Preface .............................................................................................................................................. vi

Section I: Knowledge Management in Construction Practice

Chapter I
Strategies for Managing Project Generated Knowledge: A New Zealand Case Study ................................................................. 1
Steve de Kretser, Sinclair Knight Merz Ltd, New Zealand
Suzanne Wilkinson, The University of Auckland, New Zealand

Chapter II
HRM Strategies for Promoting Knowledge Sharing within Construction Project Organisations: A Case Study ........................................... 18
Andrew R.J. Dainty, Loughborough University, UK
Jidong Qin, Loughborough University, UK
Patricia M. Carrillo, Loughborough University, UK

Chapter III
Managing the External Provision of “Knowledge Management” Services for Projects ......................................................................................... 34
Hedley Smyth, University College London, UK

Chapter IV
The Intellectual Capital Report of Danya Cebus: Smart Construction .................. 53
Edna Pasher, Edna Pasher Ph.D. & Associates, Israel
Gil Horsky, Edna Pasher Ph.D. & Associates, Israel

Chapter V
Capturing and Reusing Building Maintenance Knowledge: A Socio-Technical Perspective ........................................................................... 67
Patrick S.W. Fong, Hong Kong Polytechnic University, Hong Kong
Ka-chi Wong, Raymond Chan Surveyors Ltd, Hong Kong
Chapter VI
Diffusion of Information and Communication Technology: A Community of Practice Perspective ................................................................. 90
Vachara Peansupap, RMIT University, Australia
Derek H.T. Walker, RMIT University, Australia

Chapter VII
Community of Practice Software Management Tools: A UK Construction Company Case Study ............................................................... 112
Mark Jewell, Addept Solutions, Australia
Derek H.T. Walker, RMIT University, Australia

Section II: Learning from Experience

Chapter VIII
Knowledge Management: Facilitating Organisational Learning within the Construction Industry ................................................................. 130
Graham Orange, Leeds Metropolitan University, UK
Patrick Onions, Knowledge Studio, South Africa
Alan Burke, Leeds Metropolitan University, UK
Barbara Colledge, Leeds Metropolitan University, UK

Chapter IX
Knowledge Management in Higher Education and Professional Development in the Construction Industry .................................................. 150
Fung Fai Ng, The University of Hong Kong, Hong Kong

Chapter X
Empirical Investigation of Organisational Learning Ability as a Performance Driver in Construction .......................................................... 166
Irem Dikmen, Middle East Technical University, Turkey
M. Talat Birgonul, Middle East Technical University, Turkey
Tunca Ataoglu, GAMA Al Moushegah Arabia Ltd., Kingdom of Saudi Arabia

Chapter XI
Evaluating an Organisation’s Learning Culture Using Learning Histories .... 185
Marcus C. Jefferies, University of Newcastle, Australia
Chen Swee Eng, University of Newcastle, Australia
Ralf Zenke, Department of Health and Human Services TAS, Australia

Chapter XII
Uncertainty and Information in Construction: From the Socio-Technical Perspective 1962-1966 to Knowledge Management – What Have We Learned? ................................................................. 203
Alan Wild, Consultant, Birmingham, UK
Section III: Emerging Models and Solutions

Chapter XIII
The Culture of the Knowledge Advantage (K-Adv): A Holistic Strategic Approach to the Management of Knowledge .......................................................... 225

Derek H.T. Walker, RMIT University, Australia
Tayyab Maqsood, RMIT University, Australia
Andrew Finegan, Charles Darwin University, Australia

Chapter XIV
Knowledge Emergence and Adaptive Management: An Exploration on the Co-Production of Project Needs and Requirements by Client-Specialist Groups ...................................................................................................................... 251

Michael Whelton, University of California, USA
Ari Pennanen, University of Tampere, Finland
Glenn Ballard, University of California, Berkeley, USA

Chapter XV
Decision Support Systems and their Application in Construction .................... 276

Alaa Abdou, United Arab Emirates University, United Arab Emirates
Moh’d Radaideh, United Arab Emirates University, United Arab Emirates
John Lewis, University of Liverpool, UK

Chapter XVI
A Knowledge Management Portal System for Construction Projects Using Knowledge Map ........................................................................................................ 299

H. Ping (Jack) Tserng, National Taiwan University, Taiwan
Yu-Cheng (Vincent) Lin, National Taiwan University, Taiwan

Chapter XVII
An Integrative Knowledge Management System for Environmental-Conscious Construction ............................................................................................................ 323

Zhen Chen, Massey University, New Zealand
Stephen C.W. Kong, Loughborough University, UK
Heng Li, Hong Kong Polytechnic University, Hong Kong
Qian Xu, Hong Kong Polytechnic University, Hong Kong

Chapter XVIII
Configurable Environments: A Vision for Future Project Information Technologies ........................................................................................................... 343

William J. O’Brien, University of Texas at Austin, USA
Raja R.A. Issa, University of Florida, USA
Zhigang Shen, University of Florida, USA
Haiyan Xie, University of Florida, USA

About the Authors .................................................................................................... 363

Index ........................................................................................................................ 374