

Innovations in SMEs and Conducting E-Business: Technologies, Trends and Solutions

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Detailed Table of Contents

Preface xviii

Acknowledgment..... xxiv

Section 1 **Technological and Organizational Solutions**

Chapter 1

Web 2.0: An Emerging and Innovative Solution for SMEs 1

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This chapter critically analyses and assesses the concept and development of Web 2.0 within SMEs. Web 2.0 is changing the way that business can be conducted, offering SMEs opportunities for developing strategies, business models, and supply chains whilst adding value and gaining competitive advantage. There are many advantages for SMEs using Web 2.0, including them being easy to use, limited skills required, and relative low-cost, and there are a range of emerging applications in fields such as marketing, collaboration, knowledge transfer, enhancing products and services, and research. Equally, there is an array of operational and managerial challenges that need to be overcome. This chapter suggests a set of questions that SMEs may consider using as a guide if they are considering Web 2.0 as a competitive weapon for the future.

Chapter 2

E-Procurement System and Adoption for SMEs 19

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E-procurement accelerates SMEs at a reduced cost. The purpose of this chapter is to show that the adoption of an e-procurement system is essential in the supply chain for SMEs and to find solutions in order to make the use of this system as easy as possible. The adoption should be considered as a re-engineering process from an innovative perspective. An adoption plan is proposed within the study, consisting of three phases: 1) identification of the e-procurement process, 2) seeking integration points

with other elements of the system, and 3) IT implementation of the integration areas. The study also proposes to use business process management tools that have workflow engines and Web service implementations for integration points. Although BPM tools are seen as quite expensive to SMEs, there are also dependable free licensed ones. The chapter is concluded with a case-study that is implemented with a free-licensed BPM tool for proof-of-concepts.

Chapter 3

Model of Functionalities for the Development of B2B E-Commerce Solutions..... 35

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Today, e-commerce assumes particular importance due to the benefits that it may imply for companies. In this chapter the authors focus on business to business (B2B) e-commerce. B2B describes electronic commerce associated to operations of buying and selling products and services through the Internet or through the use of private networks shared between business partners, thus replacing the physical process around commercial transactions. There are several B2B solutions that enable companies to make transactions from buying and selling goods and services, to participating in auctions. The analysis of such solutions enabled the verification that there are major differences in the amount of the supported functionalities, and significant opportunities for development, with the aim of helping companies to evaluate their electronic commerce solutions and to conceive new and more complete systems. This chapter presents a new model of functionalities for the development of B2B solutions.

Chapter 4

Cross-Site Scripting: An Overview..... 61

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This chapter is a comprehensive survey on a currently relevant security threat to Web applications: cross-site scripting (XSS). The rise of reported XSS vulnerabilities has made this family of attacks an interesting area for computer security researchers. XSS consists of the injection of code in Web pages. As injected code is client side scripts, it is executed at the user's Web browser. The main reason for the existence of this kind of vulnerabilities is the incorrect or insufficient handling of the input performed by Web applications. In this chapter, guidelines on proper input treatment for Web developers are offered. Additionally, existing proposals for XSS mitigations are exposed, and future lines of research are indicated to interested researchers and developers. Web applications are susceptible to vulnerabilities that may not only disrupt the provided service, but also facilitate private and personal information to an attacker. As these applications are usually public or even publicized, attacks are expected to be more and more frequent, making it necessary to supply the means to provide an adequate level of security in the utilization of Web applications.

Chapter 5

An Open Source E-Procurement Application Framework for B2B and G2B 76

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Open Source Software (OSS) has gained a strong interest and an increased acceptance in the software industry, introducing wholly new means of software development and distribution, creating a significant impact on the evolution of numerous business processes. The chapter examines the impact of the open source paradigm in the e-Procurement evolution and identifies a trend towards Open Source e-Procurement Application Frameworks (AFs) which enable the development of tailored e-Procurement Solutions. Anchored in this notion, the authors present an Open-Source e-Procurement AF with a two-phase generation procedure, combining the Model Driven Engineering (MDE) approach with the Service-Oriented Architecture (SOA) paradigm for enabling the cost-effective production of e-Procurement Solutions by facilitating integration, interoperability, easy maintenance and management of possible changes in the European e-Procurement environment. The assessment process of the proposed AF and its resulting e-Procurement Solutions occurs in the context of G2B in the Western-Balkan European region. The evaluation yields positive results and further enhancing opportunities.

