

## Preface

Due to the emergence and evolution of computer network technologies such as Internet, Intranet, Extranet, Pervasive, Ubiquitous, Cloud and Grid computing, Electronic business has been growing rapidly for the last few years. Most of the businesses now-a-days are influenced by digital information and business processes are carried over networks which connect people and companies. It is important to understand the philosophy of electronic business (E-business) in marketing as well as its management and the key activities within the process, concentrating on the effects that technology has on marketing mix and to realise the main motivators that influence firms to utilise technology in their business operations. The increasing trend of using direct marketing in digital firms is not only popular among large firms, but also in small- and medium-sized companies. Digital marketing is one of the fastest growing businesses, but the increasing trend of how firms illegally manage individuals' information has also become a major problem in today's business world. Thus, it is very interesting to see how all these firms are going to cope with this problem when they employ digital marketing to gain trust from customers.

Online interactions are transforming global business processes and efficiency. E-commerce refers to online transactions, mainly the buying and selling of goods and services over the Internet. E-business covers not only online transactions, but also extends to all Internet-based interactions with business partners, suppliers, and customers, and includes monitoring and exchanging information and collaborative product design. In emerging and global economies, e-commerce and e-business have increasingly become necessary components of business strategy and strong catalysts for economic development. They can allow all kinds of businesses to reach a global audience with their products and services with minimum costs. The sale of products and services on websites can generate sales that make the difference between success and failure. Many organizations, manufacturers, and industries have already changed their business models with the help of Internet.

The main aim of utilising technology and the Internet in business strategy is to gain competitive advantage, not only in terms of low operational cost but also by providing better services to customers. Information and Communication Technology has sharpened and expanded the means to manage money and offer different products and services across the world. Competitive advantage includes taking advantages of opportunities and overcoming challenges, especially vulnerabilities to e-fraud in the E-business environment.

The book illustrates not only the existing theories and concepts in the field of E-business but also broadens the area by introducing state-of-the-art technologies with variety of tools, techniques, models and wide range of literature surveys with real-world examples from which both industries, manufacturers and academia could benefit by implementing and practicing these at their workplace in the near future.

**The objectives of this publication** are: 1) to disseminate information on new practices and techniques in E-business and to exchange ideas to promote a better understanding of contemporary issues and solutions to existing and emerging challenges, 2) to bring together academicians, researchers, professionals and practitioners from all over the globe to share new findings on e-business topics, 3) to make prospective audiences aware of concurrent business needs, models, trends, methods and techniques and provide examples of the modification and rehabilitation of existing designs and operations of e-business infrastructures, and 4) to allow businesses to provide a better quality of service, making their online transactions more user friendly, reliable, secure and authentic.

**The prospective audiences** of this publication includes e-commerce vendors, business managers, entrepreneurs, business consultants, software industries, business analysts/experts, web analysts, researchers/academicians, digital media world, banking and financial services industry, travel and tourism industry, telecommunication industry, and educational institutions. The book is also intended for students of intermediate and advanced courses in applied E-business, who are presumed to be mostly interested in theories, design, developments, applications and practices. It may also appeal to systems or business analysts and designers who focus on the security of the major online payment mechanisms (credit cards, PayPal, Google Checkout, etc.) and online merchants who wish to build strong consumer brands (e.g., Amazon.com, eBay, Overstock.com etc.).

In writing this book, the authors have assumed that readers are well acquainted with the very basic concepts of business theory, concepts and models, especially with regard to electronic business system.

