

Juliane Hartig

**Learning and Innovation @ a Distance**

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## Innovation und Technologie im modernen Management

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Juliane Hartig

# **Learning and Innovation @ a Distance**

An Empirical Investigation into the Benefits  
and Liabilities of Different Forms of Distance  
on Interactive Learning and Novelty Creation  
in German Biotechnology SMEs

With a foreword by Prof. Dr. Dieter Wagner



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## Foreword

Within the paradigm of ‘Open Innovation’, there is an increase in network-like, international forms of collaboration. This is also true for small and medium-sized firms in the area of research and development meaning that ‘Global Open Innovation’ is expanding over large geographic distances.

Certainly, geographic proximity is an important precondition of interactive collaboration; however, Innovation Research increasingly finds that this is neither a necessary nor sufficient precondition. Finally, inter-organizational collaboration can also take place in a virtual environment. Against this background, it is commendable that Ms. Hartig has investigated both qualitatively and quantitatively, the possibilities and barriers of ‘distance’ and ‘proximity’ from the point of view of different dimensions and categories based on 39 cooperation projects by German biotechnology SMEs, and has herewith broken new ground.

Ultimately, this dissertation is about the research question; how different forms of distance influence interactive learning in inter-organizational co-operation projects in R&D in order to generate effective innovation. With regards to the management of inter-organizational cooperation, it turns to the question of how, despite great ‘distances’, a sufficient level of ‘proximity’ can be established. This is an intriguing question which will, doubtless, enrich Innovation Research to a great extent.

Meritoriously, the author addresses a theme that is not only highly complex but also topically relevant. Against the research background, her empirical investigation is methodologically consistent. The theoretical foundation is sound as are the proper deduction of hypotheses and the apt interplay of quantitative and qualitative research.

With particular regard to the developed process model of inter-organizational co-operation and the degree of influence as well as partial interplay of different forms of distance, Ms. Hartig has derived interesting findings which will, doubtless, stimulate further research. Therefore, this dissertation deserves broad dissemination.

Prof. Dr. Dieter Wagner

## Preface

*Thanks to my Parents and Matthias,  
you provided the best support imaginable.*

I have written this thesis during my affiliations at the University of Potsdam, at the Fraunhofer Institute for Systems and Innovation Research (ISI), and at the University of Manchester (Manchester Institute for Innovation Research, MIoIR).

Many people, to who I am indebted, have accompanied and supported me along the way: Professor Dr. Dieter Wagner, Professor Dr. Knut Blind, Professor Jakob Edler, Professor Philippe Larédo, Dr. Thomas Reiss, Professor Dr. Sibylle Gaisser, and many others.

Juliane Hartig

# Contents

<b>List of Figures</b>	<b>xiii</b>
<b>List of Tables</b>	<b>xv</b>
<b>List of Abbreviations</b>	<b>xvii</b>
<b>1 Introduction</b>	<b>1</b>
1.1 Background	1
1.2 Aim, Research Gap, and Research Questions	4
1.3 Research Design and Organisation of the Book	7
1.4 Concepts and Definitions	11
<b>2 Theoretic Perspectives on Inter-Organisational Co-operation</b>	<b>23</b>
2.1 Overview	23
2.2 Transaction Cost Economics	25
2.3 Resource Based View	32
<i>Excursus: A ‘Cognitive Theory of the Firm’</i>	38
2.4 Social Network Perspective	42
2.5 Summary	48
<b>3 Learning and Novelty Generation in Inter-Organisational Co-operation</b>	<b>51</b>
3.1 Overview	51
3.2 Processes and Challenges of Knowledge Sharing	51
3.3 Ability and Motivation for Knowledge Sharing	55
3.4 The Role of Trust	57
3.5 Summary	59
<b>4 Distant Relationships for Learning and Novelty Generation</b>	<b>61</b>
4.1 Overview	61
4.2 Introducing Basic Ideas	62
4.3 Different Forms of Distance	64
4.4 Distant Relationships: Definitions, Effects, and Evidence	71
4.4.1 Geographic Distance	71
4.4.2 Institutional Distance	80
4.4.3 Organisational Distance	92
4.4.4 Strategic Distance	101
4.4.5 Technological Distance	108
4.4.6 Relational Distance	120

