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# Future Challenges and Practical Solutions for Knowledge Management

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**HKKMS-KMIRC seminar**  
Hong Kong, 21<sup>st</sup> March 2017

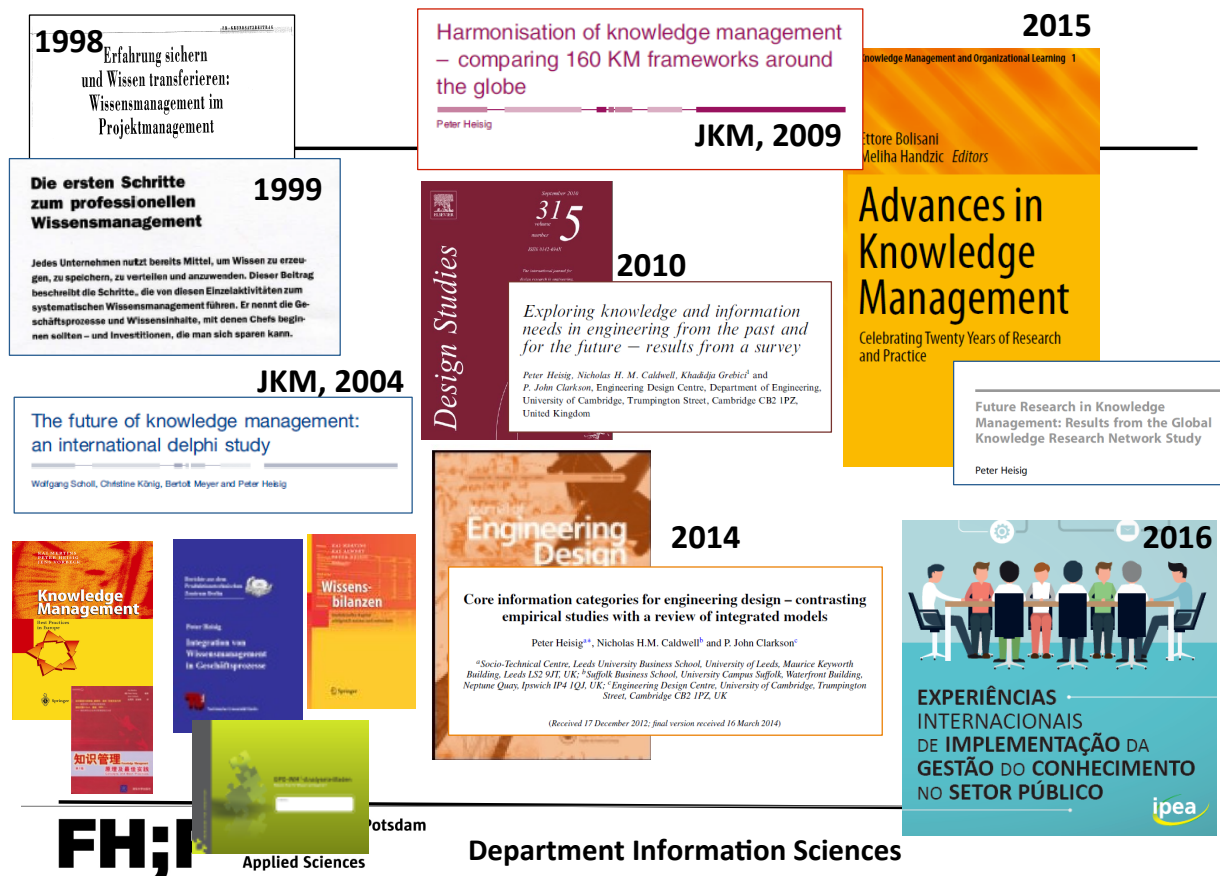
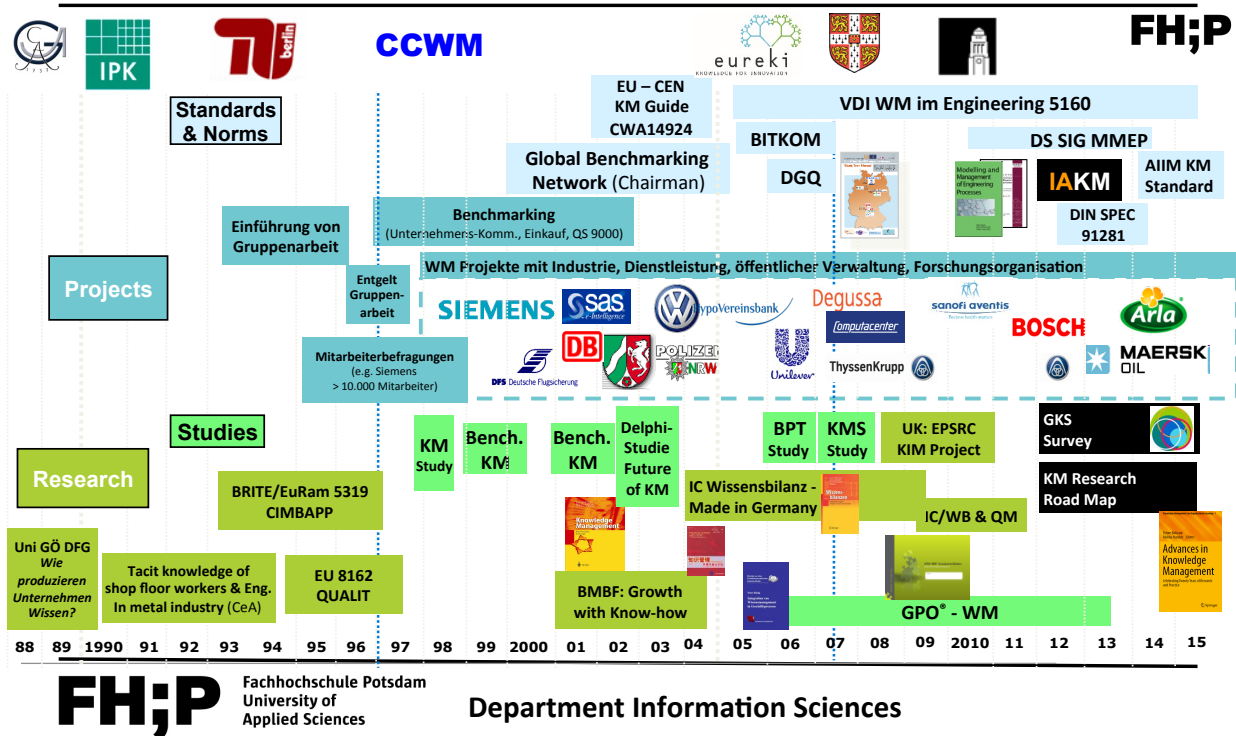
## Overview

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- **Challenges in Knowledge Management**
- **Practical Solution for Knowledge Management**