## Scope of the Book

The book contains eighteen chapters that highlight new software development methods, technological IT solutions to business applications, tools, advanced prototypes, and general survey papers or case studies indicating future directions in different areas of **E-business** [Innovative e-Business models; B2B, B2C, and C2C models; Social networks in e-Business; E-Business Applications and Software; Business process integration; Supply, demand, and value chains; Multiagent Systems; Consumer protection in e-Commerce; Development of e-Business and applications; Trust, security, and privacy in e-Commerce and e-Business; Novel marketing strategies on the web Case studies and applications of e-business; e-Payment systems; e-commerce and entrepreneurship; e-Business in developing countries; e-Commerce Strategy & Implementation; e-Enterprise Resource Planning; e-Business Process Modeling, Integration, and Monitoring; Sustainable e-Business for Economic Cooperation and Development], **E-Business Design and Developments** [Web Services Computing, P2P Computing; e-Project Management; e-Business Quality Control; e-Business design; e-Retailing and web design], **e-Society and e-Customer Relationship Management** [e-Government (G2G, G2B, and G2C); e-Democracy and e-Governance; e-Strategy, e-Policy, e-Democracy, e-Society, e-Service; Public e-Services for citizens and enterprises; International dimension of e-Government; Legal, Ethical, Cultural, Training and Social Issues; Web Site Monitoring, Customer Behavior], **Applications and Practices in e-Business** [e-Banking, e-Tailing; e-Social Network; Service Oriented Architecture Platforms; Software Infrastructure as a Service; Virtual enterprises and virtual markets; Web 2.0 applications; Agent-oriented e-Services; P2P co-operation models; Ubiquitous, mobile and pervasive services; Human interfaces for e-Services].

## About the Contents

The book is composed of two different sections. The first section emphasises on the contemporary issues of dynamic e-business strategies, E-business system, Applications, Models, M-Commerce and Security. The major issues addressed in section 2 are E-business development, Social Networks, e-Frameworks, architectural principles, e-services, e-government, e-tailing, Social Media, social e-atmospherics and Open Innovation.

The **Chapter 1** proposes a solution for service oriented virtual organization breeding environment. The solution is mainly based on feedback loop in control theory which focuses on the behavior of dynamic systems. The author applied the concept of this feedback loop in business domain. The ErGo system aiming at implementing a SOVOBE supporting agile service-oriented e-business in collaborative networked environments is presented in this research. The implementation of each element of the feedback loop in the ErGo system is discussed. It is noted that the name “ErGo” is not an acronym, and comes from a Greek word meaning “task” or “work”.

Enterprise information systems strategy and management is one of key issues for energizing dynamic e-business strategies. As Enterprise Resource Planning (ERP) systems can play a significant role to promote new intra-enterprise patterns, a sustainable approach would be applicable to empirical research within Information System (IS) and e-business disciplines from an intra-enterprise viewpoint. **Chapter 2** investigates the dynamic e-business strategies that can be realised through newly diverse enterprise structures supported by ERP, ERP II and ERP III solutions relying on the virtual value chain concept. The results derive from this research also bring some practical implications that may help to guide enterprise managers for making better decisions within the enterprise wide scope. The present research has revealed the future evolutionary trend between ERP systems and intra-enterprise management strategies within the context of the dynamic e-business. This research could give a new insight for the researchers who are working in the area of future e-business infrastructure. The chapter represents a good review of the existing literature along with comparisons. A conceptual framework has been proposed to discuss the adoption and governance of ERP systems within the context of three enterprise forms for enabling dynamic and collaborative e-business strategies, and particularly demonstrate how an enterprise can dynamically migrate from its current patterns to the future one. It offers adequate theories, appropriate methodology and concepts that enrich the understanding of intra-enterprise collaboration with IT governance and contribute towards the combination of ERP systems development and enterprise strategies for achieving dynamic e-business strategies.

**Chapter 3** emphasizes on the consequences of developing automated trading systems for electronic markets, and also focuses on the application and uses of artificial intelligence. One of major issues of this chapter is developing tools and techniques that can be applied to various electronic markets, from bidding heuristics to optimizing models.

**Chapter 4** provides a guide for selecting emergent approaches based on Rich Internet Applications (RIAs) in order to improve the shopping experience for B2C e-commerce systems. The study has illustrated the pros and cons of RIAs for multiple stakeholders and how they can be used to improve the B2C shopping experience and covered the reasons for incorporating RIAs in B2C e-commerce systems. The modern technologies in the field of shopping were analyzed and their classification is showed in this chapter. The authors have developed an m-commerce application under the Android platform called AndStore which is helpful to a user as it provides a similar functionality of an e-commerce Web application. AndStore allows a user to perform the complete purchasing process of products available in

stock by using an Android-based phone without requiring a desktop computer. The study has a practical nature and its results can be used in the practice of sales.

