Contents

1 Introduction
Kai Mertins, Peter Heisig, Jens Vorbeck ................................................. 1

1.1 Knowledge ....................................................................................... 1
1.2 Empirical Foundation: The Benchmarking Survey ......................... 3
  1.2.1 Understanding of Knowledge Management: People and Processes .. 3
  1.2.2 The Knowledge Management Core Process ............................. 5
  1.2.3 The Knowledge Management Design Fields ............................ 7
1.3 The Reference Model for Knowledge Management ....................... 10

Part I: Design Fields

2 Business Process Oriented Knowledge Management
Peter Heisig .............................................................................................. 15

2.1 Knowledge Management is Business and Process Oriented .......... 16
2.2 Approaches to the Design of Business Process and Knowledge Management .................................................. 18
2.3 Integrated Enterprise Modeling for Knowledge Management ........ 22
2.4 Method for Business Process Oriented Knowledge Management .... 23
  2.4.1 The GPO-WM® Implementation Mode ..................................... 24
  2.4.2 KM Strategy ............................................................................ 25
  2.4.3 The GPO-WM® Analysis of Business Processes ....................... 29
  2.4.4 KM Solutions ........................................................................... 35
  2.4.5 KM-Implementation Phase ...................................................... 38
2.5 Summary and Outlook ..................................................................... 43

3 The Fraunhofer Knowledge Management Audit (FKM-Audit)
Kai Mertins, Peter Heisig, Ina Finke, Christina Ulbrich ......................... 45

3.1 Knowledge Management has to Build on Existing Circumstances .... 46
3.2 Audit Approaches for the Evaluation of Knowledge Management .... 47
  3.2.1 The Knowledge Audit (According to Liebowitz) ....................... 47
  3.2.2 Knowledge Management Assessment Tool (KMAT) ................ 48
  3.2.3 Knowledge Management Diagnostic (KMD) ......................... 49
  3.2.4 Knowledge Audit (According to Pfeifer) ................................. 50
  3.2.5 Knowledge Management Maturity Model (KMMM) ............... 51
3.3 Developing the Fraunhofer Knowledge Management Audit .......... 54
3.4 Case Studies ..................................................................................... 57
  3.4.1 Knowledge Management in a Medium-Sized Software Company .57
3.4.2 Knowledge Management in a Research Institute

3.5 Outlook

4 Motivation for Knowledge Management
Ina Finke, Markus Will

4.1 Motivation and Change towards Knowledge Management
4.1.1 Incentive Systems, Extrinsic and Intrinsic Motivation
4.1.2 Barriers of Change and Change Management
4.1.3 The Role of Competencies
4.1.4 Summary

4.2 Pro-Active Change Management for Sustainable Behavioural Change
4.2.1 Analysis of Corporate Culture and Barriers
4.2.2 IPK Model of Intervention for Activating Sustainable Motivation
4.2.3 “Transparency” as an Area of Intervention
4.2.4 “Competencies” as an Area of Intervention
4.2.5 “Leadership” as an Area of Intervention
4.2.6 “Involvement” as an Area of Intervention
4.2.7 Summary

4.3 An Example of Putting Pro-Active Change Management into Practice
4.3.1 The Starting Point
4.3.2 The Comprehensive Change Programme
4.3.3 “Marketing” as a Package of Measures
4.3.4 “Consolidation” as a Package of Measures
4.3.5 “Realization” as a Package of Measures

4.4 Outlook

5 Role Models, Human Resources and Strategy
Arne Jaitner

5.1 Business Processes and Knowledge Strategy
5.1.1 Knowledge as an Object Class
5.1.2 Knowledge Management Strategies
5.1.3 Strategic Orientation

5.2 Codification vs. Personalization
5.2.1 Roads to Sharing Knowledge
5.2.2 Knowledge Management Approaches and Strategic Orientation
5.2.3 Knowledge Sourcing and Core Processes

5.3 Modeling Roles
5.3.1 Types of Roles
5.3.2 Generic Role Models
5.3.3 Specific Conditions of Generic Role Models
5.3.4 Defining Roles

