Preface

Most scholars and business leaders characterise the current world economy as being globalised and in a highly competitive business environment. Increasing focus on financial performance has led many businesses to utilise advances in computer technology to digitise their business activities. Recent concern about sustainable developments has further added more pressure on organisations to ensure delivering goods and services to satisfy the needs of the present without compromising the ability for future generations to satisfy their needs (World Commission on Development and Environment, Brundtland Report). Most definitions of sustainable development are based on two concepts, namely a) the concept of current needs and b) the environment’s limited capacity to respond to current and future needs. However, every firm should be accountable for its impact on society and the environment. Social responsibility towards sustainable development requires intervention by effectively investing in the necessary resources. These resources have been identified by the British project “Sustainability Integrated Guidelines for Management” in its framework that defines practices which have a positive effect on people, profit and the environment.

Further advances in knowledge management have also presented the management of firms with opportunities to enhance competitive advantages of their organisations. Some of those opportunities resulted in the deployment of modern systems such cloud systems in modern firms.

However, for the implementation of cloud systems to succeed, significance change to the structure of those firms must take place. Accordingly, the two most critical questions to be asked are: a) whether the selected cloud system meets the strategic objectives of the firm? and b) whether the existing IT processes would continue functioning under the new cloud system with similar or even higher performance? The answer to those questions lies in the careful transformation of the IT and business processes i.e. a new type of business process re-engineering focusing primarily on IT processes.

A number of key research and teaching activities have sprung out of organisational concern with the business transformation through cloud systems implementation. In fact the drive to excel propelled by fierce competition and globalisation have led many firms to be innovative about the deployment and usage of cloud systems. In other words, innovative firms should be made aware of the contents of this book to ensure that the transformation of their business activates are positioned to assist the innovation. While achieving long-term business sustainability has gained a significant importance by various industries, warehouses and service facilities, the surge in global warming and depleting natural resources have also emerged as significant factors.

Most literature suggests that sustainability could be classified in three different sustainability systems, namely: Economic sustainability, Environmental sustainability and Social sustainability. Economic sustainability requires firms to ensure optimum utilisation of space. On the other hand environmental
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sustainability requires firms to ensure their environmental damage or polluting conduct are minimised. While social sustainability requires firms to include various factors such as employee job satisfaction and better working conditions. Social sustainability also addresses poverty and human development issues while the environmental sustainability is the predominant prerequisite for social sustainability.

This book will suit firm management professionals and researchers working in the field of management, human resources management, information and knowledge management in various disciplines, e.g. library, information and communication sciences, administrative sciences and management, education, adult education, sociology, computer science, and information technology. Moreover, the book will provide insights and support executives concerned with the management of expertise, innovation, knowledge, human resources management, information and organizational development in different types of work communities and environments.

Chapter 1 “Could Cultural Sustainability Improve Organisational Sustainability in Cloud Environments?” by the editor provides an explorative analysis of cultural factors critical to the sustainable organisational developments within cloud environments. The chapter examines how businesses could improve their sustainability by creating sustainable cultures. The chapter debates sustainability issues such as the relationship between organizational culture and sustainable organisational developments. The chapter also provides a list of key areas for creating a sustainable culture, for instance, the Change readiness assessment, Leadership and management support, Stakeholder involvement, and Education, as well as Communication. In addition, the chapter also discusses organizational culture and the close relationships between culture and sustainability. The chapter examines the relationships when creating sustainability culture and the key factors that will influence the change process.

Similarly, Chapter 2 “Sustainable Business Transformation in Supply Chains” by the editor provides a list of five key characteristics for cloud computing. Four deployment models and three service models are also discussed in the chapter. The chapter examines the benefits and risks brought by cloud system implementation. The possible changes during business transformation during the implementation of cloud systems in firms are highlighted.

Further emphasis on risks and benefits are discussed in Chapter 3, “Investment Strategies for Implementing Cloud Systems in Supply Chains,” by Li Zhong Zhang. Zhang argues that advances in computing technologies have presented the management of supply chain firms with opportunities to enhance the competitive advantages of their organisations. Some of those opportunities arise from the deployment of cloud systems that encompass the three most important components in supply chains management; namely enterprise resource planning, customer relationship management and e-commerce. The current technology available in cloud systems appears to satisfy the needs of supply chain firms for managing resource planning, customer relationship and e-commerce simultaneously. The main purpose of this chapter is to alert supply chain firms to the risks that they could face if their cloud system implementation is not carefully managed or if not appropriately selected and supported. The proposed investment strategies could assist supply chain firms in ensuring that their cloud system activities are positioned to assist and sustain their competitive advantages.

