INTRODUCTION

Over the last decade, understanding of innovation and its impact on the national economy and organisational competitiveness has changed considerably. Earlier definitions of innovation neglect the role of consumers and look to innovation as “creative destruction” (Schumpeter, 1942). Subsequent research, 1960-1970, revealed that consumers only play a peripheral role in innovation (Burns & Stalker, 1961; Myers & Marquis, 1969). The realisation that consumers could be a source of innovation emerged in the 1980s (Rothwell, 1986; von Hippel, 1986). More recently, research on innovation has extended to include globalisation, competitiveness and environment challenges (Australian Academy of Science, 2011; DTI, 2003; Haščič, 2012). We use the term “quality innovation” to refer to studies that address the current challenges facing the innovation process.

Of the 39 chapters submitted for possible inclusion in this book, 25 chapters met the requirements of a rigorous double-blind review process. These chapters were organized into six section covering three facets of quality innovation: theory, knowledge and practices.

QUALITY INNOVATION: THEORY

The theory part of the book comprises two sections. The first section deals with emerging concepts in innovation and the second section explores methodologies and frameworks for quality innovation.

Section 1: Emerging Concepts

This section features three chapters exploring the emerging concepts relating to innovation. In the first chapter of this section, Professors L. and T. Nogueira from Aalborg University, Denmark, view innovation as a positive concept that has been deeply rooted in business and academic cultures ever since Schumpeter (1942) coined the concept of creative destruction. In this chapter, titled “The Ethical Dimension of Innovation,” the ethical implications of innovation are illustrated with a case study of “destructive creation” in the food industry. The main message of this chapter is that innovation has inherent ethical dimensions and that quality innovations depend on systematic consideration of these dimensions throughout the innovation process.

Reverse innovation implies the diffusion of innovations from developing to developed countries. Assessing the social impacts of reverse innovation is the subject matter of the second chapter authored
by Dr. Radojevic and Dr. Peerally from HEC Montréal, Canada. In this chapter titled “Reverse Innovation and the Bottom of the Pyramid Proposition: New Clothes for Old Garbs?” the authors develop a four-stage conceptual model that incorporates a framework for assessing social impacts. The in-depth analysis reveals that social impacts of reverse innovation in developing countries are not as significant as widely believed. However, the authors find that reverse innovation may reduce the unequal distribution of education or access to healthcare.

It is widely accepted that technological trajectory theory provides great implications for opening “windows of opportunity.” In the third chapter, titled “Market Trajectory: A Suggested Interpretation of Innovation Opportunities for Latecomer Firms,” Dr. Xiong of State Power Economics Research Institute, China, and Professor Wu, Research Center for Technological Innovation at Tsinghua University, China, discuss the applications of technological trajectory theory on innovation and construct a new theoretical framework to explore the evolutionary rule of innovation. The proposed model offers a new theoretical contribution and also has important implications for barrier breakthrough and for exploring innovation opportunities. Latecomer firms could utilize market trajectory to greatly broaden “windows of opportunities” and catch up, mainly through seizing low-end markets, exploiting latent segmentation, or finding “blue ocean.”

**Section 2: Methodologies and Frameworks**

Section 2 explores advanced methodologies and frameworks used in innovation. The section features four chapters.

In the context of development-oriented quality innovation, the question is how governments and the business sector could foster the emergence of more complex products given existing productive capacities and the incentives created by domestic and global demand. The first chapter in this section (chapter 4) presents a methodology to identify such opportunities for development-oriented quality innovation and illustrates its application in the context of the least developed countries. The chapter is titled, “Methodology to Identify Opportunities for Development-Oriented Quality Innovation: Application in the Case of Least Developed Countries” and is authored by Dr. Freire, Economic Affairs Officer at the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) in Bangkok, Thailand.

“The Methodology of National Innovation System Analysis” is the title of chapter 5. This chapter is authored by Dr. Golichenko of the Central Economics and Mathematics Institute of the Russian Academy of Sciences, Russia. The chapter discusses current approaches used to analyse National Innovation Systems (NIS) and identifies the limitations of current approaches. The chapter presents a framework comprising three interrelated macro constructs: business environment, environment producing new knowledge, and knowledge transfer mechanisms. The key policy tools tailored to liquidate and mitigate market failure and NIS dysfunctions are also proposed.

