

Zeppelin University
Studies on Cross-Industry Innovation
Search, find and apply extra-industry
knowledge

Dissertation

zur Erlangung des akademischen Grades

Dr. rer. pol.

Department Corporate Management and Economics

Dr. Manfred Bischoff Institut für

Innovationsmanagement der EADS

Zeppelin Universität, Friedrichshafen

By the approval of:

Prof. Dr. Ellen Enkel and Jun. Prof. Dr. Dennis Hilgers

Submitted by: Dipl.-Ing. Annette Horváth

Submission date: 3.9.2012

Matrikel-Nr.: 12100825

Table of contents

Table of contents	I
List of abbreviations	V
List of figures	VI
List of tables	VII
Abstract	VIII
Zusammenfassung	IX
A. Introduction	1
A.1.1 Integrating externals through open innovation.....	1
A.1.2 The concept of cross-industry innovation	3
A.1.3 Prior research in the field of cross-industry innovation	5
A.1.4 External knowledge integration along the cross-industry process	8
A.1.5 Identification of external knowledge through search.....	10
A.1.6 Motivation of external experts in cross-industry innovation	13
A.1.7 Knowledge transfer and adoption in cross-industry innovation.....	16
A.1.8 Overview of the dissertation	18
A.1.9 Areas of contribution.....	19
A.1.10 Procedural outline of the dissertation.....	23
A.1.11 Empirical data.....	27
A.1.12 Concluding remarks.....	29
B. Tapping into foreign fields	30

B.1.1	When general recommendations fail: how to search depending on problems to be solved	30
1.	Introduction	31
2.	Theoretical background	33
2.1.	Cross-industry innovation	33
2.2.	Search for external knowledge	35
2.3.	Abstraction within the problem-solving process	37
3.	Methodology	38
3.1.	Research context and data selection	38
3.2.	Data sources and analysis	41
3.3.	Criteria for search in cross-industry innovation	44
4.	Findings	45
4.1.	Character of search: level of abstraction	46
4.2.	Breadth and depth in cross-industry projects	50
4.3.	Archetypes of cross-industry innovation projects	55
5.	Discussion	58
5.1.	Theoretical contribution	58
5.2.	Managerial contribution	62
5.3.	Limitations and future research	64
B.1.2	Motivation of external experts in cross-industry innovation	66
1.	Introduction	67
2.	Literature	69
2.1.	Cross-industry innovation	69
2.2.	Motivation of external experts in open innovation	71

2.3.	Impediments to external experts' motivation	74
3.	Methodology.....	75
3.1.	Research context and data selection	75
3.2.	Data sources	77
3.3.	Data analysis.....	78
4.	Findings.....	79
4.1.	Benefitting from foreign content	82
4.2.	Virtue of foreign knowledge for external experts	83
4.3.	Impediments to external experts' motivation	86
5.	Discussion.....	88
5.1.	Theoretical contribution	88
5.2.	Practical implications.....	92
5.3.	Future research.....	94
B.1.3	Integration of extra-industry public knowledge in cross-industry alliances.....	96
1.	Introduction	97
2.	Literature	99
2.1.	Knowledge transfer in alliances.....	99
2.2.	Knowledge-specific aspects of transfer.....	101
2.3.	Partner-specific aspects of transfer.....	103
3.	Methodology.....	105
3.1.	Research context and data selection	105
3.2.	Data sources and analysis	106
4.	Findings.....	108
4.1.	Prior experience	111

4.2.	Cultural fit.....	112
4.3.	Transfer structure.....	114
5.	Discussion.....	115
5.1.	Theoretical contribution.....	118
5.2.	Practical implications.....	121
5.3.	Future research.....	124
C.	Overall discussion and conclusion	126
C.1.1	Contributions to research	126
C.1.2	Search mechanisms in cross-industry innovation.....	128
C.1.3	The role of cognition and analogies.....	130
C.1.4	Drivers of performance in cross-industry innovation.....	133
C.1.5	Managerial implications.....	135
C.1.6	Limitation of the dissertation and future research.....	136
C.1.7	Overall conclusion.....	138
	References.....	140
	Eidesstattliche Versicherung	164