Chapter 4 “Business Transformation though Cloud Computing in Sustainable Business” by Jasmine K.S. emphasises that to stay ahead of competition, businesses need to constantly innovate and improve while keeping the expenditures as low as possible. For any business, regardless of size, information technology is playing a major role in managing the business. In this direction Cloud computing is emerging as a driving factor for all types of businesses. Although cloud computing is widely recognized as a technology transformer, its potential for driving business innovation is not exploited to the fullest.
Cloud computing promises to decrease capital expenditures and offer higher utilization rates on existing hardware. Cloud Computing is not just about cost. It can provide a platform for a business to achieve its ambitions of having an “inclusive” IT system that covers the entire supply chain and its customers, enabling and generating business growth more effectively. The businesses will no longer need to invest in/manage IT infrastructure, it can be provisioned as a service on demand. To take advantage of cloud computing capability to enable organizations to enhance their revenue streams and improved customer relationships while increasing business agility, organizations need to determine how best to employ cloud enabled business models that promote sustainable competitive advantage. It’s important to note that private, public, and hybrid clouds are not strictly distinct, as many organizations choose to build a customized cloud solution out of a combination of these. In cloud computing, there is a convergence of two major interdependent IT trends: IT efficiency and business agility. By completely leveraging cloud computing opportunities, organizations can focus on process improvement by driving inefficiencies out of repeatable processes and providing agility to reusing elements of business logic. Cloud computing value proposition is reduction of total cost of ownership, translating the fixed to variable cost, improvement of business agility and ability to build systems of global class. The cost model allows the business to free up budgets on infrastructure and the platform allows using them for delivering innovation services quickly. In this context, the chapter investigates the feasibility of novel and practical solutions on how organizations can deliver high business value through technology and operations strategy engagements while building systems of global class so that cloud users can have self-provisioned cloud-based IT resources.

Chapter 5, “Strategies for Evaluating Cloud System Providers during the Transformation of Businesses,” was written by Mohamed Firdhos. This chapter takes a comprehensive look at the strategies and mechanisms developed for evaluating cloud services during business transformation. During business transformation, enterprises need to make decisions that will have long lasting impacts on the performance and profitability of the businesses. One of the important decisions business leaders are required to make is whether to own and manage their own IT infrastructure or outsource them from a public cloud provider. Due to the attractiveness of cloud computing, there are many cloud providers in the market, creating confusion in the minds of the customers who to select. Hence it is necessary to proper strategies and mechanisms to evaluate the performance and the suitability of the service providers in meeting the customer requirements. This chapter takes an in depth look at some of the strategies, frameworks, mechanisms and tools proposed by researchers for evaluating cloud services in the literature with reference to their applicability, suitability, advantages and disadvantages.

Chapter 6 “Cloud Integration for Effective Delivery of IT Services” by Roma Puri introduces cloud computing models that are implemented by business to improve existing practices. With improvement in the standards of the Web and affordability of mobile devices, the customer has accepted the online way of shopping. Cloud computing have been extensively used to deliver e-commerce, Customer Relationship Management (CRM) and Enterprise Resource Planning (ERP). E-commerce models have undergone considerable changes in order to attract customers online. This chapter showcases the requirement of e-commerce model to integrate cloud computing technology. This chapter puts forward cloud computing application for E-commerce, CRM and ERP by describing the significant characteristics of cloud. For enterprises’ to bring into play cloud based e-commerce, CRM and ERP, certain significant issues need to be handled are the points of discussion in the chapter. In addition, the chapter introduces big data framework for building efficient e-commerce framework.

Chapter 7 “Evaluation of Cloud System Success Factors in Supply-Demand Chains” by Fawzy Soliman introduces the theory in defining Supply Chain Management (SCM) and Demand Chain Manage-
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The chapter also explains how Integration of cloud computing in supply and demand chain management has numerous benefits including lower cost, scalability, simplicity, flexibility and sustainability. Indeed, it is one of the greatest tools ever created to improve the business industry. Nonetheless, it doesn’t mean that simply implementing cloud system would result to immediate business success. To achieve the potential of cloud system in supply chain management, we should have a clear understanding of the issues involved. These issues include the factors that should be considered to predict cloud system implementation success. These factors include adequate support from the management, involvement and participation of users, identification and management of associated risks, detailed and careful planning and effective communication, education and training. Moreover, it is also important to consider other factors – that is, appropriate selection of cloud systems, IT infrastructure, organizational technical support and technological competence in the implementation of the system.

Chapter 8 “Performance improvement in cloud based supply chains” by Fawzy Soliman summarises the findings on how improvement in the performance of the supply chain processes could assist the company becoming innovative. Through this chapter it is consistently held that improvement in the performance of the supply chain processes assists the company in becoming innovative.