# Background – Peter Heisig

25+ years experiences in knowledge in organisations



# Potsdam, 52° 24' N , 13° 4' O

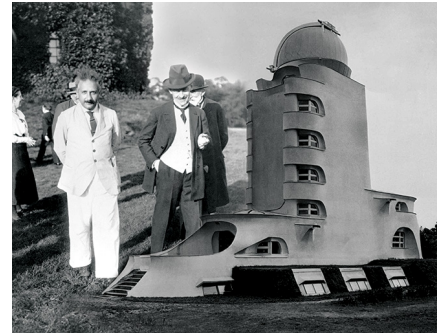
## Palaces and Rulers



## Movies and Stars



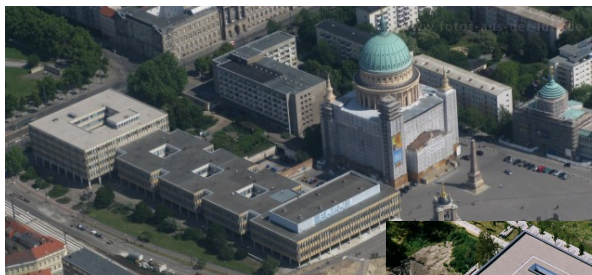
## Research and Scientists



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**1991** – newly founded

Five Departments:

- Welfare and Educational Sciences
- Architecture and Urban Development
- Civil Engineering
- Design
- Information Sciences



Forschendes Lernen  
Lehrende Forschung  
an der FH Potsdam

Ausgezeichnet!  
Wettbewerb exzellente Lehre

## In numbers:

**105** Professors

**90** Academic staff

**130** Other staff

**3.338** Students (WS 2015/16)

**600** Graduates per year

Budget: **23,23 Mio. €** (2016)



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# Overview

- Challenges in Knowledge Management
- Practical Solutions for Knowledge Management

## How many peer-reviewed Knowledge Management & Intellectual Capital journals are there since 1994?

Table VII Final KM/IC academic journal ranking list – expert survey (i.e., stated preference) and citation impact (i.e., revealed preference) methods combined					
Rank	Tier	Title	Year launched	Score	2008 rank
1	A +	<i>Journal of Knowledge Management</i>	1997	4.274	1
2	A +	<i>Journal of Intellectual Capital</i>	2000	2.804	2
3	A	<i>The Learning Organization</i>	1994	2.118	3
4	A	<i>Knowledge Management Research &amp; Practice</i>	2003	2.089	5
5	A	<i>Knowledge and Process Management: The Journal of Corporate Transformation</i>	1997	1.759	4
6	A	<i>International Journal of Knowledge Management</i>	2005	1.590	6
7	B	<i>Journal of Information and Knowledge Management</i>	2002	1.395	8
8	B	<i>Journal of Knowledge Management Practice</i>	1998	1.181	7
9	B	<i>Electronic Journal of Knowledge Management</i>	2003	1.000	9
10	B	<i>International Journal of Learning and Intellectual Capital</i>	2004	0.918	10
11	B	<i>International Journal of Knowledge and Learning</i>	2005	0.895	11
12	B	<i>VINE: The Journal of Information and Knowledge Management Systems</i>	2003	0.889	12
13	B	<i>International Journal of Knowledge Management Studies</i>	2006	0.594	13
14	B	<i>Interdisciplinary Journal of Information, Knowledge and Management</i>	2006	0.542	16
15	B	<i>International Journal of Knowledge, Culture and Change Management</i>	2001	0.513	14
16	B	<i>International Journal of Knowledge-Based Development</i>	2010	0.415	N/A
17	B	<i>Knowledge Management for Development Journal</i>	2005	0.367	18
18	B	<i>International Journal of Knowledge-Based Organizations</i>	2011	0.358	N/A
19	B	<i>Knowledge Management &amp; E-Learning: An International Journal</i>	2009	0.356	N/A
20	C	<i>International Journal of Knowledge Society Research</i>	2010	0.209	N/A
21	C	<i>The IUP Journal of Knowledge Management (formerly The ICFAI Journal of Knowledge Management)</i>	2003	0.202	20
22	C	<i>Intangible Capital</i>	2004	0.170	N/A
23	C	<i>Open Journal of Knowledge Management</i>	2010	0.131	N/A
24	C	<i>actKM: Online Journal of Knowledge Management</i>	2004	0.127	N/A
25	C	<i>International Journal of Knowledge and Systems Science</i>	2010	0.106	N/A

Source: Serenko, Bontis 2013

## And another 25 academic journals addressing KM/IC relevant topics!

Title	Year launched
<i>Data &amp; Knowledge Engineering</i>	1985
<i>Data Mining and Knowledge Discovery</i>	1997
<i>Expert Systems: The Journal of Knowledge Engineering</i>	1984
<i>IEEE Transactions on Knowledge and Data Engineering</i>	1989
<i>Information, Knowledge, Systems Management</i>	1999
<i>International Journal of Applied Knowledge Management (out of print)</i>	2007
<i>International Journal of Human Capital and Information Technology Professionals</i>	2010
<i>International Journal of Information Technology and Knowledge Management</i>	2008
<i>International Journal of Knowledge-Based and Intelligent Engineering Systems</i>	1997
<i>International Journal of Nuclear Knowledge Management</i>	2004
<i>International Journal of Software Engineering and Knowledge Engineering</i>	1991
<i>International Journal of Technology, Knowledge and Society</i>	2005
<i>Journal of Data Mining and Knowledge Discovery</i>	2010
<i>Journal of e-Learning and Knowledge Society</i>	2005
<i>Journal of Human Capital</i>	2007
<i>Journal of Human Resource Costing &amp; Accounting</i>	1996
<i>Journal of Knowledge-Based Innovation in China</i>	2009
<i>Journal of Knowledge Management, Economics and Information Technology</i>	2010
<i>Journal of Universal Knowledge Management (out of print)</i>	2005
<i>Knowledge and Information Systems: An International Journal</i>	1999
<i>Knowledge and Innovation: Journal of the KMCI (out of print)</i>	2000
<i>Knowledge-Based Systems</i>	1987
<i>Knowledge, Technology &amp; Policy</i>	1988
<i>Management Learning: The Journal for Managerial and Organizational Learning</i>	1970
<i>Social Epistemology: A Journal of Knowledge, Culture and Policy</i>	1987
<i>The Knowledge Engineering Review</i>	1984

Source: Serenko, Bontis 2013



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## Knowledge Management – Today

- **25 scholarly peer-reviewed KM journals**  
(Serenko/Bontis 2009,2013; Serenko et al. 2010)
- **KM Conferences** (annually):  
26<sup>th</sup> ACM CIKM, 22<sup>nd</sup> APQC KM, 18<sup>th</sup> ECKM, 16<sup>th</sup> IKE, 17<sup>th</sup> i-KNOW,  
12<sup>th</sup> IFKAD, 17<sup>th</sup> KM Asia, 13<sup>th</sup> ICTK&S, 14<sup>th</sup> ICICKM, 12<sup>th</sup> KMO, 9<sup>th</sup> ECIC,  
9<sup>th</sup> IC3K, 6<sup>th</sup> ICIKM, etc. plus tracks at other conferences (e.g. BAM K&L)  
  
=> most KM conferences are still dominated by technology-oriented research communities
- **Only few dedicated KM chairs at universities**  
(e.g. AU, DE, FIN, HK, NOR, SA, UK, USA)



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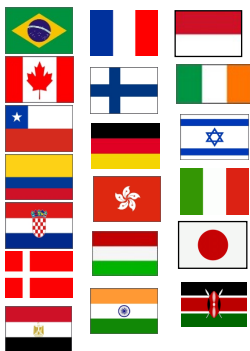
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## Knowledge Management – Today

