

BOUNDARY WORK

Addressing the challenges
of cross-boundary collaboration
at Mirai Corporation

Greetje F. Corporaal

BOUNDARY WORK

Addressing the challenges of cross-boundary collaboration
at Mirai Corporation

Greetje Frankje Corporaal

Reading committee

prof. dr. Beth Bechky	New York University, United States of America
prof. dr. ir. Hans Berends	VU Amsterdam, The Netherlands
prof. dr. Israel Drori	VU Amsterdam, The Netherlands
prof. dr. Jan van den Ende	Erasmus University Rotterdam, The Netherlands
prof. dr. Kristina Lauche	Radboud University, The Netherlands

Boundary work: Addressing the challenges of cross-boundary collaboration at Mirai Corporation

Greetje F. Corporaal

Ph.D. Thesis, VU Amsterdam, The Netherlands

Cover by Femke J. Corporaal

Printed by Ridderprint BV, The Netherlands

ISBN 978-94-6299-924-4

© Greetje F. Corporaal 2018

All rights reserved. No part of this thesis may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without prior written permission from the author.

VRIJE UNIVERSITEIT

Boundary Work

Addressing the challenges of cross-boundary collaboration
at Mirai Corporation

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad Doctor
aan de Vrije Universiteit Amsterdam,
op gezag van de rector magnificus
prof. dr. V. Subramaniam,
in het openbaar te verdedigen
ten overstaan van de promotiecommissie
van de Faculteit der Sociale Wetenschappen
op maandag 28 mei 2018 om 9.45 uur
in de aula van de universiteit,
De Boelelaan 1105

door

Greetje Frankje Corporaal
geboren te Dokkum

promotor: prof.dr. P. Groenewegen
copromotoren: dr. T.C. de Gilder
dr. J.E. Ferguson

To my parents, Gerrit & Johanna

“When you start these kind of journeys, it’s like you know what’s important for you but you don’t necessarily know where you’re going. But you know that if you make decisions based on these things that you know matter to you, wherever you’re gonna end up is where you need to go.”

(Bjarke Ingels, 2017)

TABLE OF CONTENTS

LIST OF TABLES	X
LIST OF FIGURES	XI
LIST OF ABBREVIATIONS	XII
PREFACE	XIII
CHAPTER 1 INTRODUCTION	1
1.1 Research motivation	3
1.1.1 Collaborating across boundaries	4
1.1.2 Towards a practice-theoretical understanding of boundary work	8
1.2 Research questions	10
1.3 Research approach	13
1.4 Dissertation outline	18
1.5 Contributions	22
Notes	23
CHAPTER 2 ON BOUNDARIES	25
2.1 Introduction	27
2.2 Sociological engagements with boundaries	28
2.3 Uptake of boundaries in Management and Organization studies	31
2.3.1 Boundary spanning	34
2.3.2 Boundary objects	38
2.3.3 Boundary work	42
2.4 Synthesis and limitations	48
2.4.1 Lack of attention to boundary work	49
2.4.2 Different conceptualizations of boundaries	50
2.4.3 A practice perspective on boundaries	53
2.5 A practice-theoretical framework of boundaries	54
2.5.1 A practice lens: Why, what, and how?	54
2.5.2 Boundaries viewed through a practice lens	57
2.5.3 Limitations of the framework	59
2.6 Conclusions	61
Notes	62
CHAPTER 3 THE STUDY	63
3.1 Introduction of research approach and design	65
3.2 Research sites	67
3.2.1 Mirai Corporation	67
3.2.2 Gaining access	68
3.2.3 Cross-boundary collaboration at MCorp	70
3.2.4 Relevance of sites for studying RQ	74
3.3 Data collection and analysis	75
3.3.1 Data collection process	75
3.3.2 Methods of data collection	75
3.3.3 Data analysis	77
3.4 Limitations of the study	78