The firms in today's business world have been increasingly introducing new business models, exploit new markets and disrupt established firms in order to create a unique competitive position. **Chapter 5** depicts how strategic logic of a disruptive technology can be well presented through the lens of business model innovation (BMI) by presenting four propositions. The study also argues how BMI underlines activities such as acquisition of market and technological insights, opportunities and requisite actions required for transforming a disruptive idea into a disruptive market movement. The theoretical and managerial implications of this view are enlightened by a wide range of literature survey.

Due to the limitations of traditional ERP systems it is vital to combine both the ERP systems and enterprise 2.0 which could contribute to the development of a new generation of business management that combines both formal and informal mechanisms. As a result, in terms of operation process management, the combination could achieve effective business process integration as well as agile process management and would benefit business by developing a new generation of business management system that integrates business collaboration on a shared network. **Chapter 6** uses case study analyses to investigate the use of a combination of ERP and enterprise 2.0 in a single enterprise with the aim of improving both efficiency and flexibility in operations. The chapter provides an in-depth analysis of the combination of ERP with enterprise 2.0 based on socio-technical information systems management theory. The authors compare ERP with Enterprise 2.0 and claim that these two systems can be practiced mutually and this mutual practice could help organization to manage the activities more efficiently. The claim is substantiated by exhaustive case studies. This review has drawn a clear picture about ERP and Enterprise 2.0 system.

**Chapter 7** illustrates a review of the current literature on scams and online fraud. The research presents a theoretical framework which integrates the risks and benefits within an e-business environment as outlined by the existing literature. In order to make future practices of e-business more user-friendly, reliable and secure, preventative action can be taken by the relevant stakeholder at each point in the model.

E-banking system can increase the effectiveness of the market coverage by enabling different products and services at different demographic regions and also has increased the economic growth across the world. E-banking has facilitated to build customer loyalty as the technology makes it cheaper, more convenient, and creates opportunities for customers in hard to reach areas to access banking services. As E-banking risks appear as a result of uncertainty in operational risk, compliance risks, reputational risk, strategic risk, credit risk and market risks, Banks are advised to take steps to ensure they have reviewed and modified where necessary their existing risk management processes and policies to cover their current or planned E-banking activities. **Chapter 8** has provided a general overview of E-banking and the risks associated with this. It identified the definition adopted for Operational risk using Bayesian network. The study also focused and presented a brief discussion about the relationships between management tools and algorithms. The authors in this chapter reviews different type of operational risk management tools and techniques such as Decision Trees, Artificial Neural Networks (ANN), Fuzzy Inference Systems, and Bayesian Networks.

**Chapter 9** demonstrates a systemic presentation of the mobile technology and begins with literature survey, and then it provides the architecture of the Mobile environment, Data Dissemination techniques and also a proposed system. The research contributes an improved cache invalidation scheme which exploits the existence of shared data by distributing it to the interested mobile users. This strategy al-

lows the server to handle other significant tasks by enhancing system efficiency and thereby helps in reduction of load on the server.

**Chapter 10** investigates the awareness and opinion of e-consumers regarding online security and organizations involved in e-consumer protection. The author examines the attitudes of e-consumers towards consumer protection in e-market scenarios. The study presents a set of results from different surveys conducted in order to know which organizations were responsible for consumer protection in e-markets.

A major issue addressed in the **Chapter 11** is the social networks and e-business: adaptive market-based architectures and this is one of the important issues in today's E-business. This chapter outlines existing state of knowledge within the wide area of e-Business. Relevant published material utilized with variety of up to date information. The chapter demonstrates intelligent understanding of the material with an insightful interpretation of its relevance in context, provides a thorough discussion of the implications with some original observations. Other issues addressed in the chapter are: Social networks and buying relationships, Consumer behavior and e-Business, and Consequences of e-Business.

