Clients Driving Innovation
Clients Driving Innovation

Edited by

Peter Brandon
Director of Salford University Think Lab and Director Strategic Programmes
School of the Built Environment
University of Salford, UK

Shu-Ling Lu
Research Fellow
School of the Built Environment
University of Salford, UK
## Contents

*Note on editors*  
*List of contributors*  
*Note on CIB*  
*Note on Think Lab*  
*Acknowledgements*  

Preface  
*Peter Brandon*  

### PART 1  THE CONTEXT FOR INNOVATION  

1  
*A global agenda for revaluing construction: the client's role*  
*Peter Barrett*  

2  
*Revaluing construction: implications for the construction process*  
*Graham M. Winch*  

3  
*Is the client really part of the team? A contemporary policy perspective on Latham/Egan*  
*John Hobson and Kenneth Treadaway*  

4  
*Enabling clients to be professional*  
*Roger Courtney*  

5  
*Challenging the illusion of the all powerful clients' role in driving innovation*  
*Martin Sexton, Carl Abbott and Shu-Ling Lu*  

6  
*Reifying the client in construction management research? Alternative perspectives on a complex construct*  
*Mike Bresnen*  

7  
*A proposed taxonomy for construction clients*  
*Patricia Tzortzopoulos, Mike Kagioglou and Kenneth Treadaway*  

8  
*Clients' roles and contributions to innovations in the construction industry: when giants learn to dance*  
*Charles Egbu*  

9  
*Setting the game plan: the role of clients in construction innovation and diffusion*  
*Kristian Widén, Brian Atkin and Leif Hommen*  

10  
*Clients as innovation drivers in large engineering projects*  
*Roger Miller*
Contents

11 Knowing differently, innovating together? Exploring the dynamics of knowledge creation across boundaries in clients’ design teams 101
Patrick S. W. Fong

12 The role of the client in the innovation processes of small construction professional service firms 111
Shu-Ling Lu

13 Client-oriented contractor innovation 125
Jan Bröchner

14 Driving innovation in construction: a conceptual model of client leadership behaviour 137
Mohammed F. Dulaimi

15 Critical actions by clients for effective development and implementation of construction innovations 146
E. Sarah Slaughter and William L. Cate

PART 2 THE INNOVATION PROCESS 155

16 Overcoming resistance to innovation: the integration champion in construction 157
Andreas Hartmann

17 Client-driven innovation through a requirements-oriented project process 167
John M. Kamara

18 Knowledge management supports clients driving innovation: two case studies 177
Marja Naaranaja, Päivi Haapalainen and Heikki Lonka

19 Implementing innovations in infrastructures for the built environment: the role of project developers, customers and users 190
Marcela Miozzo and Nuno Gil

PART 3 MOVING IDEAS INTO PRACTICE 201

20 Client driven performance improvement strategies for the construction industry: development and implementation challenges 203
Aminah Robinson Fayek, Jeff H. Rankin and Ernie Tromposch

21 Public policy, clients and the construction industry 216
Eileen Fairhurst

22 Value for money versus complexity: a battle of giants in the public sector? 223
Erica Dyson

23 The role of the professional client in leading change: a case study of Stanhope plc 234
Colin Gray
24 Customer focus: time, the enemy of desire – a contractor developer perspective
   Chris Woods

25 The role of the client in building site innovations
   Frédéric Bougrain

26 A complex systems approach to customer co-innovation: a financial services case study
   Robert Kay

Index

Contents vii
Note on editors

Professor Peter Brandon DSc, DEng, MSc (Arch), FRICS, ASAQS Director, Salford University Think Lab and Director, Strategic Programmes, School of the Built Environment, University of Salford, UK.

Professor Brandon is a former Pro-Vice-Chancellor for research at the University of Salford, the only UK University to be awarded a 6-star rating in the Built Environment within the independent UK research assessment exercise. His research interests range across construction economics and management, information and knowledge-based systems for construction and more recently sustainable development. He has published widely including 18 books as author, co-author and editor plus over 250 papers worldwide. Several of the outputs of his research have resulted in commercial projects.

He has played a significant role in UK Construction Research Policy including serving as Chairman of the UK Science and Engineering Research Council Panel for Construction and Chairman of the UK Research Assessment Exercise Panel for the Built Environment (1996 and 2001).

Dr. Shu-Ling Lu PhD, MSc, BSc, Dip (Arch) Research Fellow, School of the Built Environment, University of Salford, UK.

Doctor Shu-Ling Lu PG Cert a senior researcher within the Research Institute of the Built and Human Environment at the University of Salford in the UK. She is the Joint Co-ordinator of the International Council for Research and Innovation in Building and Construction (CIB) Task Group 65 in the Management of Small Construction Firms.