Chapter 9 “Cloud Manufacturing towards Sustainable Management” by Yuqiuge Hao and Petri Helo presents a model for collaboration between various players in the manufacturing sector. They argue that the constant changes of the global economy and the advent of new technologies imply the demand of substitutes in the business pattern of manufacturing industry. Nowadays, most manufacturing companies have realized the importance of collaboration between dispersed factories, different suppliers and distributed stakeholders, in a quick, real-time and effective manner. Cloud computing is an evolution of the Internet; it does not only change the technology, but also enables collaborative innovation. Cloud manufacturing is a new form of networked manufacturing. It provides common and standard manufacturing services by cloud logic and principle. In this chapter, a new concept is proposed based on the fundamental theory and key technologies of cloud manufacturing. Cloud Future Factory, which is designed to a real case company to manage its matrix-type organizational structure, focuses on improving communication in lean manufacturing. This case company has dispersed production lines and business departments. Therefore, it's very necessary to introduce an efficient and dynamic information integration platform. This chapter offers an application of cloud manufacturing and leads to new ways of thinking about using cloud manufacturing concept in different formations. Cloud manufacturing is not only suitable for small and medium sized enterprises, but also fits large size companies.

Chapter 10 “Could Cloud TQM drive Sustainable Development?” by Anwara Happy proposes Total Quality Management (TQM) as a driving force for sustainable development (SD). The aim of this research is to identify how sustainable development could be achieved through by effectively integrating TQM philosophy in the organization where Cloud system could be help to minimize cost of sustainability. Specifically the chapter proposes a better way to fill the differences (gap) between customer expectation and supplier perception that are usually identified in respect to delivered goods and service to the customer. The gaps that this chapter is focusing on are quality, cost and delivery time. However, the essence of TQM is to focus on all related functions of organisation in a consistent manner and on a regular basis. To focus on the continuous improvement of processes, this chapter emphasises the need to implement
the technique of reducing or minimising such gaps, thereby contributing towards successful operation of firms. This chapter also looks at how cloud system could assist to minimize cost of business in order to accelerate sustainability of firm. The chapter uses a literature review with particular focus on TQM and Cloud system. It also looks at national and international quality awards, philosophies and practices to improve total quality of firms’ business. Sustainable development is comprehensive process in organisation where TQM is used as tool to approach and integrated with organizational strategy. Based on the theoretical concept of past research article, TQM journal, quality theory, various national/international quality awards have been used. The study enhances our understanding of relationship between TQM and sustainable development of an organisation.

Chapter 11 “Integrating Sustainability in Cloud Computing for Managing Sustainable Knowledge in Higher Education” by Ahmed Mehrez, Ki-Hoon Lee and Fawzy Soliman presents a conceptual model in order to facilitate sustainability in cloud computing resulting in sustainability in organizational knowledge in education. From one perspective, while cloud computing has been considered as a recent area of research due to arguments round its value to organizational performance, sustainability has turned to be a typical common norm due to the discovery of uncertainty in various human aspects. From a different perspective, the role of Knowledge Management in enhancing organisational success has been detected in different researches. The main consensus after these researches is that the more effective management of knowledge is the more effective the organizational performance will be. Therefore, this chapter presents a theoretical framework of potential links among cloud computing, knowledge management and sustainability.

Chapter 12 “Technological Forecasting of Sustainable Products: Analysis of Eco-Innovations” by Luan Carlos Santos Silva, Carla Schwengber ten Caten and Silvia Gaia present the eco-innovations model used in the development of hybrid cars. The data collection method consisted of a technological forecast. The research was carried out on the patent base Derwent Innovations Index from Web of Science. The United States is the leader in the ranking of hybrid car patents. However, countries such as Japan, China and Germany demonstrated a considerable increase. This study contributes toward other studies that focus on the acceleration of decisions in applications for inventive patents and aims to identify new technologies which can be quickly used by the productive sector and universities stimulating the licensing and encouraging innovation in many countries.

Chapter 13 “ECO-Innovation Practices: Insight from Malaysia’s Green Technology Sector” by Wah Wen Xin and Yudi Fernando explains how the expansion of economic activity has increased due to solving global environmental problems such as global warming, greenhouse gas emission and resource scarcity. While the innovativeness of a new product is normally emphasized, its environmental impact is often neglected. It is vital to know how firms manage to integrate sustainable development effectively into their products and services through innovation. In response, companies tend to shift from traditional practices to more green practices. Eco-innovation helps organizations to reduce the environmental impact on products, address societal concerns as well as gain in profit. For that reason, the government and companies have started to practice on eco-innovation to show the contribution of a business to the sustainable development. It is also critical to create and increase the awareness of eco-innovation among the business practitioners. This study discusses the current practices of eco-innovation in green sector in Malaysia.