The title of the 6th chapter in the book is “A Framework to Analyse the Role of Government in Promoting Quality Innovation in Developing Economies: A Case Study.” This chapter is authored by Dr. Nakandala from University of Western Sydney, Australia and Professor Turpin of the University of Western Sydney, Australia. The chapter discusses national innovation concepts and their application in developing economies. Using the Sri Lankan national innovation system as a case study, the chapter discusses the limited ability of traditional systemic approaches to account for diverse firm requirements in the innovation process. The chapter concludes that it is important that governments in developing economies where resources are scarce build on existing capabilities in innovation and technology.
In his chapter, titled “Total-System Innovation Management: Concepts and Applications,” Adjunct Professor Oliver Yu of San Jose State University, California, USA, uses the concept of total-system approach to identify and examine the common key elements of different types of innovation. This approach is then used to establish a unified framework for the development and management of the innovation process. This total-system approach is further applied to a particular key element—creative idea generation—to develop a number of practical techniques for its implementation.

QUALITY INNOVATION: KNOWLEDGE

The second part of the book deals with the knowledge acquisition for quality innovation and comprises two sections dealing with learning, organisational capability, knowledge sharing, and innovation initiatives.

Section 3: Learning, Capability, and Knowledge Sharing

This section features five chapters. The first chapter of this section is authored by Dr. Torres-Vargas and Professor Jasso-Villazul from Universidad Autónoma Metropolitana, México. It is titled “Knowledge and Quality Innovation in the Health Sector: The Role of Public Research Organisations.” The chapter explores the role of public research organizations (universities, research institutions) in the innovation process within the health sector in Mexico. Findings substantiate the fact that collaboration between public research organisations and other firms is too weak.

The title of chapter 9 is “A Preliminary Study of Neuro-Linguistic Programming in Nonprofit Organizations: Facilitating Knowledge and Learning Capabilities for Innovation.” It is authored by Dr. Kong from University of Southern Queensland, Australia, and Professor Farrell, RMIT, Australia. Based on 15 qualitative in-depth semi-structured interviews across seven Australian nonprofit organizations, this chapter argues that Neuro-Linguistic Programming (NLP) may be used as a key approach for nurturing organizational knowledge and learning capabilities for innovation in the knowledge economy. Examples are used in the chapter to illustrate the possible benefits of utilizing NLP in developing the capabilities for organizational innovativeness.

Dr. Rahman, University of Minho, Portugal, authors chapter 10, titled “Innovation in Learning and Rise of the Internet: Grassroots Human Development.” This chapter broadly focuses on human development through utilization of innovation on information and communication technologies, especially the Internet. The specific research focus is to identify trends in Internet usage with respect to gender, age, and region and to deduce a relationship between the growth of Internet usage and the adoption of strategies like open innovation and interactive learning and overall human development. The study concludes that despite high rates of Internet usage, Asia and Africa are lagging in reaping the benefits of innovation and innovative approaches to the Internet.

The motive for inter-firm cooperation in relation to innovation is the basis for the research area discussed in chapter 11. This chapter is authored by Dr. Edwards-Schachter, Dr. Castro-Martínez, and Professor Fernández-De-Lucio from the Institute of Innovation and Knowledge Management, Valencia, Spain, and is titled “Motives for International Inter-Firm Cooperation on R&D and Innovation: Literature Overview and Recent Trends.” This chapter reviews and summarizes the principal theoretical perspectives and trends relating to this issue during the period 1980 to 2012. Using content analysis
technique, the chapter analyzes 92 research works and identifies a growing body of literature on motives for technological cooperation.

Chapter 12 introduces the framework and causal model for organisational learning, knowledge management, knowledge-sharing behaviour, and organisational innovation. The chapter is titled “The Role of Knowledge Sharing on Organisational Innovation: An Integrated Framework” and is authored by Kasemsap, Suan Sunandha Rajabhat University, Bangkok, Thailand. The chapter argues that dimensions of organisational learning, knowledge management, and knowledge-sharing behaviour have mediated the positive effect on organisational innovation. Knowledge-sharing behaviour positively mediates the relationships between organisational learning and organisational innovation and between knowledge management and organisational innovation. Organisational learning is positively related to knowledge management. Understanding theoretical learning is positively beneficial for organisations aiming to increase organisational innovation and achieve business goals.