Dr Lu’s main research area includes innovation management within small construction firms (particularly within knowledge-intensive professional service firms), gender issues in construction and academia-industry engagement. Dr Lu has published 1 book, 2 book chapters, and 40 journal and conference papers. Dr Lu has been invited to provide a number of keynote addresses in the areas of knowledge and quality management.
Contributors

Carl Abbott
Manager, Salford Centre for Research and Innovation (SCRI), University of Salford, Salford, UK

Brian Atkin
Visiting Professor, Department of Construction Management, Lund University, Lund, Sweden

Peter Barrett
Professor, Construction and Property Management, Pro-Vice-Chancellor, Research and Graduate Studies, University of Salford, UK and President, International Council for Research and Innovation in Building and Construction, Rotterdam, The Netherlands

Frédéric Bougrain
Doctor, Department of Economics and Social Sciences, Centre Scientifique et Technique du Bâtiment, Paris, France

Mike Bresnen
Professor, Organisational Behaviour, School of Management, University of Leicester, Leicester, UK

Jan Bröchner
Professor, Organization of Construction, Department of Technology Management and Economics, Chalmers University of Technology, Göteborg, Sweden

William L. Cate
The Cate Group, Miami, FL, USA

Roger Courtney
Professorial Fellow, Construction Innovation, University of Manchester, Manchester, UK

Mohammed F. Dulaimi
Doctor, Construction Management and Innovation, Institute of Engineering, The British University in Dubai, Dubai, United Arab Emirates

Erica Dyson
Visiting Professor, Healthcare and Regeneration, School of the Built Environment, University of Salford, Salford, UK and Director, Development and Redesign, Trafford Healthcare NHS Trust, Manchester, UK

Charles Egbu
Professor, Project Management and Strategic Management in Construction, School of the Built Environment, University of Salford, Salford, UK
List of contributors

Eileen Fairhurst
Professor, Health and Ageing Policy Studies, Manchester Metropolitan University, Manchester, UK and Chairman, Salford Teaching Primary Care Trust, Salford, UK

Aminah Robinson Fayek
Professor, NSERC/Alberta Construction Industry Associate Research Chair in Construction Engineering and Management, Department of Civil and Environmental Engineering, University of Alberta, Edmonton, Alberta, Canada

Patrick S. W. Fong
Associate Professor, Department of Building and Real Estate, The Hong Kong Polytechnic University, Kowloon City, Hong Kong

Nuno Gil
Senior Lecturer, Deputy Director, Centre for Research in the Management of Projects (CRMP), Manchester Business School, University of Manchester, Manchester, UK

Colin Gray
Professor, Management and Production Engineering, Academic Director, Health and Care Infrastructure Research and Innovation Centre (HaCIRIC, Reading Team), School of Construction Management and Engineering, University of Reading, Reading, UK

Päivi Haapalainen
PhD Researcher, Production Department, University of Vaasa, Vaasa, Finland

Andreas Hartmann
Assistant Professor, Department of Construction Management and Engineering, University of Twente, Twente, The Netherlands

John Hobson
Visiting Professor, School of the Built Environment, University of Salford, Salford, UK and Independent policy analyst, Construction Director (Formerly), Department of Trade and Industry, London, UK

Leif Hommen
Associate Professor, Research and Competence in the Learning Economy (CIRCLE), Lund University, Lund, Sweden

Mike Kagioglou
Professor, Process Management, Co-Director, Salford Centre for Research and Innovation (SCRI), University of Salford, Salford, UK and Academic Director, Health and Care Infrastructure Research and Innovation Centre (HaCIRIC), University of Salford, Salford, UK

John M. Kamara
Senior Lecturer, Director of Postgraduate Research, Coordinator, Applied Research in Architecture (ARA) Group, School of Architecture, Planning and Landscape, Newcastle University, Newcastle upon Tyne, UK

Robert Kay
Head, Strategic Innovation, Westpac Banking Corporation, Sydney, Australia

Heikki Lonka
Deputy Mayor, Vaasa town, Finland
List of contributors

Shu-Ling Lu
Research Fellow, School of the Built Environment, University of Salford, Salford, UK

Roger Miller
Jarislowsky Professor, Innovation and Project Management, Department of Mathematics and Industrial Engineering, École Polytechnique, Montreal, Quebec, Canada

Marcela Miozzo
Professor, Economics and Management of Innovation, Manchester Business School, University of Manchester, Manchester, UK

Marja Naaranoja
Director, Masters Program in Construction Engineering, VAMK, University of Applied Sciences, Vaasa, Finland and Adjunct Professor, University of Vaasa, Vaasa, Finland