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- Generations of KM 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, ...
- Not another ‘fad’ or ‘fashion’ (Ponzi & Koenig 2002, Serenko & Bontis 2013)
- “Beyond KM” (Lehaney et al. 2004; Jordan & Mitterhofer, 2010)
- *“not yet a reference discipline, but is progressing well towards becoming one”* (Serenko & Bontis 2013)
- *“clear trend in progress”, but without a “common consensus on the direction of its future development”, due to “the lack of research background and conceptual robustness”* (Tzortzaki and Mihiotis, 2014)

## Global Knowledge Research Network

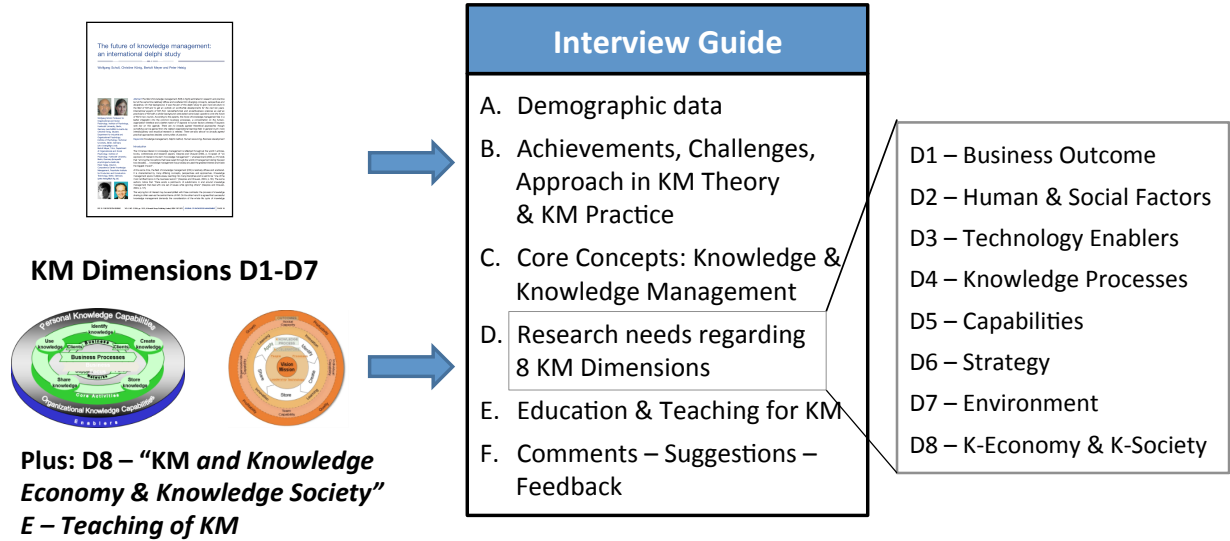


### We aim ...

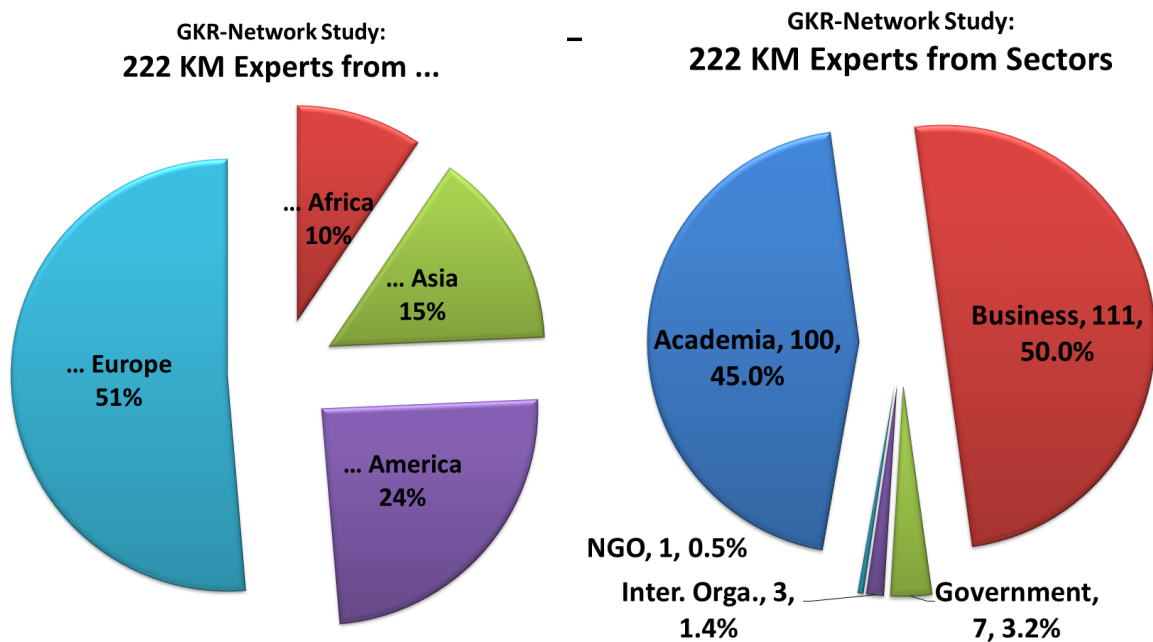
- ... to undertake world-class collaborative research
- ... to provide evidence based advice to practical challenges
- ... to advance theoretical understanding of knowledge and
- ... to help our communities to advance and flourish based on the best use of knowledge and experiences.

