Innovation in Business and Enterprise: Technologies and Frameworks

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Chapter 1
Cumulative Causation as Explanatory Theory for Innovation

Geoff Bamberry, Charles Sturt University, Australia

This chapter investigates the concept of innovation in cumulative causation theory and highlights the links of characteristics of the theory and their influences on innovation processes. The range of cases provided in this chapter paths the way to bridging the gap between the theory and practices on innovation.

Chapter 2
Lowering the Center of Gravity around Enterprise IT

Amy C. Hutcheson, IBM Corporation, USA
Brian D. Goodman, IBM Corporation, USA
John W. Rooney, IBM Corporation, USA

This chapter emphasises the importance of dealing with the technology and innovation as management program and presents IBM’s Technology Adoption Program (TAP) as an example. The chapter demonstrates through three brief case studies how to mitigate the common plagues of development projects.

Chapter 3
Are the Pre-Diffusion Phases Shortening?

J.R. Orts, Delft University of Technology, The Netherlands

The chapter underlines the managerial relevance of the pre-diffusion phases for high-tech products. The study indicates that the resources devoted to research and development in different fields of expertise may have increased but the length of individual technological trajectories has not shortened accordingly.

Chapter 4
Links between Innovation, Change and Learning in Chinese Companies

Wei Sun, Estonian Business School, Estonia
Ruth Alas, Estonian Business School, Estonia

Based on the study of 160 Chinese organisations, this chapter constructs a theoretical framework to explore the links between the types of innovation, the types of organizational change and levels of learning. The study hypothesises that deepest scope of change may take place even if lowest level of innovation happens in a Chinese organizations.

Chapter 5
What Makes Companies to be More Innovative and Profitable?

Ana Pérez-Luño, Pablo de Olavide University, Spain
Ramón Valle-Cabrera, Pablo de Olavide University, Spain
Johan Wiklund, Syracuse University, USA

This chapter empirically tests the impact of market and entrepreneurial orientations on the innovation decision. The study shows that company's performance is not conditioned by the decision of innovating or imitating, but is rather determined by the company's proactiveness and focus on customers.

Chapter 6
Usage of ICT Tools in New Product Development: Creating User-Involvement

Kristina Risom Jespersen, Aarhus University, Denmark
Nuka Buck, Aarhus University, Denmark

This chapter explores the antecedents of ICT usage in new product development (NPD). The study employs case study methodology and finds that the most significant antecedents for sustained user-involvement in NPD with ICT tools are strategic emphasis, competencies and the type of ICT champion.

Chapter 7
Factors and Dimensions of National Innovative Capacity

Maria Manuela Santos Natário, Polytechnics Institute of Guarda, Portugal
João Pedro Almeida Couto, University of the Azores, Portugal
Maria Teresa Borges Tiago, University of the Azores, Portugal
Ascensão Maria Martins Braga, Polytechnics Institute of Guarda, Portugal

This chapter investigates the European Innovation Scoreboard database and use clusters analysis to verify how different countries are positioned and to determine which factors distinguish the country innovative capacity. The results point to the existence of four groups of countries.
Chapter 8
Entrepreneurship Competencies and Management Capabilities for Innovation and Sustainable Growth: Empirical Study

Maktoba Omar, Edinburgh Napier University, UK
Michael Lewrick, Edinburgh Napier University, UK

The chapter challenges the context of entrepreneurship competencies and management capabilities needed for innovation. This study explores the crucial capabilities to start an innovative business and discuss the capabilities have to be developed to sustain innovation and business growth.

Chapter 9
Building a Radical Innovation Mechanism at Large Firms

Chin Tan M. Shah, Delft University of Technology, The Netherlands
J. Roland Ortt, Delft University of Technology, The Netherlands
Victor Scholten, Delft University of Technology, The Netherlands

This chapter deals with the innovation capability of large firms and explains the obstacles that firms face with respect to developing radical innovations. It identifies the practices leading firms have developed and established a radical innovation mechanism.

Chapter 10
A Performance Evaluation Framework for Innovation

Stefan Cedergren, Mälardalen University, Sweden
Anders Wall, ABB Corporate Research, Sweden
Christer Norsröm, Mälardalen University, Sweden

The chapter presents a framework for a conceptual evaluation of the performance of industrial product innovation activities and presents the results of research involving seven large companies in Sweden. Key success factors are discussed.

Chapter 11
The Impact of Labour Flexibility and HRM on Innovation

Haibo Zhou, Erasmus University Rotterdam, The Netherlands
Ronald Dekker, Delft University of Technology, The Netherlands & Reflect at Tilburg University, The Netherlands
Alfred Kleinbuehler, Delft University of Technology, The Netherlands

The chapter investigates the impact of labour relations on a firm’s innovative output and finds that active practices of human resource management contribute positively to innovative output. In addition, firms that retain high levels of highly qualified personnel are more likely to introduce products that are new to the market.

