

Innovation in Business and Enterprise: Technologies and Frameworks

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 Printed at: Yurchak Printing Inc.

Published in the United States of America by
 Business Science Reference (an imprint of IGI Global)
 701 E. Chocolate Avenue
 Hershey PA 17033
 Tel: 717-533-8845
 Fax: 717-533-8661
 E-mail: cust@igi-global.com
 Web site: http://www.igi-global.com/reference

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Library of Congress Cataloging-in-Publication Data

Innovative in business and enterprise : technologies and frameworks / Latif Al-Hakim and Chen Jin, editors.
 p. cm.

Includes bibliographical references and index.

Summary: "The focus of the book is on managing innovation through bridging gaps created from theories, relative advantages or competitiveness, social differences, and innovation capability and performance"--Provided by publisher.

ISBN 978-1-61520-643-8 (hardcover)--ISBN 978-1-61520-644-5 (ebook) I. Business enterprises--Technological innovations. I. Al-Hakim, Latif, 1946- II. Jin, Chen, 1968- III. Title.

HD2351.1556 2010
 658.4'063--dc22

2009044408

British Cataloguing in Publication Data

A Cataloguing in Publication record for this book is available from the British Library.

All work contributed to this book is new, previously-unpublished material. The views expressed in this book are those of the authors, but not necessarily of the publisher.

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Section 1 Theory and Practice

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Cumulative Causation as Explanatory Theory for Innovation.....	1
<i>Geoff Bamberry, Charles Sturt University, Australia</i>	

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.....	19
<i>Amy C. Hutchins, IBM Corporation, USA</i>	
<i>Brian D. Goodman, IBM Corporation, USA</i>	
<i>John W. Rooney, IBM Corporation, USA</i>	

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?.....	36
<i>J.R. Ortt, Delft University of Technology, The Netherlands</i>	

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	53
<i>Wei Sun, Estonian Business School, Estonia</i>	
<i>Ruth Alas, Estonian Business School, Estonia</i>	

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?	64
<i>Ana Pérez-Luño, Pablo de Olavide University, Spain</i>	
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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 proactivity and focus on customers.

Chapter 6

Usage of ICT Tools in New Product Development: Creating User-Involvement.....	76
<i>Kristina Risom Jespersen, Aarhus University, Denmark</i>	
<i>Nuka Buck, Aarhus University, Denmark</i>	

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.

Section 2 Innovation Capability and Performance

Chapter 7

Factors and Dimensions of National Innovative Capacity	92
<i>Maria Manuela Santos Natário, Polytechnics Institute of Guarda, Portugal</i>	
<i>João Pedro Almeida Couto, University of the Azores, Portugal</i>	
<i>Maria Teresa Borges Tiago, University of the Azores, Portugal</i>	
<i>Ascensão Maria Martins Braga, Polytechnics Institute of Guarda, Portugal</i>	

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	105
<i>Maktoba Omar, Edinburgh Napier University, UK</i>	
<i>Michael Lewrick, Edinburgh Napier University, UK</i>	

The chapter challenges the context of entrepreneurship competences 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	120
<i>Chintan M. Shah, Delft University of Technology, The Netherlands</i>	
<i>J. Roland Ortt, Delft University of Technology, The Netherlands</i>	
<i>Victor Scholten, Delft University of Technology, The Netherlands</i>	

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.....	135
<i>Stefan Cedergren, Mälardalen University, Sweden</i>	
<i>Anders Wall, ABB Corporate Research, Sweden</i>	
<i>Christer Norström, Mälardalen University, Sweden</i>	

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.

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<i>Haibo Zhou, Erasmus University Rotterdam, The Netherlands</i>	
<i>Ronald Dekker, Delft University of Technology, The Netherlands & Reflect at Tilburg University, The Netherlands</i>	
<i>Alfred Kleinknecht, Delft University of Technology, The Netherlands</i>	

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	162
<i>Eric Kong, University of Southern Queensland, Australia</i>	

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	185
<i>Ülle Übius, Estonian Business School, Estonia</i>	
<i>Ruth Alas, Estonian Business School, Estonia</i>	

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.

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Advancing the Potential of Diversity for Innovation.....	209
<i>Nancy D. Erbe, California State University - Dominguez Hills, USA</i>	

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	224
<i>Maria Lai-Ling Lam, Malone University, USA</i>	

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.

Section 4 Innovative Systems

Chapter 16

Study of SME Innovation in Two Queensland Industries.....	240
<i>David Thorpe, University of Southern Queensland, Australia</i>	
<i>Steven Goh, University of Southern Queensland, Australia</i>	

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 260

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 280

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 could 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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