# GKR-Network Global KM Expert Study: Instrument

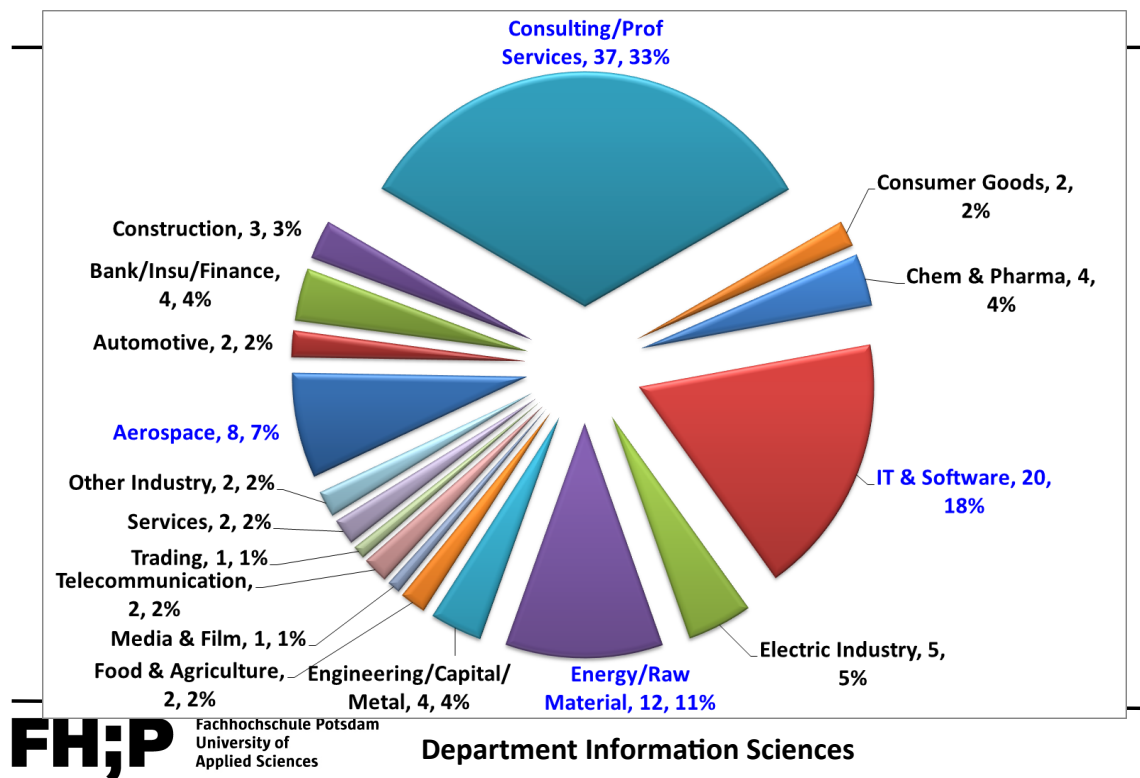
## Delphi Study Questions – B



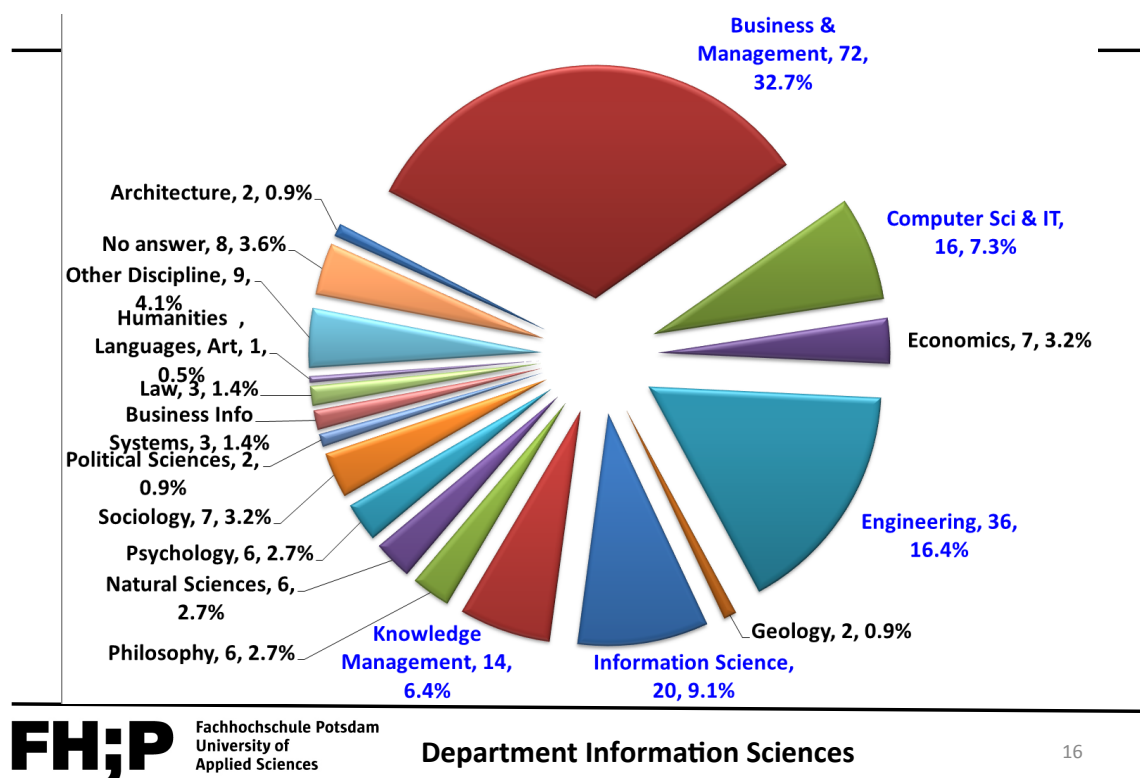
## Global Expert Study: Our Sample



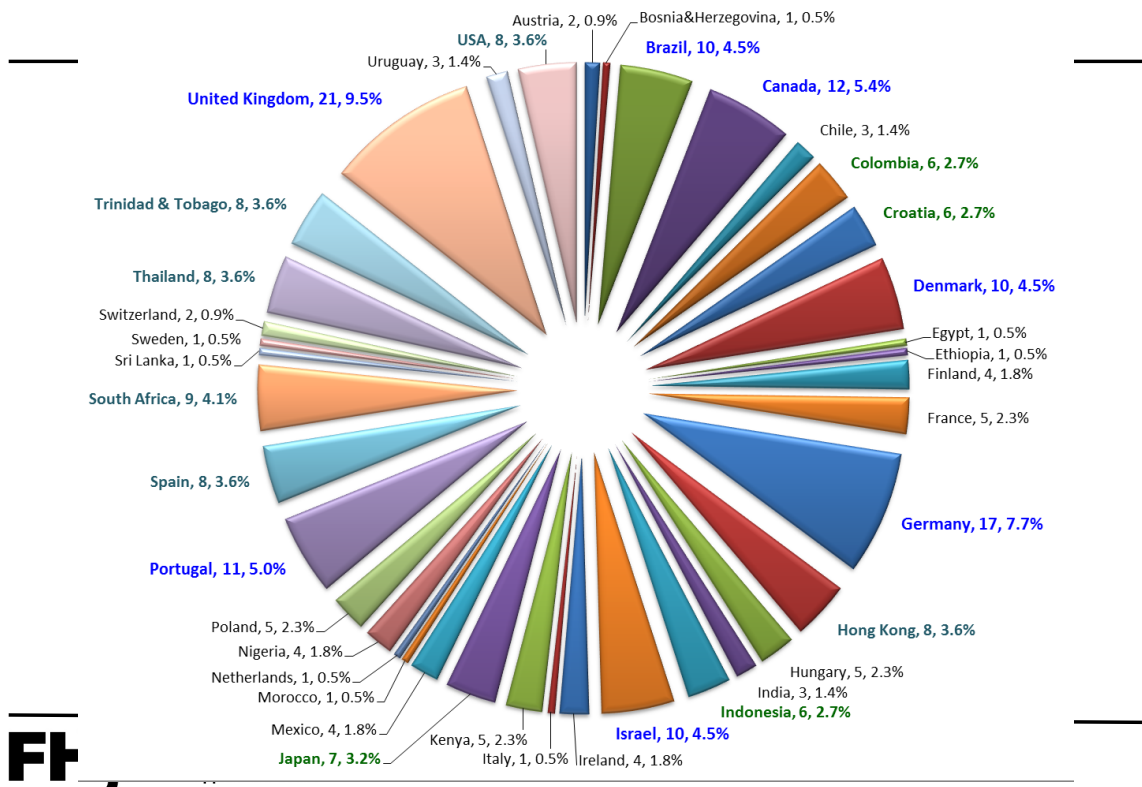
Our Sample – n=119 from industry – total=222