4.5	Relative, Combined and Interaction Effects . . . . .	128
4.6	A Differentiated View on Learning and Novelty Generation . . . . .	131
4.6.1	Different Stages of Novelty Generation . . . . .	131
4.6.2	Different Forms of Learning . . . . .	132
4.7	Summary . . . . .	134
<b>5</b>	<b>Hypotheses</b>	<b>137</b>
<b>6</b>	<b>Research Setting: Biotechnology Firms in Germany</b>	<b>145</b>
<b>7</b>	<b>Methodology: A Retroductive Approach</b>	<b>161</b>
<b>8</b>	<b>Empirical Insights: Effects of Distance</b>	<b>177</b>
8.1	Overview . . . . .	177
8.2	Operationalisation of Constructs . . . . .	177
8.2.1	Operationalising Different Forms of Distance . . . . .	178
8.2.2	Operationalising Success . . . . .	185
8.3	Empirical Findings . . . . .	192
8.3.1	Descriptive Analysis . . . . .	192
8.3.2	Multivariate and Qualitative Analysis . . . . .	218
8.4	Summary and Conclusions . . . . .	276
<b>9</b>	<b>Case Studies: Organising Proximity</b>	<b>283</b>
9.1	Overview . . . . .	283
9.2	Selection of Cases . . . . .	284
9.3	Case Studies . . . . .	286
9.3.1	Case A . . . . .	286
9.3.2	Case B . . . . .	294
9.3.3	Case C . . . . .	303
9.4	Case Analysis . . . . .	312
9.4.1	Within-Case Analysis . . . . .	313
9.4.2	Cross-Case Analysis . . . . .	319
9.5	Summary and Conclusions . . . . .	327
<b>10</b>	<b>Research and Practical Implications</b>	<b>333</b>
10.1	Key Findings . . . . .	333
10.2	Implications for Theory . . . . .	337
10.3	Implications for Practice . . . . .	340
<b>11</b>	<b>Discussion</b>	<b>343</b>
11.1	Conclusions and Contribution . . . . .	343
11.2	Limitations and Avenues for Future Research . . . . .	346



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<b>Bibliography</b>	<b>349</b>
<b>A Interview Guideline</b>	<b>389</b>
<b>B List of Interviewed Firms</b>	<b>403</b>
<b>C Statistical Annex</b>	<b>407</b>

# List of Figures

1.1	Organisation of the Thesis . . . . .	10
1.2	Alternative Forms of Co-operation . . . . .	12
1.3	Characterisation of the Object of Analysis . . . . .	13
1.4	Phases of a co-operation project . . . . .	15
1.5	The Innovation Process . . . . .	17
4.1	Distance-decay Function and the Effect of Modern ICT . . . . .	74
4.2	Cultural Normal Curves . . . . .	82
4.3	Channel-Ratio Model of Intercultural Communication . . . . .	85
4.4	Inter-organisational Information Transfer Dilemma . . . . .	104
4.5	Determining the Optimal Level of Technological Distance . . . . .	113
4.6	Determining the Optimal Level of Technological Distance: Basic and Specialised Knowledge Bases . . . . .	114
6.1	Key Characteristics of German Biotechnology Firms . . . . .	157
7.1	A Simple Model of Social Research . . . . .	162
7.2	Research Strategy: Combining Quantitative and Qualitative Data . . . . .	166
8.1	Year of Firm Foundation . . . . .	193
8.2	Size of the firms . . . . .	193
8.3	Type of Business Model . . . . .	195
8.4	Degree of Vertical Integration . . . . .	195
8.5	R&D Intensity . . . . .	196
8.6	Number of R&D Projects . . . . .	197
8.7	Goals of R&D Activities . . . . .	198
8.8	Number of Co-operation Partners . . . . .	199
8.9	Type of Co-operation Partner . . . . .	201
8.10	Positioning of the Partners along the Value Chain . . . . .	201
8.11	Invention Stage of the Case Co-operation Project . . . . .	202
8.12	Goals of the Case Co-operation Project . . . . .	203
8.13	Motives for Engaging in Inter-organisational Co-operation Projects . . . . .	205
8.14	Geographic Distribution of Co-operation Partners . . . . .	209
9.1	Framework for the Selection of Cases . . . . .	285
9.2	Organising Proximity: Organisational Domains . . . . .	328
11.1	A Process Model of Interactive Learning and Novelty Generation . . . . .	345

