

Table of Contents

Preface.....	V
1 Knowledge Management: More than a Buzzword.....	1
Fons Wijnhoven	
1.1 Introduction	1
1.2 The Relevance of Knowledge Management for High-tech Small and Medium Sized Firms.....	2
1.3 Knowledge Management – What Is It About?	3
1.3.1 Knowledge Management versus Competence Management.....	3
1.3.2 Approaches to Knowledge Management	3
1.3.3 Levels of Knowledge Management	5
1.4 What Aspects Are Related to Knowledge?	6
1.4.1 Content in Knowledge Identification and Acquisition Processes	7
1.4.2 Utilization of Knowledge in Contexts	9
1.4.3 Knowledge Flows	9
1.4.4 Knowledge Media.....	10
1.5 The Knowledge Integration Context	12
1.6 Outline of this Book	13
References	15
2 Knowledge Integration by SMEs – Framework	17
Jeroen Kraaijenbrink, Doron Faran, Aharon Hauptman	
2.1 Introduction	17
2.2 High-tech SMEs: Characteristics and Differences	18
2.3 Types and Sources of Knowledge	19
2.4 KI Processes and Activities	22
2.5 KI Problems and Solutions.....	25
2.6 Summary and Conclusions	27
References	27
3 Knowledge Integration by SMEs - Practice	29
Jeroen Kraaijenbrink, Aard Groen, Fons Wijnhoven	
3.1 Introduction	29
3.2 Analysing KI in SMEs: Research Framework	29
3.3 Research Method.....	31
3.4 Results	32
3.4.1 NPD Process	33
3.4.2 Sources.....	33
3.4.3 KI Process.....	35
3.4.4 Problems	36
3.4.5 Solutions	37
3.4.6 Match	38

3.5 Differences between SMEs	39
3.6 Conclusions and Implications	41
References	43
Appendix: Questionnaire.....	43
 4 Organizing the Toolbox - Typology and Alignment of KI Solutions	47
Doron Faran, Aharon Hauptman, Yoel Raban	
4.1 Introduction	47
4.2 Definitions and Principles of the Typology.....	48
4.3 Typology of KI Tools and Techniques.....	50
4.3.1 Activities for Latent Knowledge	51
4.3.2 Activities for Explicit Knowledge	52
4.3.3 Activities for Tacit Knowledge	58
4.3.4 Motivating Activities	58
4.4 Knowledge Integration Strategies	59
4.5 SME Suitability.....	62
4.6 Conclusions	62
References	64
 5 Elicitation – Extracting Knowledge from Experts	65
Antonie Jetter	
5.1 Motivation and Introduction.....	65
5.2 A Psychological Perspective on Knowledge Elicitation	65
5.2.1 Theoretical Background.....	65
5.2.2 Relevance for Knowledge Management	68
5.3 Elicitation in Practice	69
5.3.1 Identification of Experts	69
5.3.2 Activation and Capture of Knowledge.....	70
5.3.3 Knowledge Interpretation and Documentation	71
5.4 Implementation Experience.....	72
5.4.1 Identification of Experts at CEROBear	73
5.4.2 Activation and Capture: Free Association & Episodic Interviews.....	73
5.4.3 Interpretation and Documentation: Building an Ontology.....	74
5.5 Discussion and Conclusions	75
References	75
 6 Codification – Knowledge Maps	77
Antonie Jetter	
6.1 Introduction	77
6.2 Knowledge Codification and Knowledge Maps.....	77
6.3 Types of Knowledge Maps	79
6.3.1 Hierarchical or Radial Knowledge Structure Maps:	
Concept Maps and Mind Maps	80
6.3.2 Networked Knowledge Structure Maps: Causal Maps	81
6.3.3 Knowledge Source Maps	82
6.3.4 Knowledge Flow Maps	83

