Preface

Twenty-first century business enterprises rely heavily on the digital sphere to engage with customers, reach shareholders, and achieve success in a highly competitive environment. As well as direct commercial exchanges, organizations can use digital and virtual tools to manage their own internal processes, developing the body of organizational knowledge and ensuring that their managerial systems are effective and current.

This book explores the social, cultural, organizational, human, and commercial impacts of e-commerce technologies in competitive business environments. With new advances and technologies being developed daily, organizational leaders must stay apprised of new developments to compete effectively, and the chapters in this book do just that. The following chapters have been specifically designed to present readers with the most up-to-date research in the area of electronic commerce for modern organizations, assisting researchers, practitioners, and organizational leaders to effectively develop, adopt, and utilize digital systems for the benefit of their organizations and customers.

In Chapter 1, “Semantic++ Electronic Commerce Architecture and Models in Cloud” by Guigang Zhan, Chao Li, Yong Zhang, Chunxiao Xin, Sixin Xue, and Yuenan Liu, the authors propose a kind of new electronic commerce architecture in the cloud and give two kinds of new electronic commerce models. This chapter opens the discussion that why we need to design a new architecture in the cloud environment. Firstly, there is a discussion about the semantic++ computing. After the discussion, the authors give the architecture that can satisfy the requirements in the cloud. This architecture mainly includes five technologies, which are the massive EC data storage technology in the cloud, the massive EC data processing technology in the cloud, the EC security management technology in the cloud, OLAP technology for EC in the cloud and active EC technology in the cloud. Then, the authors propose two kinds of semantic++ electronic commerce models based on big data. These two models are the new electronic commerce models. The first model is semantic++ electronic commerce Q/A (Questions/Answers) model and another is the active semantic++ electronic commerce model. These two models are all based on the big data.

Chapter 2, “A Literature Review on IT Value Management: Assisting Organisations to Realise Benefits from IT-Enabled Investments” by Kim Maes, Steven De Haes, and Wim Van Grembergen, investigates literature on IT value management in order to situate and understand the construct of IT value management; and to identify and define management practices that support the implementation of IT value management as an organisational approach. Few scholars have focused on the question of how IT business value can be created. Several studies concluded that the necessary conditions to overcome the IT productivity paradox are to be found in a better IT value management approach, which is operationalised by a collection of individual management practices. However, limited research has been oriented
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towards the identification of such value management practices and the scarce results are fragmented due to isolated investigation of a single practice. Organisations recognise the importance of emerging IT value management frameworks and models, yet practitioners are still struggling with getting related value management practices implemented into their organisations.

Chapter 3, “Evaluation of B2B Pharmaceutical Supply Chain in Australia” by Chad Lin and Geoffrey Jalleh, defines the pharmaceutical industry as one of the most innovative and research-intensive industries in the world. For example, five out of the top global Research and Development (R&D) companies were pharmaceutical companies. However, the industry is lagging behind other industries in adopting Business-to-Business (B2B) and supply chain technologies. With supply chain costs constitute around 25-40% of an organization’s operating expenses, it is imperative for senior pharmaceutical executives to minimize this cost. The adoption and implementation of B2B e-commerce within the Australian pharmaceutical supply chain can assist in setting up a commercial platform which improves cycle times, ensures that products are provided when required, and supports electronic transactions among different business partners. Despite high expectations for realizing the benefits of B2B e-commerce in pharmaceutical supply chain, factors and challenges surrounding its management and evaluation remain poorly understood and relatively under-researched. Hence, the main objective of this study is to identify key B2B e-commerce management, evaluation, and benefits realization factors and challenges within the Australian pharmaceutical supply chain. The results of this study suggest that pharmaceutical companies not only need to carefully examine their B2B investment management and evaluation practices but also must invest in using appropriate evaluation methodologies for identifying and managing benefits, risks, and costs associated with their investments in B2B and supply chains.

In order to investigate the general formation of e-commerce market network, Chapter 4, “A General Evolution Mechanism Model for E-commerce Network” by Zhihong Tian, Zhenji Zhang, and Xiaolan Guan, describes an analytical framework and builds an innovative model for explaining the evolutionary process, with several original factors—growth-factor, select-order-factor, preferential attachment mechanism, and global-local-factor. The research reveals that the attraction mechanism impacts evolutionary trend and network structure to some extent, and also reveals that the global-local-factor and select-order-factor impact the evolutionary structure of the network, the smaller the probability, the smaller the concentration of networks and the more obvious the randomness are.

Chapter 5, “Predicting Low-Carbon Travel Behavior: A Modified Theory of Planned Behavior Model from Taiwan” by Nae-Wen Kuo and You-Yu Dai, establishes a modified Theory of Planned Behavior model to predict which factors may impact low-carbon travel behaviors. The activities of tourists and the tourism industry cause many of the world’s carbon dioxide emissions. To reduce carbon emissions resulted from travel process, low-carbon tourism has becoming an urgent issue concerned by researchers. Few research paid attention to low-carbon travel behavior of tourists and their influenced factors are still unclear. In this study, an effective sample of 387 Taiwanese is collected in the first “ECO Taiwan Expo”. Through a rigorous structural equation modeling process, the results show that the respondents are independently involved in low-carbon tourism, rather than influenced by significant others or groups. In addition, past travel experiences could improve travelers’ perceived behavioral control and behavioral intention toward low-carbon travel behavior. Finally, moderating effect of perceived behavioral control is evidenced between behavioral intention and preferred behavior in this study.