Section 4: Review of Innovation Initiatives

This section is comprised of five chapters dealing with innovation initiatives adopted in four countries: Brazil, Argentina, Kazakhstan, and Turkey. The first chapter of this section (chapter 13) provides an overview and discusses the recent Brazilian experience in formulating and implementing policies for promoting Micro and Small Enterprises (MSEs), especially considering the initiatives that depart from a systemic approach to promote production and innovation. The chapter is authored by Dr. de Matos, Federal University of Rio de Janeiro, Brazil, Dr. Arroio, Federation of Industries of the State of Rio de Janeiro, Brazil, and Dr. Borin, State University of Rio de Janeiro, Brazil. It is titled “A Systemic Perspective for Supporting Production and Innovation in Brazilian Micro and Small Enterprises.” The chapter emphasizes some crucial issues in the discussion of industrial and innovation policy, such as adequacy of the instruments, institutional set-up and effective and potential convergence of different types of policies to support MSEs.

Discussion relating to innovation and the adoption of new Information and Communication Technologies (ICT) and their impact on economic growth and development has flared up in the past few years. Chapter 14 of this book contributes to this discussion. The chapter is titled “ICT Adoption, Capabilities Development, and Innovation Processes in Argentina: An Approach from Employment and Knowledge Management” and is authored by M. Novick, S. Rotondo, and G. Breard from Ministry of Labor, Employment, and Social Security, Argentina. The chapter discusses the relationship between different firms’ ICT adoption patterns and the development of innovation capabilities, employment dimensions, and knowledge management practices.

Innovation infrastructure is one of the key elements of a national innovation system. In chapter 15, “The Innovation Infrastructure of Kazakhstan: Why Did the Innovation ‘Boom’ not Happen?,” Dr. Smirnova, Suleyman Demirel University, Kazakhstan, illustrates that the innovation infrastructure has been legislatively and physically shaped in Kazakhstan, but most recent figures show that the innovation performance in the economy falls short of expectations. The results of the study reveal that the innovation infrastructure of Kazakhstan is not effective. The ineffectiveness is primarily caused by an inadequate innovation policy, which results in weak linkages between the elements of infrastructure, in particular, between educational institutions and industry.

Innovation, as one of the emerging strategies of competition, has globally become more and more dominant. However, the debate on the strategic value of innovation is still ambiguous not only in the
theoretical framework but also in practice. The main purpose of chapter 16 is to make clear the theoretically informed definition of “innovation” and express its potential for providing competitive advantage in the financial sector. The chapter discusses some of the main scholarly sources of the issues related to the innovation strategies supported by the cases in the Turkish Banking and Insurance Industries. Chapter 16 is authored by Dr. Karabay of Marmara University, Turkey, and is titled “Innovation and Competitiveness: An Exploratory Study of the Turkish Financial Sector.”

The global trend on clean technologies is the subject of chapter 17. This chapter discusses innovation relating to production of ethanol fuel in Brazil. The chapter is titled “Global Trends on Clean Technologies and New Challenges to the Brazilian Sugarcane System of Innovation” and is authored by two senior economists from Development Bank, Brazil, Ms. Bastos and Mr. Maia, and Dr. De Conti of University of Campinas, Brazil. The chapter stresses that the country’s leadership in sugarcane ethanol comprises a roughly mature technology, which has been seriously threatened by huge global investments in next generation technologies. The chapter discusses the emerging global trends and emphasizes that these trends have imposed unprecedented challenges to the Brazilian ethanol industry and have attracted to the country many foreign companies from a wide range of sectors.

QUALITY INNOVATION: EMPIRICAL STUDIES

The third part of the book deals with research methodologies required to conduct research studies relating to quality innovation. This part comprises seven chapters distributed between two sections based on the research methodology used (i.e. qualitative studies or quantitative studies).

Section 5: Qualitative Studies

This section features five chapters employing different aspects of qualitative methodology. The first chapter in this section presents the results of a qualitative study in the service industry. It is authored by Dr. Ng, University of Southern Queensland, Australia, and Professor Lien, Minghsin University of Science and Technology, Taiwan. It is titled “Impact of Social Media in Service Innovations: An Empirical Study of the Australian Hotel Industry.” The research adopts the use of a case study methodology that involves 12 in-depth interviews conducted within 6 businesses in the hotel sector. The findings highlighted 4 key themes (i.e. behavioural change, online reputation, customer service channel, and monitoring and responding) in which social media have impacted in service innovations.