6.4 Case Study: Knowledge Maps to Improve NPD	85
6.4.1 Process Assessment	85
6.4.2 Improved Processes: AIXTRON's Knowledge Application Map	87
6.5 Discussion and Conclusion	88
References	89
7 Detection – Electronic Knowledge Retrieval.....	91
Dina Franzen	
7.1 Introduction	91
7.2 IR Systems for Knowledge Detection	91
7.2.1 Traditional IR Search Methods	92
7.2.2 Information Retrieval and the WWW	93
7.2.3 New Impulses in IR Systems	94
7.3 Implementation at a High-tech SME	96
7.3.1 The High-tech SME: CEROBEAR.....	96
7.3.2 Focus: Development of a Customer-Specific Ontology	97
7.3.3 Results and Evaluation.....	98
7.4 Discussion and Conclusion	99
References	100
8 Assessment – Making Sense of It All	101
Doron Faran	
8.1 Introduction	101
8.2 What Is Knowledge Assessment?	102
8.3 Critical Analysis of Assessment Practices.....	103
8.3.1 Theoretical Background and Practical Framework.....	103
8.3.2 Alignment of Available Practices	104
8.4 The Decision-Validity-Tracking (DVT) Method	105
8.5 Lessons Learned from the Implementation at Optibase	110
8.6 Conclusions	112
References	113
9 Transfer - Knowledge Transfer in Networks.....	115
Aard Groen	
9.1 Introduction	115
9.2 Theory on Knowledge Transfer in NPD Processes	115
9.2.1 The Character of Knowledge and Networks in Transfer Processes	116
9.2.3 Some Consequences of Cognitive Distance for Networking of Small Firms.....	117
9.3 The WAP Project, an Example of Knowledge Transfer in a Network	119
9.3.1 Context of the Project	119
9.3.3 Knowledge Transfer Mechanisms	121
9.4 Conclusions	124
References	125

10 Motivating – Incentive Systems for Knowledge Provision.....	127
Hannah Zaunmüller	
10.1 Introduction.....	127
10.2 Design Areas of Incentive Systems for Knowledge Provision.....	128
10.2.1 Definition of Knowledge Goals.....	128
10.2.2 Definition of the Application Area	129
10.2.3 Definition of Incentive Tools.....	129
10.2.4 Measurement and Evaluation of Employee Performance	130
10.3 Implementation of Incentive Systems	130
10.3.1 Analysis of the Status-quo	130
10.3.2 Concept Development and Elaboration	132
10.3.3 System Introduction.....	134
10.3.4 System Checking	134
10.4 Case Study at HEAD Acoustics	135
10.4.1 HEAD Acoustics and the Focus of the Project.....	135
10.4.2 Results	136
10.5 Summary and Conclusion	140
References.....	140
 11 Supporting Knowledge Integration at SMEs – The KINX Portal	143
Charo Elorrieta, Juan Pedro Lopez , Fons Wijnhoven	
11.1 Introduction.....	143
11.2 Information Services and Scope of the KINX Portal	145
11.3 Knowledge Integration Portal Description.....	146
11.3.1 The KINX Portal Public Area.....	148
11.3.2 The Private Area	150
11.3.3 The Administration Area	155
11.4 Portal Development Process.....	156
11.5 Conclusions and Discussion.....	157
References.....	158
 12 Supporting Knowledge Integration at SMEs – Policies	161
Yoel Raban	
12.1 Introduction.....	161
12.2 Reasons for Supporting KI in SMEs	161
12.3 Profiles of KI Support Measures for SMEs.....	162
12.4 Usage of Selected KI Support Measures	167
12.5 The Effectiveness of KI Support Measures	168
12.6 Summary and Recommendations	172
References.....	173

13 Wrapping It All Up - Past, Present and Future of Knowledge	
Integration	175
Hans-Horst Schröder	
13.1 Introduction	175
13.2 Evaluation of KI - What Does It Promise and Does It Keep What It Promises?	176
13.2.1 The Theoretical Perspective	177
13.2.2 The Empirical Perspective	179
13.2.3 The Tools Perspective	181
13.3 The Further Development of KI Requirements and Opportunities for Improvement	185
13.3.1 Conceptual Improvements	185
13.3.2 Instrumental Improvements	186
13.4 Outlook - The Future of KI	188
References	190
Biographical Information about the Authors	193
List of Authors' Addresses	197
Index	201

Knowledge Integration

The Practice of Knowledge Management in Small and
Medium Enterprises

Jetter, A.; Kraaijenbrink, J.; Schröder, H.-H.; Wijnhoven,
F. (Eds.)

2006, XII, 204 p., Hardcover

ISBN: 978-3-7908-1586-3

A product of Physica-Verlag Heidelberg