Chapter 6

Contact Centers: Tool for Effective E-Business 98

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Often, small and medium enterprises consider the possibility of creating their own contact centre as a tool to improve the customer service. They pose some important questions about business and technical aspects: Why should we use a contact center solution? Which technologies, architectures, and solutions are available? Which key issues should be analyzed? The chapter provides specific information and practical guidelines about Contact Centers based on a literature review and interviews made to contact center business consultants specialized in the small and medium enterprises sector. The goal of the chapter is to help top management and Information Technology responsible in making the best technological choices and methodological approaches.

Chapter 7

E-Parking: An Electronic Parking Service Using Wireless Networks..... 116

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Parking is costly and limited in almost every major city in the world, and misparking aggravates the competition of parking slots. Innovative parking systems for meeting near-term parking demand are needed. The chapter proposes a novel parking system which adopts the wireless network and sensor technologies to provide an intelligent and automatic parking service, and presents the implementation

and a probabilistic analysis of the new parking service. The drivers will be informed the detailed information, i.e. the vacant parking slots and the route to the slot. From the investor's view, the electronic parking system proposed in the chapter is an efficient and profitable system in utilization of slots and the maintenance cost.

Section 2

Marketing Strategies

Chapter 8

E-Marketing: Towards a Conceptualisation of a New Marketing Philosophy 133
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This chapter aims to add to the accumulative knowledge in the field of E-Marketing through conceptualising E-Marketing as a new marketing philosophy. The review of the literature has revealed that one of the main obstacles to developing E-Marketing potential is the absence of a clear conceptualisation of E-Marketing purpose and definition. The majority of researchers within the field misuse the term E-Marketing and are using the terms E-business, E-Marketing, E-Commerce and Internet-marketing interchangeably as if they are similar or have the same meaning, which is incorrect. The differences between these terms as well as the main components of E-Marketing are illustrated and discussed in detail within the chapter towards achieving a conceptualisation of E-Marketing as a new marketing philosophy and to build a ground base of understanding for these different concepts. The chapter will help researchers and scholars to have a clearer view towards this concept that in turn will contribute to the related accumulated knowledge in the field.

Chapter 9

Analysis of the Variables which Determine a Good E-Marketing Strategy:
The Techniques Most Used During Times of Crisis 152
Beatriz Sainz de Abajo, University of Valladolid, Spain
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This chapter demonstrates how adequate planning is fundamental in a SME to increase sales. The objective is to analyze the aspects that must be taken into consideration when developing a good e-marketing strategy and to study some of the different alternatives that the Internet and e-marketing make available to us: e-mail marketing, viral e-marketing, geomarketing, and positioning within search engines. Also the concept of Customer Relationship Management (CRM) will be analyzed. The leap into the global market is not easy and the reduction in budgets has inspired marketing professionals to adopt strategies which can be measured and the results controlled, pointing out that the online tactics and tools used by the vast majority of marketing professionals in their strategic plan are banners, search engines, and e-mail.

Chapter 10

Market Research 2.0: An Inclusive Approach to Understanding Customers' Needs..... 169

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This chapter examines the possibilities of conducting market research in Web 2.0 environments, with a focus on implications for small to medium-sized companies. The chapter discusses how companies can undertake market research using Web 2.0 platforms, explores how these tools can facilitate successful and appropriate market research design, and examines the characteristics of qualitative and quantitative "Research 2.0" techniques appropriate to a Web 2.0 environment. The chapter also presents examples of companies that are using these tools successfully for market research and discusses advantages and barriers in adopting these tools, including privacy, ethics, and legal implications of this type of research.

Chapter 11

E-Marketing 187

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In this chapter, the authors present e-marketing and the channels, tools, and techniques that can be used by SMEs, so that they can optimize the benefits of an online presence. Knowing its customers is the starting point for any firm's marketing activity, so the chapter introduces concepts related to the process of gathering information about e-customers. The company website is the gateway to Internet marketing, so it is important to promote it in a variety of ways that are also explained in the chapter. Selling online can be an interesting option, but this decision should only be taken after considering the pros and cons that it involves. To conclude, the authors discuss the e-marketing plan, which should guarantee that the objectives, strategies, and actions of online marketing are coherently integrated with the offline marketing plan.

Section 3

Semantic Technologies

Chapter 12

Critical Success Factors to Yield Business Benefits from Semantic Technologies 205

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The purpose of this chapter is to explore opportunities offered by and issues associated with the use of emergent semantic technologies in enhancing an enterprise's business position. These technologies include a foundation level set of standards and descriptive languages supporting interpretive connections to applications. The chapter is more oriented towards applications and the human side of the human/machine interface. The authors draw on both the literature and case material available to them as active practitioners to illustrate benefits realized and potential barriers to the uptake of semantic technolo-

gies. Critical success factors are related to user learning capabilities, the establishment of trust in the technology and its providers, and factors influencing the nature of potential engagement with users and markets.