5.4 Outlook
6 Knowledge Management Tools
Kay Alwert, Ingo Hoffmann................................................................. 114

6.1 Definition of KM-Tool and the IPK Approach ........................................ 115
6.2 Structuring Knowledge and Information .............................................. 117
   6.2.1 Definition of Knowledge Structure ............................................ 117
   6.2.2 Search Strategies and Knowledge Structure ................................. 118
   6.2.3 Methods of Structuring Knowledge and Information ............... 119
6.3 Knowledge Technologies ...................................................................... 126
   6.3.1 Various Classifications of Knowledge Management Tools ............ 126
   6.3.2 Technology Enablers ................................................................... 129
   6.3.3 Visualization .............................................................................. 134
6.4 Choosing the Right KM Tool ............................................................... 135
6.5 Outlook ............................................................................................... 139
6.6 List of Knowledge Management Tools ............................................... 141

7 Intellectual Capital: Measuring Knowledge Management
Robert Schindler, Arne Jaitner................................................................. 151

7.1 Efforts of National and International Organizations .............................. 153
7.2 Methods for Measuring IC ................................................................. 154
   7.2.1 Measuring IC by Financial/Quantitative Indicators ...................... 155
   7.2.2 Measuring IC by Non-Financial Indicators ................................... 158
7.3 Evaluation of KM Measures .................................................................. 172
7.4 Outlook ............................................................................................... 174

Part II: Survey

8 Delphi Study on the Future of Knowledge Management –
   Overview of the Results
Wolfgang Scholl, Peter Heisig ................................................................. 179

8.1 Objectives and Methodical Approach of the Delphi Study ..................... 179
8.2 Results on Theoretical Issues and Approaches ..................................... 181
   8.2.1 Most Challenging Theoretical Research Issues for KM .............. 182
   8.2.2 Most Promising Theoretical Approach for KM ......................... 183
   8.2.3 Most Important Theoretical Advancements in KM ..................... 184
8.3 Results on Practical Issues and Approaches ....................................... 185
   8.3.1 Most Challenging Practical Problem of KM ............................... 185
   8.3.2 Most Promising Practical Approaches for KM ......................... 186
9 A Survey on Good Practices in Knowledge Management in European Companies
Rob van der Spek, Geoff Carter

9.1 Introduction
9.2 What Do We Mean by Knowledge Management?
9.3 What were the Issues Addressed in the Study?
9.4 General Information on Respondents
9.5 Knowledge Management in Respondent Organizations
9.6 Strategies for Knowledge
9.7 Enablers for Knowledge Management
9.8 Cultural and Motivational Issues
9.9 Leadership and Involvement of Management
9.10 Competency Building in Knowledge Management
9.11 Communication about Knowledge Management
9.12 Results and Metrics
9.13 Conclusions

10 How German Companies Employ Knowledge Management.
An OECD Survey on Usage, Motivations and Effects
Jakob Edler

10.1 Introduction: Context and Scope
10.2 The Sample
10.3 Usage of KM Practice
10.4 Motivation Patterns
10.5 Reported Effects of KM
10.6 The Institutional Commitment for KM
10.7 Conclusions
Part III: Case Studies

11 Knowledge Management – Results of a Benchmarking Study
Cornelia Baumbach, Anja Schulze .................................................. 225

11.1 Project Overview ............................................................................ 225
11.1.1 Demographic Background and Organization ......................... 226
11.1.2 Strategic Positioning of Knowledge Management and Integration of Knowledge Management into the Organization 226
11.1.3 Knowledge Management Processes .................................... 227
11.1.4 Knowledge Management Tools ........................................... 227
11.1.5 Motivation and Acceptance of Knowledge Management ........ 227
11.1.6 Conclusion ............................................................................. 228

11.2 On the Road ................................................................................ 228
11.2.1 Is there a Common Understanding? ...................................... 228

11.3 Not Re-Inventing the Wheel ....................................................... 232
11.3.1 Building on the Existing ....................................................... 232
11.3.2 KISS – Keep it Small and Simple! ........................................ 234