Our Sample – n=222 – Disciplines



## Our Sample – n=222 – Countries

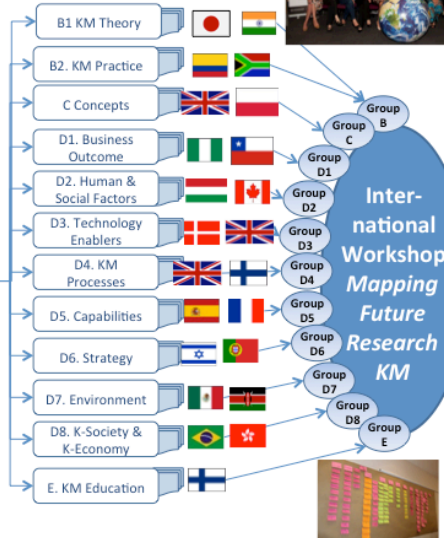


**Ft**

## Research Road Mapping Process & Dissemination



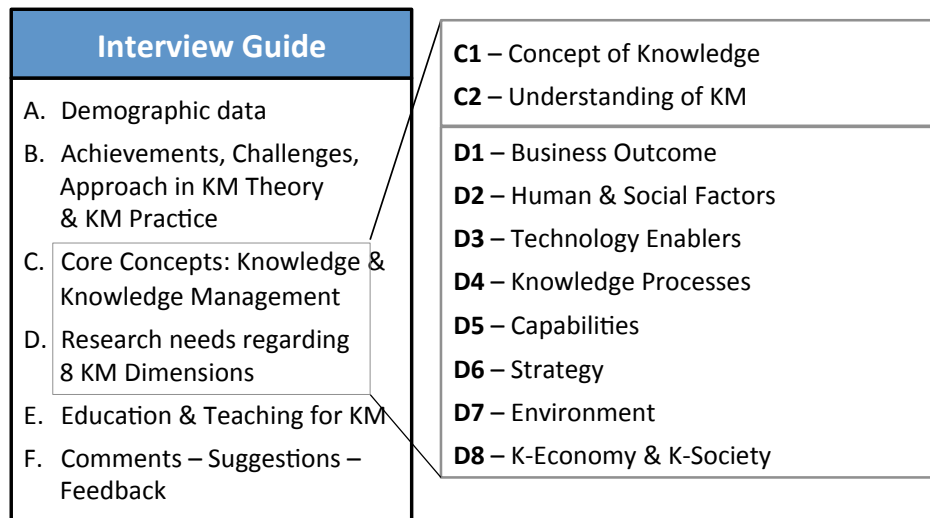
**KM Expert Interviews**  
127 recorded = 6900 hrs.  
95 written responses



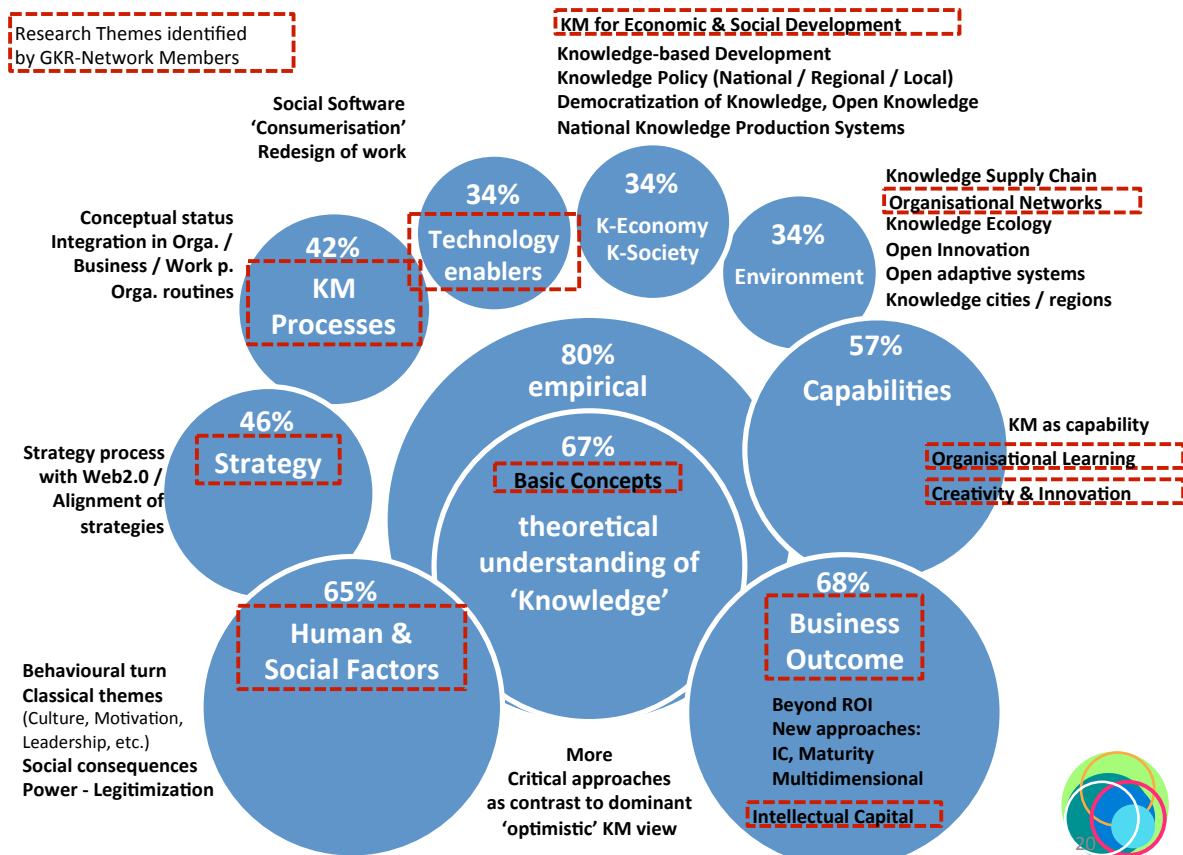
**Research & Dissemination of Results**



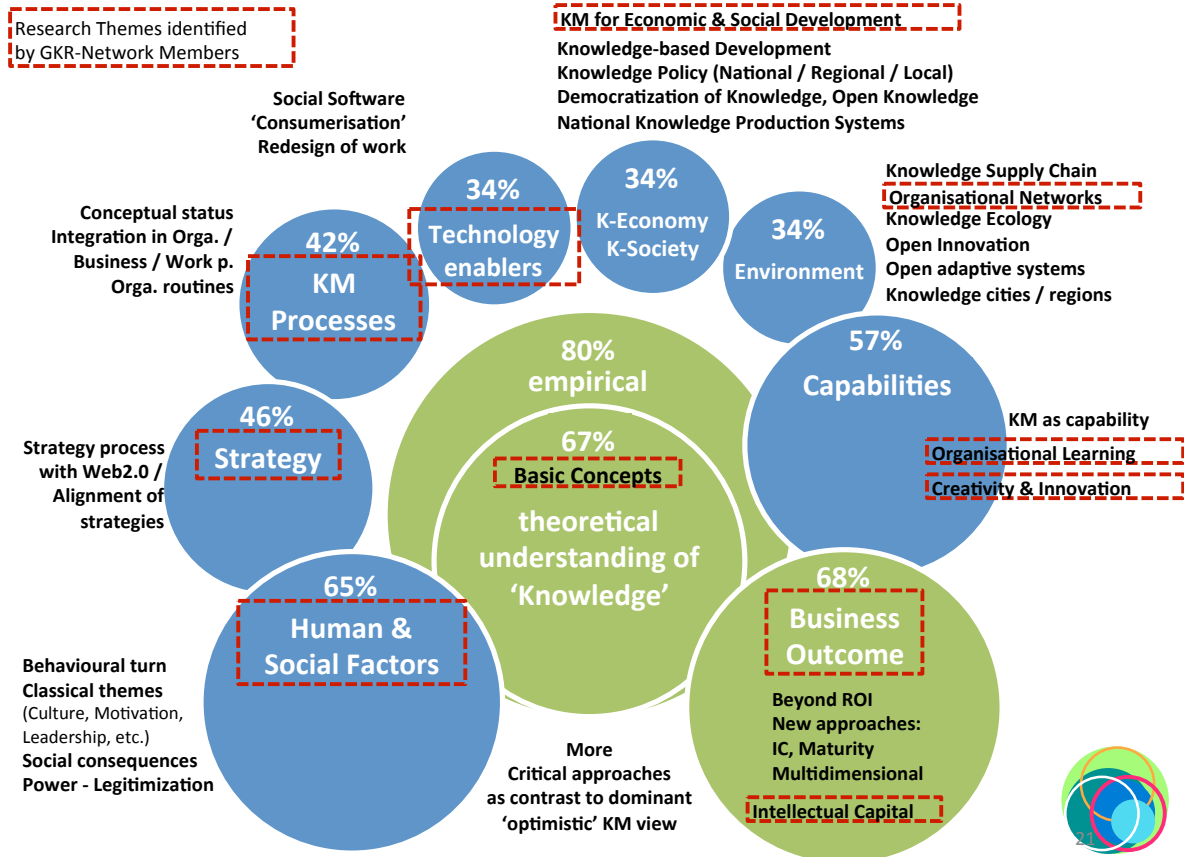
# Where is research most needed? What's your guess?