Chapter 13

The Semantic Integration of Information: A Business Ontology Proposal with Semantic Interoperability.....	224
<i>Antonio Paredes-Moreno, University of Seville, Spain</i>	
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Nowadays, firms need to refocus the way they manage the knowledge generated from business processes in order to optimize their information systems' performance. Business ontologies are an excellent tool for this. In this chapter, authors briefly treat and highlight how important it is for companies to invest efforts in a closer integration of their systems, with the aim of improving their performance and cooperation. This implies moving towards more efficient systems in their knowledge management. The big challenge for firms now is the semantic integration of information. Essential questions related to this question are synthetically introduced. Then, some of the most significant initiatives and projects on semantic integration of information are presented and compared with a business ontology that authors have developed for commercial use.

Chapter 14

Semantic Mapping for Access Control Model.....	247
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With the increasing development of the Semantic Web technologies, the Semantic Web has been introduced to apply in the Web Services to integrate data across different applications. For the Semantic Web Services to succeed, it is essential to maintain the security of the organizations involved. To guarantee the security of the Web Services, security measures must be considered to protect against unauthorized disclosure, transfer, modification, or destruction, whether accidental or intentional. Access control is a kind of security measurements to guarantee the service processes, which is defined to allow resource owners to define, manage, and enforce the access conditions for each resource. In this chapter it is proposed an attribute based access control model with semantic mapping (SABAC) to specify access control over attributes defined in domain ontologies. The model is built on the basis of XACML policy language. Semantic mapping process is proved to be syntactical, semantic, and structural.

Chapter 15

Ontological Representation of Virtual Business Communities: How to Find Right

Business Partners 263

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Business knowledge embodied in texts such as business news and companies profiles has become widely accessible to the business community, as well as to the general public, mostly due to the growing popularity of the Internet. The field of efficient information retrieval and knowledge discovery from textual data is an increasingly important research topic driven by the Internet growth and easy access to very large business directories on the Internet. To become acquainted with a particular domain and to better understand the underlying concepts, domain knowledge can be represented by ontologies. In addition, ontologies can be used for identification of potential links in virtual business communities and for decision support when searching for right business partners, which is very relevant to small to medium-sized enterprises. Potential applications range from dynamic supply chain configuration to building consortia as quick responses to business opportunities.

Section 4

Legal and Security Aspects

Chapter 16

Key Contracts Needed for SMEs Conducting E-Business: A Practical Guide from a

UK Law Perspective 279

Sam De Silva, Taylor Walton LLP, UK

In order for a small to medium enterprise (SME) to conduct business electronically, that SME requires the establishment of a website. This requires agreements relating to (1) website development, (2) website hosting (3), Internet access, and (4) online content and advertising. The chapter will provide a practical guide from a UK law perspective for a SME in relation to the issues which should be considered when contracts for the above mentioned services are negotiated. The chapter does not cover the issues relating to how the SME should set up its arrangements with its own customers (for example, through website terms and conditions), nor does it consider e-commerce legislation required when conducting business on the Internet.

Chapter 17

Electronic Surveillance, Privacy and Enforcement of Intellectual Property Rights:

A Digital Panopticon? 301

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In cyberworld, intellectual property rights and the right to informational self determination have become two realities in tension. Nevertheless, they are two main concerns of the e-commerce stakeholders. From the industry point of view, new digital technologies, left unregulated, may allow a free flow of information and unauthorized access to contents both from consumers or competitors; from the

consumers' perspective, security and privacy concerns are the major barriers to contracting online. The goal of the present chapter is to understand the relationship between anti-piracy oriented private electronic surveillance and consumers' privacy. If, on the one hand, the enforcement of intellectual property is a laudable activity – since the recognition of economic exclusive rights is an incentive to artistic or scientific creation and the protection of the investments is an ICT industry's legitimate interest –, on the other hand, the individual's privacy sphere is one of the most important values and personal freedoms that law, including intellectual property law, must preserve.

Chapter 18

SMEs E-Business Security Issues..... 317
José Gaivéo, Polytechnic Institute of Setubal, Portugal

Nowadays, when organizations, no matter what dimension they possess, are confronted with more exigent market challenges, they must change strategies and behaviors as needed to respond according to their new business positioning. If all organizations are affected by markets instability, SMEs suffer a greater impact due to a lack of suitable resources for the appropriate change of business strategy or even develop a new one, what reveals information and information security significance, and so the relevance of securing Information Systems that supports their flows through organizations. This chapter points information security issues that are important to SMEs' e-Business strategies, issues which could simultaneously guarantee organizational information privacy, and the chapter establishes guidelines which could also be applied to SMEs, allowing information security policies definitions.

Compilation of References 338

About the Contributors 365

Index..... 375