Chapter 6, “Branding Cultural Analogues in Virtual Communities” by Robert Pennington, discusses cultures as analogues of actual environments, specifically socially constructed communities and the individuals who compose them. Analogues replace actual environments in human perception. Virtual
communities provide context for this discussion. Virtual communities have evolved as analogues of actual communities to the degree that technology permits. Greater technological detail brings greater detail in the production of analogues. As a fundamentally cultural phenomenon, marketing communication signifies shared patterns of consumer thoughts, feelings, emotions and behaviors. Virtual communities are particularly suited to communicate consumer culture because they afford consumers authentic cultural presence through analogous representations. Culture depends on communication. Communication depends symbols. Symbols constitute electronic environments. Brands are symbols. eBranding supplies consumers with components to construct identities by communicating consumer roles and relationships in virtual consumer culture environments for transfer to actual consumer culture environments. Consumption in actual environments results in brand viability and marketing success.

Chapter 7, “The Relationship between Online Reviews, Brand Trust, and Willingness to Buy” by Vincent T. P. Cheng, Joan Rhodes, and Peter Lok, investigates how online customer reviews affect consumer decision-making (willingness to buy) during a first purchase of a service or product using brand trust as a mediating variable. Empirical evidence on the relationship between online reviews, brand trust and buying behavior is provided. A conceptual framework, based on the relationships between stated variables, is used to demonstrate derived linkages and the concomitant insights. The discussion and findings showed that the “reliability dimension” of brand trust had a mediating effect on online customer reviews’ valence to willingness to buy, while the “intentionality dimension” of brand trust had little effect. The findings also showed that online customer reviews generated by in-group and out-group reviewers had little effect on purchasing decisions (willingness to buy). This suggests that it is prudent for management to focus more on managing positive online customer reviews particularly on the reliability dimension of brand trust.

Digital Marketing is a fast proliferating field which has opened up new challenges for marketers. These challenges address concepts of website navigation, searchability and garnering online traffic issues which are critical to any organization’s online presence. Chapter 8, “Digital Marketing Optimization: Online Marketing” by Neha Jain, identifies website characteristics, studies the role they perform in the context of an organization’s virtual presence and proposes the creation of a framework which aids organizations in optimizing their Digital Marketing strategies for better return on Investment.

Purchase-Based Targeted Advertising (PBTA) refers to the advertising that is targeted to an individual based on his or her purchase histories, which is ubiquitous in the age of e-commerce. Chapter 9, “Purchase-Based Targeted Advertising: A Competitive Analysis” by Jianqiang Zhang, Weijun Zhong, and Shue Mei, examines the competitive effects of PBTA by establishing a two-period duopoly model: The first period consists of the consumer information gathering process while the second is the period where PBTA is embraced. Based on this model, it is found that PBTA may improve or damage industry profits, consumer surplus as well as social welfare. The conditions under which the competitive effect is positive or negative are derived, showing that whether PBTA is beneficial or detrimental depends on the content of advertising designed by the competing firms. It is suggested that firms under competitive environments cautiously deploy PBTA with appropriate advertising contents.

The objective of Chapter 10, “Electronic Commerce and Change in Management Accounting practices in an Egyptian Organization” by Mayada A. Youssef, is to explore the implementation of e-commerce in an Egyptian organization. It reports on a longitudinal case study in an Egyptian organization (TexCo) that implemented Business-to-Business (B-to-B) electronic commerce. Following a change in leadership TexCo was subject to a process of questioning the traditional ways of doing things. This process resulted in realizing planning, decision making and control problems within the company. The B-to-B
system was chosen to introduce new control-based rules. However, the change was faced with resistance from TexCo’s distributors. It is posited that various power strategies were used to ameliorate covert and overt resistance. Over time, the management accounting practices in TexCo changed towards greater decision support and control. B-to-B electronic commerce improved planning, decision making and control in TexCo.

Finally, Chapter 11, “Factors Affecting E-Commerce Adoption Decisions for SMEs: A Study in Saudi Arabia” by Sabah Abdullah Al-Somali, Roya Gholami, and Ben Clegg, investigates the state of e-commerce adoption and analyses the factors that determine the extent to which SMEs in Saudi Arabia are inclined towards deploying e-commerce technologies. This research was designed using a qualitative approach through exploratory case studies selected from firms in Saudi Arabia. Our findings contribute towards a better conceptual and practical understanding of the main factors driving SMEs to adopt e-commerce. The study has found that the level of e-commerce implementation has yet to mature and customer readiness for Internet shopping has to improve before e-commerce reaches the levels of maturity seen in other regions of the world. This study highlights several directions for future inquiry and implications for policymakers and managers who are involved in efforts to introduce complex innovations such as e-commerce into their organisations or are interested in expanding their e-commerce applications and generating more revenue.

In all, this book serves as an influential resource for a diverse range of executives, project managers, organizational leaders, researchers, and practitioners of e-commerce systems.