CHAPTER 4 BOUNDARY WORK AND OPEN STRATEGY	83
Abstract	84
4.1 Introduction	85
4.2 Theoretical background	88
4.2.1 Strategy making and open strategy	88
4.2.2 A sensemaking perspective to open strategy	89
4.2.3 The role of boundaries in open strategy	91
4.3 Empirical setting and methods	92
4.3.1 MTech’s divisional management collaboration	93
4.3.2 Research methods	94
4.3.3 Data Analysis	96
4.4 Findings: Boundary work and strategic reporting	100
4.4.1 Making sense of boundaries	100
4.4.2 Boundary work and strategy making	107
4.4.3 Creating common ground for integrated strategy	116
4.5 Discussion	119
4.5.1 Implications for open strategy and strategic sensemaking	120
4.5.2 Implications for boundary scholarship	122
4.5.3 Limitations and suggestions for further research	124
4.5.4 Implications for practice	125
4.5.5 Conclusion	126
Notes	126
CHAPTER 5 BOUNDARY WORK AND COMPLEX ENGINEERING WORK	127
Abstract	128
5.1 Introduction	129
5.2 Theoretical background	131
5.2.1 Coordinating work in MPC	131
5.2.2 Theorizing emergent coordination in MPC	133
5.3 Empirical setting and methods	134
5.3.1 The Gyakuten Project	134
5.3.2 Research methods	137
5.3.3 Data analysis	139
5.4 Findings: Navigating relational complexity in Gyakuten	146
5.4.1 Gyakuten’s coordination challenges	147
5.4.2 Coordinating and boundary work	152
5.4.3 Boundary work and parties’ unfolding interests and orientations	160
5.5 Discussion	165
5.5.1 Theoretical implications	166
5.5.2 Limitations and suggestions for future research	171
5.5.3 Implications for practice	171
5.5.4 Conclusion	172
Notes	173
CHAPTER 6 BOUNDARY WORK AND INNOVATION IMPLEMENTATION	175
Abstract	176
6.1 Introduction	177
6.2 Theoretical background	179

6.2.1 Innovation implementation and knowledge sharing	179
6.2.2 Problematization	182
6.2.3 A practice lens on knowledge sharing during innovation implementation	183
6.3 Empirical setting and methods	184
6.3.1 Project Hogo	185
6.3.2 Research methods	186
6.3.3 Data analysis	189
6.4 Findings	191
6.4.1 Becoming a global innovation project	192
6.4.2 Exomin's implementation process	196
6.4.3 The changing boundaries of Exomin's innovation field	201
6.4.4 Analysis and implications for knowledge sharing	210
6.5 Discussion	212
6.5.1 Theoretical implications	213
6.5.2 Limitations and suggestions for future research	217
6.5.3 Implications for practice	217
6.5.4 Conclusion	218
Notes	218
CHAPTER 7 DISCUSSION	219
7.1 Introduction	221
7.2 Summary of findings	222
7.2.1 Insights from Chapter 4: Boundary work and open strategy making	222
7.2.2 Insights from Chapter 5: Boundary work and complex engineering work	223
7.2.3 Insights from Chapter 6: Boundary work and innovation implementation	227
7.3 Theoretical implications	229
7.3.1 Implications for literature on collaboration	229
7.3.2 Implications for boundary scholarship	232
7.4 Boundary conditions and suggestions for future research	236
7.5 Practical implications of study	237
7.6 Concluding thoughts and remarks	241
APPENDIX	243
I. Definitions of core concepts	243
II. Sample interview guide for data collection period 1	245
III. Sample interview guide for data collection period 2	246
REFERENCES	247
ENGLISH SUMMARY	259
NEDERLANDSE SAMENVATTING	267
ACKNOWLEDGEMENTS	275
ABOUT THE AUTHOR	279

