad copies and landing pages. Finally they discuss bid optimization at a keyword level taking into account spill-over effects between keywords.

A competitive market gives the organizations a constant update on the management process of their businesses and allows the creation of new ways to take competitive advantage. Retail businesses need to identify the value perceived by customers as a strategic source of value generation. Chapter 13, “Competitive Advantage through Customer Relationship: The Case of an Automobile Dealership” by Biehl, Link, Vanti and Schneider, present a competitive value generation methodology by identifying the most important values perceived by customers of a Volkswagen Car Dealer. As a result, the study obtained a proposal for value generation by setting the strategic variables referent credibility/reliability.

E-Commerce, and recently mobile commerce has shown a lot of potential for development in the Southern African Development Community (SADC) bloc given the growth in e-adoption of the region. Partly, this has been attributed to sound policies and initiatives; however, there are also challenges that are being faced on an everyday basis concerning e-Commerce business and how this impacts the SME sector. Kelvin, in “E-Commerce Penetration in the SADC Region: Consolidating and Moving Forward”, presents these challenges and recommend on what should be done in order to consolidate and move forward the adoption of e-Commerce applications in the SADC region. It looks at exploratory studies of e-Commerce penetration specifically from four SADC member countries. This chapter also reviews the growth of e-Commerce and m-Commerce, and further looks at Africa’s infrastructure preparedness and looks at mobile phone subscription rates, level of trust in these business models, and the general value that this kind of business undertaking brings.

Guided by the authors’ theory of the Conservation of Information (COI), which holds that the transformation pairs of information uncertainty between time and frequency remain constant (or alternately uncertainty for geospatial position and spatial frequency), in “Conservation of Information and E-Business Success and Challenges: A Case Study” Tung, Kung, D. Lawless, Sofge and W. Lawless describe a case study on an international corporation based in Taiwan to demonstrate COI factors associated with the challenges and successes in the adoptions of e-business by the firm and by small and medium size enterprises in general.

In Chapter 16, “The Diffusion of Internet Technology in Rural Minnesota: An Empirical Study”, Jones and Stover report a study undertaken to determine to what extent organizational size, organizational complexity, and organizational social ties impacted the creation of an organizational Web page and its relative time of adoption. The research utilized a cross-sectional design, with data being gathered via a self-administered mail survey, where a total of 173 surveys were completed. Two independent variables were statistically significant in predicting whether an organization would have a Web page: (1) organizational size measured by the number of paid employees; and (2) organizational complexity indexed by the number of unique job descriptions, physical locations in Minnesota, and physical locations in other states. The results of this research provide practical information to formal organizations considering the adoption of an organizational Web page.
EXPECTATIONS

Along this 16 chapters, the reader is faced with the discussions and confirmation of the relevance and impact of this hot topic on enterprises (and in particular SME) competitiveness; its role in the support of new organizational models (networked, collaborative, virtual, knowledge-based, ubiquitous); discussion of drivers and barriers to e-Business development; and the presentation of state-of-the-art enabling technologies.

The book provides researchers, scholars, professionals with some of the most advanced research developments, solutions and discussions of e-Business managerial aspects, solutions and case studies. This way, is expected to be read by academics (teachers, researchers and students of several graduate and postgraduate courses) and by professionals of Information Technology, IT managers and responsible, Marketing experts, Enterprise managers (including top level managers), and also technology solutions developers.

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