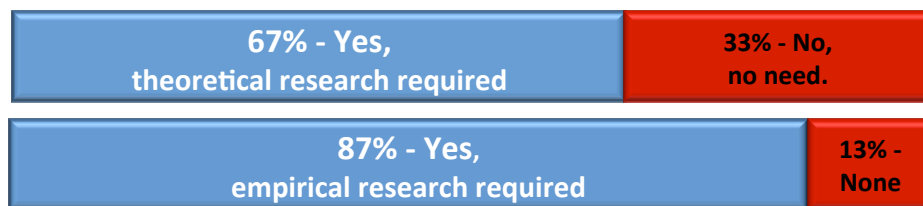
## Importance of KM research areas and selected research themes



## Importance of KM research areas and selected research themes



## GKRN Global Expert Study Core Concept: Knowledge



KM research should re-visit the core concept of 'knowledge'.

- "Yes, absolutely. I mean, from a practitioner point of view, I think we've horrible misinterpreted what knowledge is." (CA-03-CPS-EKM-12-BM)
- "There are any concepts which may confuse practitioners (business people), this is why such research is needed mostly according to difference in understanding what knowledge is." (PL-03-HE-SL-20-SOC)
- "Very much so, because you are going to experience problems in practice if you don't understand how complex a concept knowledge is and you're not going to understand why you are experiencing those problems or those barriers to sharing." (ZA-06-CG-OB-6-KM)
- "It has been sufficiently researched" (IL-09-ITS-CKO-15-NA)

## Future Research Needs in KM

### Results

Q.: Is there a need to undertake research related to the understanding of “Knowledge”?

Knowledge	All experts		Academia		Practice	
	Yes	No	Yes	No	Yes	No
C2. Theoretical (n=177)	67% (118)	33% (59)	80% (67)	20% (17)	55% (51)	45% (42)
C3. Empirical (n=164)	87% (143)	13% (21)	94% (74)	6% (5)	81% (69)	19% (16)

## Future Research Needs in KM

### Results

#### C2 – Knowledge concept – Theoretical research: No need (33%)

- “I do not believe so. Several authors have spent time studying this subject” (BR-05-CPS-EKM-14-OD)
- “It has been sufficiently researched” (IL-09-ITS-CKO-15-NA).

#### C2 – Knowledge concept – Theoretical research: Yes, research needed (67%)

- **To avoid misinterpretation or raise the awareness of the complexity of the subject:**  
“Yes, absolutely. I mean, from a practitioner point of view, I think we’ve horrible misinterpreted what knowledge is. We’ve been captured by the data information, knowledge pyramid. We need a new understanding of knowledge at a practitioner level, but based on really good thinking from an academic side.” (CA-03-CPS-EKM-12-BM)
- **To reduce confusion:**  
“There are any concepts which may confuse practitioners (business people), this is why such research is needed mostly according to difference in understanding what knowledge is.” (PL-03-HE-SL-20-SOC)
- **To guide practice:**  
“Yes, there is a need to undertake research related to the theoretical understanding of ‘knowledge’ to guide an improved way to apply the concept in the organization.” (BR-08-ITS-CKO-3-BM)
- **To increase understanding of the complexity:**  
“Very much so, because you are going to experience problems in practice if you don’t understand how complex a concept knowledge is and you’re not going to understand why you are experiencing those problems or those barriers to sharing.” (ZA-06-CG-OB-6-KM)

# Only 3 of 4 KM Frameworks make their understanding of knowledge explicit

**Table II** Knowledge dichotomies

Dichotomy	Count
1 Implicit/tacit – explicit knowledge	42
2 Individual – organisational/collective knowledge	12
3 Internal – external knowledge	6
4 Knowledge as process – Knowledge as product	5
5 Undocumented – documented knowledge	3
6 Structured/ordered – unstructured knowledge	2
7 Used – unused knowledge	2
8 Relevant – irrelevant knowledge	2
9 Objective – subjective knowledge	2
10 Knowledge from experiences – knowledge from rationality	1
11 Public – proprietary knowledge	1
12 Actual – future knowledge	1
13 Public – scientific knowledge	1
14 Industry specific – firm specific knowledge	1
15 Complex – simple knowledge	1
16 Hidden – visible knowledge	1
17 (Electronically) inaccessible – (electronically) accessible knowledge	1
18 Unsecured – secured knowledge	1
19 Informal, unapproved – formal, institutionalised, approved knowledge	1
Specific, particular, contextualized – abstract, general, de-contextualized knowledge	1
20 Codified – un-codified knowledge	1
21 Abstract – concrete knowledge	1
22 Un-diffused – diffused knowledge	1
23 Declarable – non-declarable knowledge	1
24 Observable – non-observable knowledge	1
25 Autonomous – systematic knowledge	1
26 Positive – negative knowledge	1
27 Low-value – high-value knowledge	1
28 Historical – potential knowledge	1

Note: n = 62 of 119

Heisig (2009)  
Harmonisation of  
knowledge  
management –  
comparing 160 KM  
frameworks around  
the globe

## Core Concept: Theoretical perspective 'Knowledge'

- **Tacit/implicit – explicit knowledge**
  - Most used dichotomy in KM Frameworks (Heisig, 2009)
  - Several different, even contradictory conceptual understandings in empirical research (Gourlay, 2004, 2006)
  - Is tacit knowledge knowledge? (Kann implizites Wissen Wissen sein?) (Schreyögg, Geiger, 2002)
- **Data – Information – Knowledge – Wisdom**
  - Five models for defining D-I-K (Zins, 2009)
  - Criticized as bearing a logical error and methodically undesirable (Fricke, 2009)
  - "Data Is More Than Knowledge - Reverse Knowledge hierarchy (Tuomi, 1999)
- **Knowing as practice**
  - Practice-based understanding of knowing (Nicolini, Gherardi, Yanow, 2003)
  - KM beyond codification (Styhre, 2003)
- **Organizational knowing**
  - Theory of Firm – organizational knowing: data, meaning and skilled practice (Spender, 2007, 2015)

## Core Concept: Theoretical perspective

Reverse the Data – Information – Knowledge Hierarchy?