11.4 The Recipe .................................................................................. 234
11.4.1 Sound Decision-Making Preparation .................................. 235
11.4.2 Step by Step! .......................................................................... 235
11.4.3 “Implementing Knowledge Management – The Long Road” .... 236

11.5 Branding + Marketing = Positive Attraction ......................... 237
11.5.1 Branding – Beating the Big Drum ...................................... 237
11.5.2 Marketing ............................................................................ 237
11.5.3 Attractive (Knowledge) Management Ensures Utilization .... 238

11.6 Who Does Knowledge Management Belong to? ................. 238
11.6.1 Who is Suited for What? ...................................................... 238
11.6.2 A Change of Direction Requires Caretakers! ..................... 240

11.7 A Toolbox for Knowledge Management ............................... 241
11.7.1 Building Gateways to Knowledge ...................................... 241
11.7.2 Opening up Sources of Knowledge .................................... 243
11.7.3 Learning, Learning and Learning ....................................... 244
11.7.4 Raising the Competency Level .......................................... 247
11.7.5 Preserving Treasures ......................................................... 248

11.8 Summary .................................................................................... 249

12 Knowledge Management: The Holistic Approach of
Arthur D. Little, Inc.
Peter Heisig, Frank Spellerberg, Patricia Spallek ............................. 251

12.1 Distributed Teams as the Starting Point ............................... 252
12.2 Content, Context and Culture are in the Permanent Process of Being Assessed

12.3 ADL-Link: A Straightforward Intranet Approach

12.4 Elaborated Knowledge Roles Complement the Knowledge Management Process

12.4.1 The Process

12.4.2 The Roles

12.5 The Knowledge Steward

12.6 Principles and Qualitative Success Stories

13 The Aventis Approach to Knowledge Management: Locating Inhouse Expertise for Immediate Anytime, Anywhere Availability

Jürgen Oldigs-Kerber, Alla Shpilsky, Stephen Sorensen

13.1 Facilitating Knowledge Management at Aventis DI&A Using KnowledgeMail

13.2 Low Workload Expertise Ascertainment (Profiling)

13.3 KM Approaches from the Standpoint of Planned Organizational Change and the Balanced Scorecard

13.4 User Experiences

13.5 Business Benefits

13.5.1 Calculating the Business Benefits

13.6 Summary of Results

14 Cultural Change Triggers Best Practice Sharing - British Aerospace plc.

Peter Heisig, Jens Vorbeck

14.1 The Cultural Change Programme: Benchmark BAE

14.1.1 From Values to Operational Goals

14.1.2 Monitoring and Coaching

14.2 British Aerospace Virtual University

14.3 Best Practice Sharing at British Aerospace

14.4 Best Practice Sharing in 1998

14.4.1 The Benchmarking & Best Practice Center Acts as Knowledge Broker

14.4.2 How to Structure Knowledge and Best Practices

14.5 Moving forward to 2000
## 15 Knowledge Management and Customer Orientation
Hewlett Packard Austria

*Jens Vorbeck, Peter Heisig* ...................................................... 283

15.1 Customer Knowledge and Customer Orientation as the Main Motivation for Knowledge Management ........................................ 283
15.2 Challenges in the Process of “Understanding Customers and Markets” .......................................................... 285
15.3 Corporate Culture: A Traditional Strength of HP .............................. 285
15.4 Customer Voice: If You Want to Know the Customer's Needs – Ask Him and Don't Presume You Already Know the Answer ........ 287
15.5 New Project Management in the Business Field “Professional Services” .......................................................... 290
15.6 An “Evolutionary” Knowledge Management Approach .................. 291