E-government and public administration orientation have replaced the old business doctrine into new one that change traditional organizational models, business processes, relationships and operational models that have dominated the public sector in the past. E-government requires organizations to integrate and synchronize their strategic vision and tactical delivery of their services with the information technology and service infrastructure needed to meet that vision and process execution. It is believe that, in the next few years, successful countries will restructure their public sector, process and technology infrastructure to ensure the successful realization of e-government. In **Chapter 12**, the authors presented the role, models, and technologies designed for assisting with the automation and implementation of e-Business and e-Government solutions on large scales. Theoretical and practical approaches to developing e-Services and e-Government solutions have also been presented by showing real experiences in developing two successful projects with a great potential to improve complex Government procedures.

**Chapter 13** has provided an overview of the state of e-tailing in Australia and tried to provide justification that there is limited theoretical and empirical research into the state of e-tailing adoption in Australia and there still remains significant scope to further our understanding. This is mainly a review chapter. The major issue addressed in the chapter is the consequences of online retailing in the Australian Market. The chapter illustrates how the online grocery sector in Australia will hit more than the USA market by 2014. The chapter might be quite useful for new researcher who works in the area of e-business.

**Chapter 14** reviews different components of e-commerce & social media and summarizes the findings in terms of an e-commerce model. The author also suggests different ways to incorporate existing social media contents in the proposed e-commerce model. Further, the author proceeds to provide future direction of research related to e-commerce & social media. This article might be useful for new researcher.

In this dynamic business environment, firms are forced to seek out new ways of more closely involving an extended number of stakeholders in the innovation and e-business planning process with constant shifts in new technological, social and managerial innovations. **Chapter 15** addresses two major issues, which are: 1) the importance of cross-cultural understanding and its impact on the new generation website designers, 2) how the advancements in technology influence the social e-atmospherics environment, which affects the consumer behavior and market trends. This study provides crucial knowledge of non-firm actors' potential via open innovation communities and social atmospherics towards building a successful advanced e-business planning process. For practitioners and researchers, this study raises important and relatively unexplored issues on enhancing positively resistant 'voicing' in e-business planning.

E-governance and Digital Business are one of the contemporary issues for today's world. **Chapter 16** refers how Government can utilize ICT and other web-based telecommunication technologies to improve and/or enhance on the efficiency and effectiveness of service delivery in the public sector. The review has drawn a clear picture in the relevant context.

**Chapter 17** aims to add to the extant knowledge in the field of Open Innovation (OI). The research provides an insight into the SMEs development initiatives in 5 developing countries focusing on their adoption of OI strategies for their business developments.

The **Chapter 18** explains about the e-business development and role of Internet in growth of E-business. The research investigates how the online business contexts are influencing buyer behaviour and also provides an alternative conceptualization of web user behaviour. Consumer Web Experience and Cultural Entrapment in Africa's context are also explained.

## Relationship with Other Books

There are a relatively limited number of books in the market which are in fact partially devoted to the areas of E-business. Best known are those of *E-Business and E-Commerce Management: Strategy, Implementation and Practice*, by Dave Chaffey (July, 2011), *Mastering e-Business* by Paul Grefen (June, 2010), *Introduction to Electronic Commerce*, by Efraim Turban, David King & Judy Lang (November, 2010), *Internet Business Models and Strategies: Text and Cases*, by Allan Afuah & Christopher L. Tucci (August, 2000), *e-Business 2.0: Roadmap for Success*, by Ravi Kalakota (December, 2000), *The E-Business (R)evolution: Living and Working in an Interconnected World*, by Daniel Amor (December, 2001), *E-Profit: High Payoff Strategies for Capturing the E-Commerce Edge*, by Peter S. Cohan (April, 2000), *The E-Business Book: A Step-by-Step Guide to E-Commerce and Beyond*, by Dayle M Smith (April, 2001). The present book is mostly devoted to wider features of E-Business when comparing with the contents of above mentioned books. The book also depicts the state-of-the-art research in the relevant fields.

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