Chapter 12
Harnessing Knowledge for Innovation in Social Enterprises: An Intellectual Capital Perspective

Eric Kong, University of Southern Queensland, Australia

The central argument of this chapter is that IC assists social enterprises to harness knowledge that leads to innovation for the pursuit of social and commercial activities. The study proposes an IC conceptual framework. The framework’s implications for the development of effective innovation-based strategies in social enterprises are also discussed.

Chapter 13
Factors Predicting the Innovation Climate

Ülle Übis, Estonian Business School, Estonia
Ruth Alas, Estonian Business School, Estonia

The chapter investigates how corporate social responsibility, individual and organizational level factors predict the innovation climate. The study analyse the results of large-scale survey received from 4632 respondents from Estonian, Chinese, Japanese, Russian and Slovakian enterprises.

Chapter 14
Advancing the Potential of Diversity for Innovation

Nancy D. Erbe, California State University - Dominguez Hills, USA

This chapter introduces a collaborative conflict resolution model with a focus on cultural diversity and innovation. The chapter emphasises the correlations between collaborative conflict process at its best and innovation within diverse teams and organizations.

Chapter 15
Managing Corporate Social Responsibility as an Innovation in China

Maria Loi-Ling Lam, Malone University, USA

The chapter argues that many foreign multinational enterprises focus on legal compliance and charity in their corporate social responsibility (CSR) programs in China. This chapter describes a few innovative CSR initiatives being utilized within an industrial association and within partnerships between local non-government organizations.

Chapter 16
Study of SME Innovation in Two Queensland Industries

David Thorpe, University of Southern Queensland, Australia
Steven Goh, University of Southern Queensland, Australia
This chapter studies the output of implementing innovation systems in two diverse industries: a small micro manufacturing firm and a domestic building construction firm. The chapter finds that there are common factors that aided and inhibited innovation in each industry.

Chapter 17
Innovation System Linkages in Indian Hydrocarbon Sector

Prashant Dhodapkar, Oil India Limited, India
Anup Gogoi, Oil India Limited, India
Agadh Medhi, Oil India Limited, India

This chapter explores the reasons for the fragmentation of innovation system of Oil India Limited (OIL), a national oil company operating mainly in the northeast India. This fragmentation is evident from several issues such as stagnating oil production, technological obsolescence, continued impact of natural calamities and conflicts in the region and prolonged dependence on central government funding.

Chapter 18
Nanotechnology Innovation Systems: A Regional Comparison

Nazrul Islam, Cardiff University, UK

The aim of this chapter is to provide a systematic comparison of nanotechnology innovation systems (NanoSI) at the national level in Europe and Japan. The chapter addresses strengths and weaknesses, major drivers and barriers to a detailed understanding and smooth functioning of NanoSI.

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Foreword

Computers, the Internet, nanotechnology and biotechnology have changed the world forever. While computers and the Internet have cut the distance between the producer and supplier and the innovator and consumer, they have also changed business processes themselves. In a similar vein, nanotechnology and biotechnology have enabled rapid innovation in many industries ranging from healthcare to aerospace through to the future of our very living. The advent of such disruptive technologies and devices have brought tremendous amount of tangible benefits to the population at large. However, several questions arise which include, but not limited to: Can innovation be induced? Can we learn from others’ experience on innovation? How can nation states foster innovation? How does one build an innovative organization? How would diversity facilitate innovation? What kind of tools would aid innovation? What are the human resource challenges and work environment practices that can foster innovation? How can innovation be taken through its life cycle so that productization and commercialization become possible?

The book on Innovation in Business and Enterprise: Technologies and Frameworks is timely and appropriate. It addresses a number of the issues raised above – from theory that explains the basis and urge for innovation to frameworks that can foster innovation. Factors that contribute to innovation at organization levels have also been brought out, along with papers on tools that can facilitate and compress the innovation cycle. Mechanisms for building innovation at the national level, the processes and the interactions among the social, cultural and technological aspects have also been brought out in this book through case studies on several disciplines. These case studies have all been drawn from a number of countries, thereby providing a plethora of viewpoints on processes that encourage innovation and their long-term sustainability. The impact of human resource and their management is critical to creating a nation of innovation and so are mechanisms to foster entrepreneurship and inculcate a culture of continued learning. The topics are as interesting and exciting as the papers themselves.

This book on Innovation in Business and Enterprise: Technologies and Frameworks will be an excellent resource for educators and researchers and is a valuable addition to every library. I therefore commend the efforts of Prof. Hakim and the contributing authors in creating this wonderful book and dedicating it to the scientific and business communities.

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