## 16 Knowledge Management in a Global Company – IBM Global Services

*Jens Vorbeck, Peter Heisig, Andrea Martin, Peter Schütt* ............... 292

16.1 Introduction of Knowledge Management ...................................... 293
16.2 The Important Dimensions of Knowledge .................................. 293
16.3 IBM's Approach: Intellectual Capital Management .................... 295
16.4 Intellectual Capital Management at the Unit Infrastructure & Systems Management .................................................. 296
16.4.1 ShareNet ........................................................................ 298
16.4.2 ICM Tool to Support Knowledge Exchange .......................... 298
16.4.3 IC Seekers ..................................................................... 300
16.4.4 Knowledge Cafés ............................................................. 301
16.4.5 Methodology Repository ................................................ 301
16.4.6 Communications ............................................................. 302
16.5 Intellectual Capital Management at the Unit Automotive Services .... 303
16.6 Achievements ......................................................................... 303

## 17 Open Minded Corporate Culture and Management Supports the Sharing of External and Internal Knowledge – Phonak

*Peter Heisig, Christian Berg, Peter Drtina* .................................. 305

17.1 Knowledge as Part of the Corporate Philosophy ....................... 306
17.2 Internal and External Cooperation to Create, Acquire and Share the Best Know-How ............................................................. 306
17.3 Corporate Culture to Foster Cooperation and Communication .... 307
17.4 Management Actions to Support the Exchange and Generation of Knowledge .................................................. 308
18 Sharing Process Knowledge in Production Environments – Roche Diagnostics – Laboratory Systems
Jens Vorbeck, Ina Finke ........................................313

18.1 Knowledge Management and Organizational Development: Two Complementing Efforts ...........................................313
18.2 Team Building and Team Empowerment as a Basis for Cultural Change ...........................................315
18.3 It is not the Technology that Allows Access to Data but a Trusting Culture ...........................................316
18.4 A Company Specific Conceptual Framework for the Realization of Knowledge Management ...........................................317
18.5 Informal Interviews for the Identification of Knowledge and the Setting of Knowledge Goals ...........................................318
18.6 Continuing Education as the Basis for the Creation, Spread and Storage of Knowledge ...........................................318
18.7 Roche's Experience with Knowledge Management at the Production Level ...........................................320

19 KnowledgeSharing@MED – Enabling Knowledge Sharing by Turning Knowledge into Business
Manuela Müller ...........................................321

19.1 Corporate Context ...........................................321
19.2 Strategy and Approach of Knowledge Management at Siemens Medical Solutions ...........................................322
19.2.1 Strong Top Management Integration and Support ...........................................323
19.2.2 Taxonomy – Creating the Right and Common Context ...........................................324
19.2.3 Best Practice Networks – Working in Multiple Collaborative Environments ...........................................324
19.2.4 Creating a Flexible and User-Friendly IT Landscape ...........................................325
19.2.5 Designing Support Structures and Processes ...........................................325
19.2.6 Integrating Incentive Structures ...........................................326
19.3 Turning Ideas into Practice – The KnowledgeSharing@MED Solutions ...........................................326
19.3.1 Knowledge Square ...........................................327
19.3.2 People@MED ...........................................328
19.3.3 Communities of Practice ...........................................328
19.3.4 Mobile Business Solution ...........................................330
Part IV: KM – Made in Europe

20 Building Communities. Organizational Knowledge Management within the European Commission’s Information Society Technologies Programme

Paul Hearn, Agnes Bradier, Anne Joubert

20.1 Introduction ..................................................................................................................... 336
20.2 The History of Knowledge Management Research at the European Commission ............ 337
20.3 Major Challenges Ahead in the Field of Knowledge Management ................................... 338
20.4 Building Strong Constituencies and Networks ............................................................. 339
20.5 Future and Promising Research Areas to be Addressed in Framework Programme VI ........ 342
20.6 Research Views ............................................................................................................. 343
   20.6.1 Strategic View ........................................................................................................ 343
   20.6.2 Organizational View ............................................................................................. 344
   20.6.3 Product/Service View .......................................................................................... 344
   20.6.4 Infrastructure View .............................................................................................. 345
20.7 The Road Ahead ............................................................................................................ 345
20.8 Abstract ......................................................................................................................... 346

List of Figures ......................................................................................................................... 347

References ............................................................................................................................ 352

Recommended Further Readings ......................................................................................... 369

Editors .................................................................................................................................. 374

Contributors ........................................................................................................................ 376

Index .................................................................................................................................. 380