# List of Tables

1.1	Research Questions . . . . .	7
2.1	Distinguishing Attributes of Markets, Hybrids and Hierarchies . . . . .	28
4.1	Different Taxonomies of Proximity . . . . .	65
4.2	Synthesising existing Taxonomies of Proximity . . . . .	70
6.1	List-based Definition of Modern Biotechnology . . . . .	148
6.2	The Structure of the Global Biotechnology Industry in 2007 . . . . .	153
6.3	The German Biotechnology Industry in 2009 . . . . .	156
7.1	Comparison of Different Research Designs . . . . .	164
8.1	Indicators for the Construct Geographic Distance . . . . .	179
8.2	Indicators for the Construct Institutional Distance . . . . .	181
8.3	Indicators for the Construct Organisational Distance . . . . .	182
8.4	Indicators for the Construct Strategic Distance . . . . .	183
8.5	Indicators for the Construct Technological Distance . . . . .	184
8.6	Indicators for the Construct Relational Distance . . . . .	185
8.7	Indicators for the Construct Inventive Outcomes . . . . .	188
8.8	Indicators for the Construct Strategic Outcomes . . . . .	189
8.9	Indicators for the Construct Operational Outcomes . . . . .	189
8.10	Indicators for the Construct Personal Outcomes . . . . .	190
8.11	Indicators for the Construct Relational Outcomes . . . . .	191
8.12	Locations of Most Important Partners for R&D . . . . .	200
8.13	Motives for Inter-organisational Co-operation in R&D . . . . .	204
8.14	Summary Statistics: Constructs and Measures of Distance . . . . .	207
8.15	Correlation Analysis: Interdependencies in the Forms of Distance . . . . .	212
8.16	Correlation Analysis: The Impact of Intermediating Variables . . . . .	213
8.17	Sub-group Comparison: Differences According to the Invention Stage . . . . .	214
8.18	Sub-group Comparison: Differences According to the Learning Rationale . . . . .	214
8.19	Summary Statistics: Levels of Success in Different Categories . . . . .	215
8.20	Summary of Control Variables . . . . .	221
8.21	The Impact of Distance on Project Outcomes (Tobit Regression) . . . . .	225
8.22	Frequency of Face-to-Face Interaction . . . . .	232
8.23	Frequency of electronic interaction . . . . .	232
8.24	Interaction Effects: The Indirect Nature of Geographic Distance . . . . .	270

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8.25	Interaction Effects: The Indirect Nature of Relational Distance . . .	275
8.26	Summary: Moderating Variables and Distance Effects . . . . .	279
9.1	Case Summary: Case A . . . . .	314
9.2	Case Summary: Case B . . . . .	317
9.3	Case Summary: Case C . . . . .	319
9.4	Organising Proximity: Organisational Measures . . . . .	329
B.1	Registry of Interviewed Rirms . . . . .	404
C.1	Correlation Analysis: Interdependencies of Independent Variables .	408
C.2	The Impact of Distance on Project Outcomes . . . . .	409

## List of Abbreviations

**BRIC** Brazil, Russia, India, China

**CEO** Chief Executing Officer

**CFO** Chief Financial Officer

**COO** Chief Operating Officer

**CSO** Chief Scientific Officer

**e.g.** for example

**EUR** Euro

**i.e.** that is

**ICT** Information and communication technologies

**IP** Interview partner

**M&A** Merger and Acquisition

**MNE** Multinational enterprise

**NGO** Non-governmental organisation

**NIH** Not invented here

**NSH** Not sold here

**OLS** Ordinary Least Squares

**PRO** Public research organisation

**R&D** Research and Development

**RbV** Resource based View

**SME** Small and medium sized enterprise

**SNP** Social Network Perspective

**TCE** Transaction Cost Economics

**UK** United Kingdom

**USA** United States of America