

# CASE STUDY STRATEGIES FOR ARCHITECTS AND DESIGNERS

INTEGRATIVE DATA RESEARCH  
METHODS

**MARJA SARVIMAKI**

 **Routledge**  
Taylor & Francis Group

NEW YORK AND LONDON

# Table of Contents

<i>List of Figures</i>	ix
<i>Prologue</i>	xi
<b>The Three Layers of This Book</b>	xiv
<b>CHAPTER 1: THE INTERDISCIPLINARY REALM</b>	<b>1</b>
<i>Abstract</i>	1
<i>Box 1.1: What is Interdisciplinary Research?</i>	3
<b>General Characteristics of Case Studies</b>	<b>4</b>
<b>Research Questions</b>	<b>4</b>
<i>Past vs. Present</i>	5
<i>Box 1.2: Korean Architecture's First Appearance in the West</i>	6
<i>Hyon-Sob Kim</i>	
<b>Triangulation of Evidence and Methods</b>	<b>8</b>
<b>Manipulation and Control of Variables</b>	<b>8</b>
<b>How Many Cases?</b>	<b>9</b>
<b>Quantitative or Qualitative Data?</b>	<b>11</b>
<b>Theory Development and Modification</b>	<b>12</b>
<i>Box 1.3: Research-based Design of an Elementary School</i>	13
<i>Henry Sanoff</i>	
<i>Box 1.4: A Case Study</i>	18
<b>Ontological and Epistemological Premises of Case Studies</b>	<b>19</b>
<b>Background of Case Studies</b>	<b>19</b>
<i>Box 1.5: ANTi-History</i>	21
<i>Marja Sarvimaki</i>	
<b>Paradigmatic Foundations of Case Studies</b>	<b>23</b>
<i>Box 1.6: A Paradigm</i>	23
<b>Tripartite Systems of Inquiry</b>	<b>23</b>
<b>Standards of Research Quality</b>	<b>26</b>

TABLE OF CONTENTS

<b>Case Study Research Design for Design Research</b>	<b>29</b>
<b>Annotated Bibliography vs. Literature Review</b>	<b>30</b>
<i>Box 1.7: A Literature Review</i>	31
<i>Box 1.8: A Good Literature Review</i>	33
<b>Unit of Assignment</b>	<b>34</b>
<b>Rival Explanations</b>	<b>36</b>
<i>Box 1.9: Research Design</i>	38
<i>Exercise 1 Identifying Cases</i>	39
<i>Exercise 2 Identifying Variables</i>	39
<i>Exercise 3 Identifying Line of Logic</i>	40
<b>Recommended Further Reading</b>	<b>42</b>
CHAPTER 2: QUANTITATIVE VS. QUALITATIVE STRATEGIES	43
<b>Abstract</b>	<b>A3</b>
<b>Embedded Case Studies</b>	<b>45</b>
<b>Single-Case Embedded Studies</b>	<b>46</b>
<i>Box 2.1: Imagining Islais Creek: Integrating Ecological and Human Health in San Francisco, CA</i>	48
<i>Sara Jensen Carr</i>	
<b>Multiple-Case Embedded Studies</b>	<b>52</b>
<i>Box 2.2: Testing Photovoice for Heritage-Based Tourism Sites</i>	54
<i>Karine Dupre, Bixia Xu, Linlin Dai</i>	
<b>Holistic Case Studies</b>	<b>61</b>
<b>Single-Case Holistic Studies</b>	<b>62</b>
<i>Box 2.3: Defining the Spirit of Place of Bhaktapur, Nepal</i>	65
<i>Kapila D. Silva</i>	
<b>Multiple-Case Holistic Studies</b>	<b>70</b>
<i>Box 2.4: Memory Sketch as a Tool for Place-Making: Creating Sense of Place in School Environments</i>	74
<i>Sun-Young Rieh</i>	
<b>Multiple Data Sources</b>	<b>83</b>
<b>Data Generation and Databases</b>	<b>85</b>
<i>Box 2.5: Basic Principles of Questionnaires</i>	87
<b>Fieldwork for Qualitative Data</b>	<b>91</b>
<b>Researcher as a Research Tool</b>	<b>95</b>
<i>Exercise 4 Memory Sketching</i>	98
<i>Exercise 5 Questionnaire Survey</i>	98
<b>Recommended Further Reading</b>	<b>99</b>

CHAPTER 3: INTEGRATIVE DATA EVALUATION	100
<b>Abstract</b>	<b>100</b>
<b>Four Pillars and a Roof</b>	<b>102</b>
<b>Theoretical Sampling</b>	<b>103</b>
<b>Triangulation</b>	<b>10^</b>
<b>Pattern-Matching Logic</b>	<b>105</b>
<i>Box 3.1: Practice-Based Research with a Community-Based Organization</i>	<i>106</i>
<i>Dak Kopec</i>	
<b>Analytical Generalization</b>	<b>113</b>
<b>Validation by Juxtaposition</b>	<b>110</b>
<i>Box 3.2: BIM-Based Building Performance Analysis in Architectural Practice: Using Data to Drive Sustainable Design Strategies</i>	<i>116</i>
<i>Ajla Aksamija</i>	
<b>Logical Argumentation</b>	<b>122</b>
<b>Definitions</b>	<b>123</b>
<b>Relations</b>	<b>125</b>
<b>Rhetorics</b>	<b>128</b>
<i>Box 3.3: A Meta-Case of Reverse Architecting: The Eames House and Studio</i>	<i>129</i>
<i>Leonard Bachman</i>	
<i>Exercise 6 Gamma Map/Syntax Diagram</i>	<i>139</i>
<i>Exercise 7 Thesis Statement</i>	<i>140</i>
<b>Recommended Further Reading</b>	<b>141</b>
CHAPTER A: EPILOGUE	142
<b>Sense of Case</b>	<b>143</b>
<b>Perception of Case</b>	<b>150</b>
<b>Wrapping Up the Case</b>	<b>152</b>
<i>Box 4.1: Digital Fabrication as Practice-Based PhD: Tangible Speculation into Ways of Making and Representing Architecture</i>	<i>156</i>
<i>Chris Knapp</i>	
<i>Bibliography</i>	<b>161</b>
<i>Contributors of the Example Boxes</i>	<b>167</b>
<i>Index</i>	<i>172</i>