LIST OF TABLES

TABLE 1.1	Summarized comparison of work processes in standard and cross-boundary collaboration	6
TABLE 1.2	Details data collection	15
TABLE 1.3	Outline of dissertation	21
TABLE 2.1	Early studies of boundaries and organizations	33
TABLE 2.2	Publication of boundary articles in M&O and in Sociology (1960-2016) ²	34
TABLE 2.3	Example studies of boundary spanning (1990-present)	36
TABLE 2.4	Example studies of boundary objects (1990-present)	40
TABLE 2.5	Example studies of boundary work (1990-present)	44
TABLE 2.6	Overview of different forms of boundary work	48
TABLE 2.7	Two perspectives of boundaries	51
TABLE 3.1	Overview research questions, data collection and analysis	79
TABLE 4.1	Details on data collection	95
TABLE 4.2	Exemplary quotes of boundary sensemaking	102
TABLE 4.3	Exemplary quotes boundary work	109
TABLE 5.1	Details on data collection	140
TABLE 5.2	Timeline of Gyakuten	143
TABLE 5.3	Exemplary quotes of coordination challenges	149
TABLE 5.4	Exemplary quotes of achieving coordination through boundary work	154
TABLE 5.5	Exemplary quotes of unfolding interests and orientations	161
TABLE 6.1	Details on data collection	188
TABLE 6.2	Illustrative examples	202
TABLE 7.1	Summary of findings and contributions of empirical Chapters	224

LIST OF FIGURES

FIGURE 1.1 Cross-boundary collaboration across multiple overlapping practice contexts (Figure after Kane and Levina, 2017, p. 544)	7
FIGURE 1.2 Relationships between empirical studies	19
FIGURE 2.1 Uptake of boundary concept in Sociology and M&O ¹	32
FIGURE 3.1 Organizational chart of Mirai Corporation	68
FIGURE 3.2 Organizational chart of MTech's divisional management collaboration	71
FIGURE 3.3 Organizational chart of the Gyakuten Project	72
FIGURE 3.4 Organizational chart of Project Hogo	73
FIGURE 3.5 Overview of research sites	76
FIGURE 4.1 Organizational chart of MTech's divisional management collaboration	93
FIGURE 4.2 Timeline of MTech's performance, key strategic decisions, and issues	97
FIGURE 4.3 Process model of boundary work in strategy making	99
FIGURE 4.4 Boundary processes during different episodes	117
FIGURE 5.1 Organizational chart Gyakuten Project	135
FIGURE 5.2 MirenJP and AnconeCN coordinating work tasks by opening-up boundaries	144
FIGURE 5.3 AnconeBE coordinating work tasks by creating boundaries	145
FIGURE 5.4 Process model of boundary work to achieve coordination in MPC	146
FIGURE 6.1 Organizational chart of Project Hogo	185
FIGURE 6.2 Timeline of Project Hogo	187
FIGURE 7.1 Schematic overview of concepts used in studies	222

LIST OF ABBREVIATIONS

AnconeBE	Belgian subsidiary of Ancone
AnconeCN	Chinese subsidiary of Ancone
CEO	Chief Executive Officer
GM	General Manager
HQ	Headquarters
IP	Intellectual property
IPP	Intellectual Property Protection
MCorp	Mirai Corporation
MiraiJP	Mirai Japan (subsidiary of MTech and MCorp)
MiraiNL	Mirai Netherlands (subsidiary of MTech and MCorp)
MirenJP	Mirai Technologies Japan (staff division of MCorp)
MNC	Multinational corporation
MPC	Multiparty collaboration
MTech	Mirai Technologies (division of MCorp)
O&M	Organization and Management
Pi _{JAP}	Pilot plant MiraiJP
Pi _{NL}	Pilot plant MiraiNL
Pr _{NL}	Production facility MiraiNL
RQ	Research question
R&D	Research and Development
R _{JAP}	Research lab MiraiJP
R _{NL}	Research lab MiraiNL
SQ	Research sub-question