Chapter 14 “An Approach for Assessment of the Success of Cloud Systems Usage in Innovation” by Ziyuan Fan demonstrates an approach for assessment of the success of cloud systems usage in innovation on the basis of system abilities to differentiate between the various knowledge characteristics required
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for innovation. The chapter also discusses the various success factors of the cloud system for global innovation. The aim of this research is to demonstrate how cloud computing impacts an organisation. This research also identifies the contributions of cloud computing to a modern organisation. Furthermore, several challenges which providers of Cloud System services are facing are presented. Problems in the process of implementation of cloud computing are found out which need to be settled in order to improve the efficiency and effectiveness of organisational innovation.

Chapter 15 “Could Cloud Systems’ Strategies Be Aligned to Suit Supply Chain Sustainability with Innovation Goals?” Fawzy Soliman argues that innovation and sustainability are both gaining significant prominence in business and management research in recent years. This chapter seeks to understand each independently and investigate the degree to which each is pursued within the supply chain industry. The chapter identifies a close alignment of the key strategies for innovation also being focused on sustainability.

Chapter 16, “The Impact of Balance Score Card BSC Implementation on Supply Chain Firms” by Josiah Edmond and Fawzy Soliman, argues that the balanced score card could have an impact on organisations. The authors present a set of factors that contribute to such impact. The research agrees that the BSC is an effective performance measurement system. The result of the research suggests that the quality of the knowledge and the understanding of the BSC within an organisation is a major determinant to the level of positive impact that implementing the BSC can have on an organisation; this research concluded that the same principle applies to any performance measurement and performance improvement initiatives, and that non BSC implemented firms are not necessarily worse-off than BSC implemented firms from a performance perspective.

Chapter 17 “Sustainable Organizational Development through Innovation and Ambidextrous HRM Practices: Evidenced Based Study on ONGC” by Dipak Kumar Bhattacharyya explores how an innovative organization can ensure sustainable development by embracing ambidextrous human resource management (HRM) practices. The chapter at the outset examines the debate on business innovation and business invention, and delineates the role of organization from business invention, which fits well for those who are engaged in fundamental, and so also creative, research. Thereafter the chapter details the importance of innovation for organizational development for long term organizational sustainability. The next phase of the chapter raises the debate of how such sustainable organizational development can be achieved through ambidextrous human resource management (HRM) practices. To validate the arguments, the chapter examined the literatures in the context of one of the largest Central Public Sector Enterprises of India, i.e., Oil and Natural Gas Corporation (ONGC).

Chapter 18 “Sustainable Programs: Innovative Internet-Based Learning with Global Partnership” by Shirley Yeung presents the four main goals identified in relation to education, that is, rethinking and revising education from nursery school to university to include a clear focus of current and future societies on the development of knowledge, skills, perspectives and values related to sustainability. In order to fulfil the needs of UNESCO and increase the employability of learners, this chapter focuses on demonstrating the way to link the delivery of a module in an undergraduate programme to develop learners’ interest in internet learning with global partnership for developing higher order thinking skills, e.g. problem-solving and solution-seeking skills, and to raise educators’ awareness of generating new business via internet-learning.

Chapter 19, “Organisational Sustainability Role in Supply Chain Best Practices” by Fawzy Soliman and Josiah Edmond, identifies the relationship between supply chain best practices and organisational sustainability. The chapter suggests a linear link between supply chain best practices and its benefits on firms. Additionally, it identifies that the definition of supply chain best practice is endlessly evolutionary
and sometimes circumstantially subjective. The research has moreover shown that the level of knowledge management within a firm plays a wide role on the effectiveness of supply chain best practices within a firm. This chapter points out those organisations could benefit from adopting foreign cultural business practices that have been tested and proven to be effective. This chapter specifically highlights that supply chain best practice is endlessly evolutionary, as trend in customer preferences change, the method of filling those needs and demands change, affecting what is considered as supply chain best practice. The chapter attempts to determine the role that knowledge management plays in the effectiveness of supply chain best practice. The chapter also discusses why it is important for supply chain management to identify supply chains’ responsiveness. The comparison of responsive supply chain business model with a traditional (anticipatory) model is also given. Advantages of supply chain management responsiveness and major issues are discussed.

Chapter 20, entitled “Role of HRM in sustainable organisational development” by Fawzy Soliman, argues that Human Resource Management plays an important role to support sustainable organisation development by controlling and managing the employees as valuable resources to the organisation. The sustainable organisation development is vital and an important requirement to survive the competition in the current financial era. Sustainable development enables the organisation to overcome current market problems, as well as achieve their goals. Organisations should fully understand the importance of HRM and their crucial contribution in sustainable organisation developments. HRM should tailor its functions to incorporate sustainable developments. One of the main roles of HRM is to provide training, controlling and monitoring the employees to achieve sustainable development. Thus HRM can play a crucial role in developing strategic leadership and management capabilities and thus promote economic, social and environmental forms of sustainable development.

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