

# Contents

<b>Design Thinking Research</b> .....	xiii
Christoph Meinel and Larry Leifer	
<b>Part I Design Thinking in Various Contexts</b>	
<b>Design Thinking: A Fruitful Concept for IT Development?</b> .....	3
Tilman Lindberg, Christoph Meinel, and Ralf Wagner	
<b>A Unified Innovation Process Model for Engineering Designers and Managers</b> .....	19
Philipp Skogstad and Larry Leifer	
<b>Product Differentiation by Aesthetic and Creative Design: A Psychological and Neural Framework of Design Thinking</b> .....	45
Martin Reimann and Oliver Schilke	
<b>Part II Understanding Design Thinking</b>	
<b>Re-representation: Affordances of Shared Models in Team-Based Design</b> .....	61
Jonathan Edelman and Rebecca Currano	
<b>The Co-evolution of Theory and Practice in Design Thinking – or – “Mind the Oddness Trap!”</b> .....	81
Julia von Thienen, Christine Noweski, Christoph Meinel, and Ingo Rauth	
<b>Innovation and Culture: Exploring the Work of Designers Across the Globe</b> .....	101
Pamela Hinds and Joachim Lyon	
<b>The Efficacy of Prototyping Under Time Constraints</b> .....	111
Steven P. Dow and Scott R. Klemmer	

## **Part III Tools for Design Thinking**

<b>An Instrument for Real-Time Design Interaction Capture and Analysis .....</b>	<b>131</b>
Matthias Uflacker, Thomas Kowark, and Alexander Zeier	

<b>Tele-Board: Enabling Efficient Collaboration In Digital Design Spaces Across Time and Distance .....</b>	<b>147</b>
Raja Gumienny, Christoph Meinel, Lutz Gericke, Matthias Quasthoff, Peter LoBue, and Christian Willems	

<b>Physicality in Distributed Design Collaboration How Embodiment and Gesture Can Re-establish Rapport and Support Better Design .....</b>	<b>165</b>
David Sirkin	

## **Part IV Design Thinking in Information Technology**

<b>Bringing Design Thinking to Business Process Modeling .....</b>	<b>181</b>
Alexander Luebbe and Mathias Weske	

<b>Agile Software Development in Virtual Collaboration Environments .....</b>	<b>197</b>
Robert Hirschfeld, Bastian Steinert, and Jens Lincke	

<b>Towards Next Generation Design Thinking: Scenario-Based Prototyping for Designing Complex Software Systems with Multiple Users .....</b>	<b>219</b>
Gregor Gabrysiak, Holger Giese, and Andreas Seibel	