Jeff H. Rankin
Associate Professor, M. Patrick Gillin Chair in Construction Engineering and Management, Department of Civil Engineering, University of New Brunswick, Saint John, New Brunswick, Canada

Martin Sexton
Professor, Construction Management, School of the Built Environment, University of Salford, Salford, UK

E. Sarah Slaughter
Senior Lecturer, Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA, USA

Kenneth Treadaway
Visiting Professor, School of the Built Environment, University of Salford, Salford, UK

Ernie Tromposch
Program Leader, Construction Management, Project Management Office, Nova Chemicals Corporation, Calgary, Alberta, Canada

Patricia Tzortzopoulos
Academic Fellow, School of the Built Environment, University of Salford, Salford, UK

Kristian Widén
Assistant Professor, Division of Construction Management, Lund University, Lund, Sweden

Graham M. Winch
Professor, Project Management, Director, Centre for Research in the Management of Projects, Manchester Business School, University of Manchester, Manchester, UK

Chris Woods
Professor, R&D, Wates Group Ltd, Surrey, UK and Visiting Professor, School of the Built Environment, University of Salford, Salford, UK
Note on CIB

CIB – the International Council for Research and Innovation in Building and Construction – is an association that provides a worldwide network for exchange concerning all aspects of buildings and the built environment during all stages of their life cycle. CIB Members are companies, organisations and individuals active in the research community, industry, government and education who cooperate in a programme of over fifty scientific commissions. This book is an outcome from the work of CIB Task Group TG85 – Clients and Construction Innovation.
Note on Think Lab

This book arises from debate within the internationally leading University of Salford ‘Think Lab’. This state-of-the-art facility has been developed for research into Information and Communication Technologies (ICTs) in many fields including design and construction. It provides a forum for leading figures across the world to participate, both in person and through virtual collaborative technologies, to discuss topics relating to future developments in ICTs applied to various topic areas. For further information visit www.thinklab.salford.ac.uk.
Acknowledgements

First and foremost, the editors of this book would like to thank all the authors for sharing their knowledge and insight. Without their support, this book could not have been produced.

We received great encouragement from the International Council for Research and Innovation in Building and Construction (CIB) for the organisation of the ‘Clients Driving Innovation’ workshop (which initiated and then provided the motivation for the creation of this book) and we would like to acknowledge their prominent role.

We would like to thank and acknowledge the valuable assistance of Hanneke van Dijk for her expertise in the managing of correspondence and for her time given to proof-reading. Her enthusiasm and commitment have proved invaluable.

The editors and publisher gratefully acknowledge those who have granted permission to reproduce material in this book. Although every effort has been made to secure permission to publish prior to publication, we take this opportunity to offer our apologies for any errors and omissions. If notified, we will endeavour to correct these at the earliest opportunity.
Preface – Clients driving innovation?

Peter Brandon

The role of the client in driving innovation

In recent years the construction industry, and the professions associated with the built environment, have been criticised for their lack of innovation compared with the revolutionary developments that have been seen in many other major industries. This is, of course, a relative judgement as the industry has indeed innovated and evolved over many centuries from the time when human kind decided to create its own shelter. The dependence on the materials derived from the land, whether renewable or not, meant that the industry was largely local and regional and its development depended on craft processes handed down from generation to generation. The degree of innovation was limited by the nature of the labour skills, technology and materials that were available. Other manufacturing industries are a more recent phenomenon, have tended to be global, and have been forged from a strong technical base that in the last century has required a rationalisation of the process supported by technical development to remain competitive. It appears that construction has not previously had to respond to these pressures.

Nevertheless, the question of why construction has not been seen to innovate to the same extent is being raised in many quarters across the world. There has even been a book written that asks the question ‘Why is Construction so Backward?’ (Woudhuysen and Abley, 2004). This has created concern among many involved with construction and property as to where should the motivation and drive for innovation in one of the world’s largest industries come from? In other industries, it seems that it is the competitive nature of the market that has driven firms to find new solutions to the problems faced by all those engaged, from the clients to the professional consultants to the contractors through to the supply chain. In fact, many of them have looked to changing the process to make sure that they remain competitive in the market that they address. Construction has remained stubbornly immune from these pressures possibly because of the localisation of its markets until comparatively recently. A change has occurred that may be the result of the growing internationalisation of the construction firms (at the time of writing six of the largest construction firms in the UK are foreign owned) whereby the firm has to compete in a faster moving market in which the supply chains may be stretched across the world. It may also be a function of the changes in corporate leadership whereby chairmen and chief executives may come from other industries and find the construction sector rather primitive in its approach to the process it is trying to enact. The prime example in the UK would be Sir John Egan, who came from Jaguar Cars to take the Chair of British Airports Authority (BAA) and who then led