Dr. Greeven of School of Management, Zhejiang University, China, authors chapter 19, “Sources of Institutional Capability for Innovation in China’s Catching up Economy: An Explorative Study.” This chapter explores entrepreneurial software ventures in Zhejiang, China. It stresses that local knowledge sharing, legitimacy creation, and strategic flexibility enhance the potential of a firm to create institutional capability for innovation. This research analyzes data using a comparative case study method. A total of 45 cases were considered. Data analysis involved two steps: in the first step the research examined pairs of cases in relating to similarities and differences. As patterns begin to emerge, certain evidence may stand out as being in conflict with the patterns. The second step involved in-depth and follow up interviews.

Knowledge absorptive capacity for innovation is the research topic for chapter 20. This chapter is authored by Mr. Ali and Professor Park from Inha University Incheon, South Korea. It is titled “Knowledge Absorptive Capacity for Technological Innovation Capabilities: The Case of Korea.” The chapter
reviews the literature, models, and frameworks related to knowledge absorptive capacity. It employs a qualitative content analysis to illustrate how Korean firms have built their knowledge absorptive capacity. The chapter also highlights the developmental changes in the electronics industry of Korea and uses a content analysis approach. Fifteen cases related to Korea were used as material for this study.

Mr. Borello of Universidad Nacional de General Sarmiento, Argentina, and Mr. Morhorlang of Ministry of the Economy and Public Finance, Argentina, investigated the relationship between division of labour and innovation. They authored chapter 21, titled “Producer Services, Division of Labor, and Innovation in Semi-Industrialized Countries: A Study of Argentine Naval Workshops.” This chapter argues that a better understanding of production systems in semi-industrialized countries can by gained from an examination of producer services. The chapter is based on interviews and visits to 20 workshops, 26 shipyards, and 14 naval design studios in Argentina. It suggests that the division of labor and the forces that shape it in semi-industrialized countries may limit innovation and the acquisition of new firms’ capabilities.

To ensure innovative and creative quality improvement, organizations are required to embrace various Human Resource Management (HRM) practices. Such HR practices, on the one hand, help organizations to involve all cross-sections of employees in achieving excellence through continuous quality improvement, and at the same time, lend support to institutionalize the culture of innovation and creativity. Chapter 22 deals with this issue. The chapter is authored by Professor Bhattacharyya of Xavier Institute of Management, India, and is titled “Evidence-Based HR-Mediated Innovative Quality Management Practices: A Study on Two SMEs in India.” This chapter investigates innovative quality improvement strategies of two SMEs in India.

Section 6: Quantitative Studies

The last section of the book deals with research works employing quantitative methodology. The first chapter in section 6 is authored by Ms. Ying and Professor Liu from Zhejiang University, China, and Professor Jin of University of Hong Kong, Hong Kong. The title of chapter 23 is “Path-Deepening or Path-Creating Orientation? Implications for New Product Development Performance in Chinese Manufacturing Firms.” This research examines the relationship between strategic orientation and New Product Development (NPD). With a sample of 392 manufacturers located in Zhejiang Province in China, the research finds that “path-creating” orientation has a significant positive relationship with NPD performance while path-deepening orientation has a significant negative relationship with NPD performance.

“Innovation and Value Creation in Emerging African Commercial Agriculture: Evidence from the Ugandan Flower Export Sector” is the title of chapter 24. This chapter is authored by Dr. Esemu of Makerere University, Kampala-Uganda, and Professor Wood of University of Cape Town, South Africa. This study uses a survey questionnaire and semi-structured in-depth interviews of managers from the flower export industry. The chapter shows that while most innovations were yielding improved profitability, others recorded lower profitability than for existing business lines – an indication of value destruction from such innovations. The chapter demonstrates that there is significant disparity in the ability of exporters to create value from innovation activity.

Socially inclusive innovation is the research subject of the last chapter of the book. Chapter 25 is authored by Professor Peñalba and Ms. Elazegui of University of the Philippines Los Baños, Philippines. The chapter aims to analyze the opportunities and challenges for modern biotechnology, particularly Genetically Modified (GM) corn, in addressing social inclusion to ensure its equitable outcomes or impacts. The chapter is titled “Opportunities and Challenges in Socially Inclusive Innovation: The Case
of Genetically Modified Corn in the Philippines.” Based on a sample of 1,200 corn farmers from the 6 provinces in the Philippines, this research finds that the interplay of the innovation system intermediaries hindered the full realization and application of social inclusion principles. Interventions to monitor socio-economic impact and knowledge transfer are needed for a more socially inclusive innovation.

Latif Al-Hakim  
University of Southern Queensland, Australia

Chen Jin  
Zheijang University, China

REFERENCES