### Data Is More Than Knowledge: Implications of the Reversed Knowledge Hierarchy for Knowledge Management and Organizational Memory

ILKKA TUOMI

Journal of Management Information Systems, 1999, Vol. 16, No. 3. pp. 103-117

**FH;P**

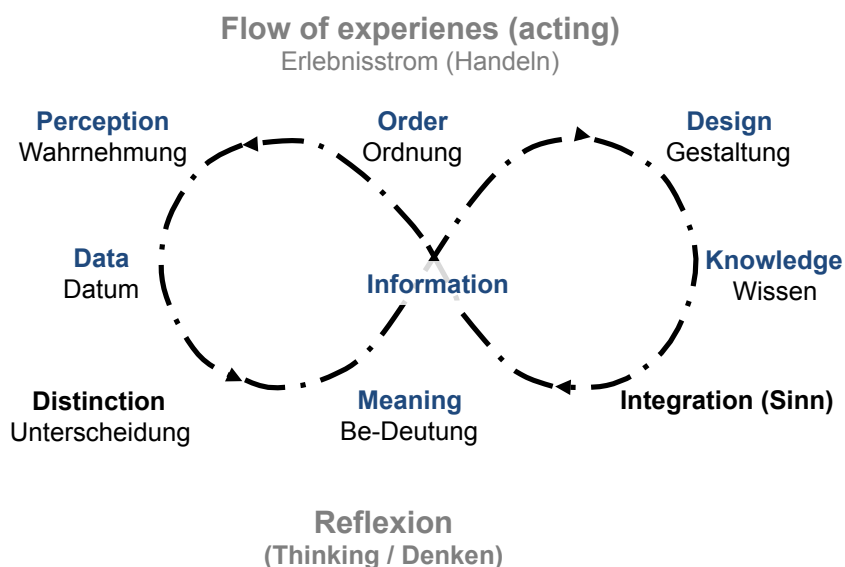
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## Core Concept: Theoretical perspective

Knowledge as part of acting and thinking – Action theoretical  
perspective from work psychology



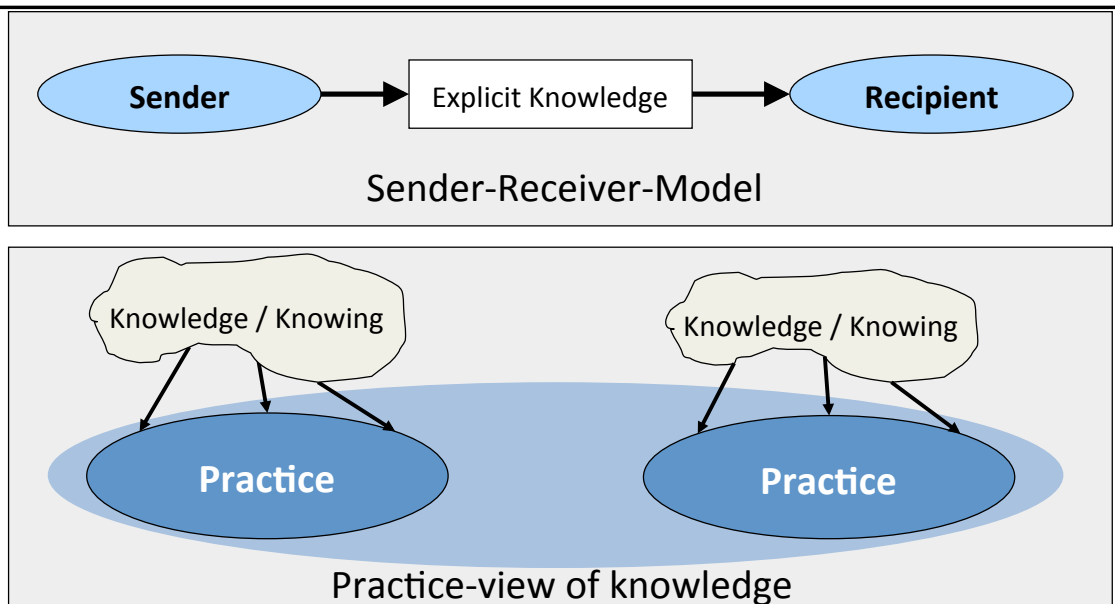
Source: Derhoven, Dick, Wehner 1999

**FH;P**

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Dominant is a functionalist/object-view of knowledge.  
The practice-based view is non-existent (<2%) in our sample.



## GKRN Global Expert Study

### Conclusions

KM research needs to address five main challenges:

1. Re-visit core concepts ,knowledge', ,knowledge processes', etc.
2. Experiment with biological and ecological models
3. Explain and demonstrate its value contribution
4. Exploit the research of its behavioural root disciplines
5. Conduct more critical studies & design research

# Global Knowledge Research Network

## Acknowledgement to 41 colleagues from 32 countries

**Brazil:** Fábio Ferreira Batista, Instituto de Pesquisa Econômica Aplicada (IPEA); **Canada:** Anthony Wensley, Max Evans, The J.L. Rotman School of Management, University of Toronto; **Chile:** Gregorio Perez Arrau, Universidad de Santiago de Chile, Facultad de Administración y Economía; **Colombia:** Ernesto Amaru Galvis Lista, Universidad Nacional de Colombia – Bogotá, Universidad del Magdalena – Santa Marta Colombia; **Croatia:** Vesna Bosilj Vuksic, Mario Storga, Faculty of Economics and Business University of Zagreb; **Denmark:** Anja Maier, Christine Ipsen, Peter Bo Sarka, Technical University of Denmark, Department of Management Engineering; **Egypt:** Nasser Fathi Easa, Business Administration Department Faculty of Commerce, Alexandria University; **Finland:** Aino Kianto, School of Business, Lappeenranta University of Technology; **France:** Karina Jensen, Reims Management School, France; **Germany:** Peter Heisig, eureka; **Hong Kong:** WB Lee, Eric Tsui, Mariza Tsakalerou, Knowledge Management and Innovation Research Center (KMIRC), The Hong Kong Polytechnic University; **Hungary:** Nóra Obermayer-Kovács, Department of Management, Faculty of Economics, University of Pannonia; **India:** Narendra M Agrawal, Center for Software and IT Management (CSITM), Indian Institute of Management Bangalore; **Indonesia:** Jann Hidajat Tjakraatmadja, School of Business and Management at Bandung Institute of Technology Bandung; **Ireland:** Brian Donnellan, Innovation Value Institute, National University of Ireland; **Israel:** Rony Dayan, Technion, Israel Institute of Technology; **Italy:** Giuseppina Passiante, Giustina Secundo, Department of Innovation Engineering, University of Salento; **Japan:** Remy Magnier-Watanabe, Graduate School of Business Science, University of Tsukuba, Tokyo; **Kenya:** Cosmas Kemboi, KCA University; **Malaysia:** Siti Arpah Noordin, Faculty of Information Management, MARA University of Technology, Puncak Perdana Campus, Shah Alam; **Mexico:** Francisco S. Carrillo, Lucia Rodriguez Aceves, Centro de Sistemas de Conocimiento, Tecnológico de Monterrey; **Morocco:** Karim Moustaghfir, Mediterranean School of e-Business Management Al Akhawayn University in Ifrane; **Nigeria:** Olunifesi Adekunle Suraj, Lagos State University, School of Communication; **Poland:** Joanna Paliszkiewicz, Magdalena Madra, Department of Economics, Warsaw University of Life Sciences; **Portugal:** Florinda Matos, Isabel Miguel, ICAA - Intellectual Capital Accreditation Association; **South Africa:** Hans Peter Müller†, Aldu Cornelissen, Centre for Knowledge Dynamics and Decision Making, University of Stellenbosch; **Spain:** Nekane Aramburu, Josune Sáenz, Deusto Business School, Universidad de Deusto, San Sebastian; **Thailand:** Vincent Ribiere, University of Bangkok; **Trinidad & Tobago:** Kit Fai Pun, Souzanne Fanovich, The University of the West Indies; **Turkey:** Yücel Yılmaz, Marmara Üniversitesi, Istanbul; **Uruguay:** Fernando Zeballos, Universidad Católica del Uruguay, Montevideo; **United Kingdom:** Nicholas Caldwell, University Campus Suffolk, Peter Heisig and Anita Samuel, Leeds University Business School, Leeds.

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## Overview

- Challenges in Knowledge Management
- Practical Solution for Knowledge Management

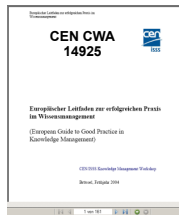


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## How many KM methods and KM tools have been proposed by researchers and practitioners?



After Action Review, Analogy-Model, Balanced Scorecards, Best Practices, Black Board, Brain pool, Brainstorming, Business TV, Coaching, "Coffee corner", Cognitive Mapping, Communication forum, communication training, Communities of Practice, Computer/Web-based Training (W/CBT), cooperation, conference calls, Corporate Universities, Data Mining, Data Warehouse Database, Debriefing, Discussion forum, Document Management System, Electronic Who-is-who, Employees interview,

Experience exchange, Experience database, External Benchmarking, Expert Interview, External Partner, Expert Systems, Hotline, Info-Centre, Information travel, Internal knowledge market, Internal Benchmarking, IC Reporting, Internet, Intranet, Intranet-Portal, Job Rotation, Knowledge Communities, Knowledge-Links, Knowledge broker, Knowledge fairs, Knowledge maps, Knowledge portfolios, Library, Literature, Learning laboratory, Learning modules, Lessons Learned, Manuals, Management by Knowledge Objectives,

Mentoring, Mergers&Acquisitions, Method 4+1, Method 635, Morphology, Newsgroups, Open Space, Patent evaluation, Minutes, Newsletter, Self-reflexion, self-managing, interdisciplinary Teams, Scenario technique, Seminars, Senior-Junior-Pools, Simulation Games, Stakeholder networks, Success stories, Suggestion scheme, Technology scouts, Tele working, Think Tanks, Knowledge evaluation, Video conferences, Workflow optimization, Work-Out-Sessions, Workshops, Yellow Pages, etc.

## Case study: KM for Sales function

**Organisation:** 75 employees

**Product:** Research & Development of embedded systems and communication technologies

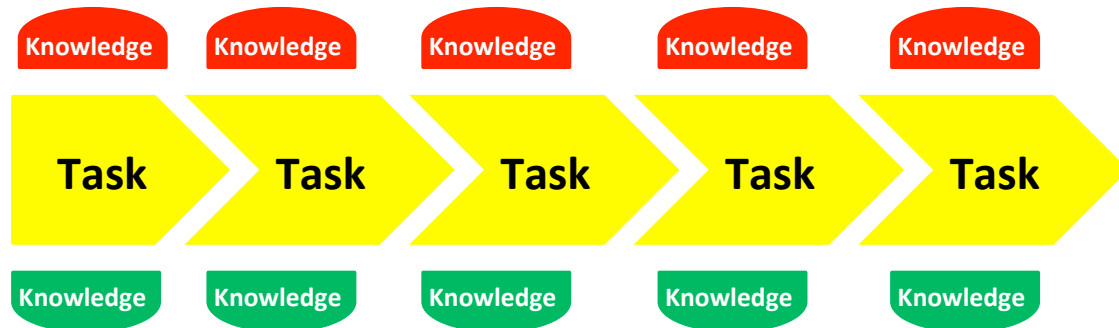
**Structure:** 5 Research groups

**Sales:** Each group is responsible for acquisition and delivery of research projects

**Project scope:** Small projects for industrial client to large collaborative European research projects

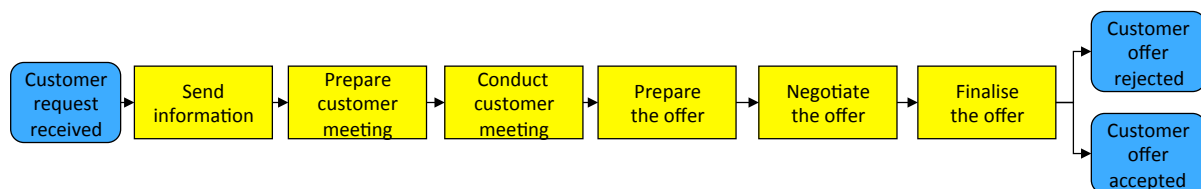
## Where do we start with KM analysis and where do we want to improve?

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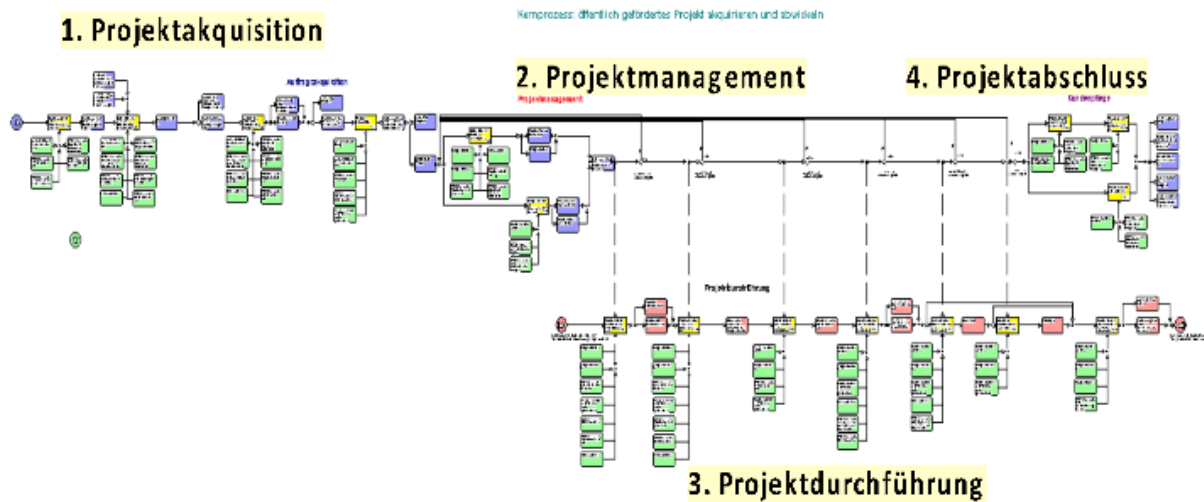


## What are the main tasks in a project sales process

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# Process visualization to identify tasks and knowledge resources



## Process visualization to identify tasks and knowledge resources

### R&D company – KM Focus: Business processes

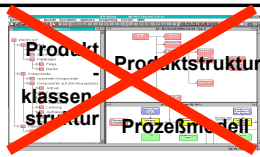
**Sales:** Project acquisition



**R&D:** Project delivery



## Alternative approaches tested in different projects



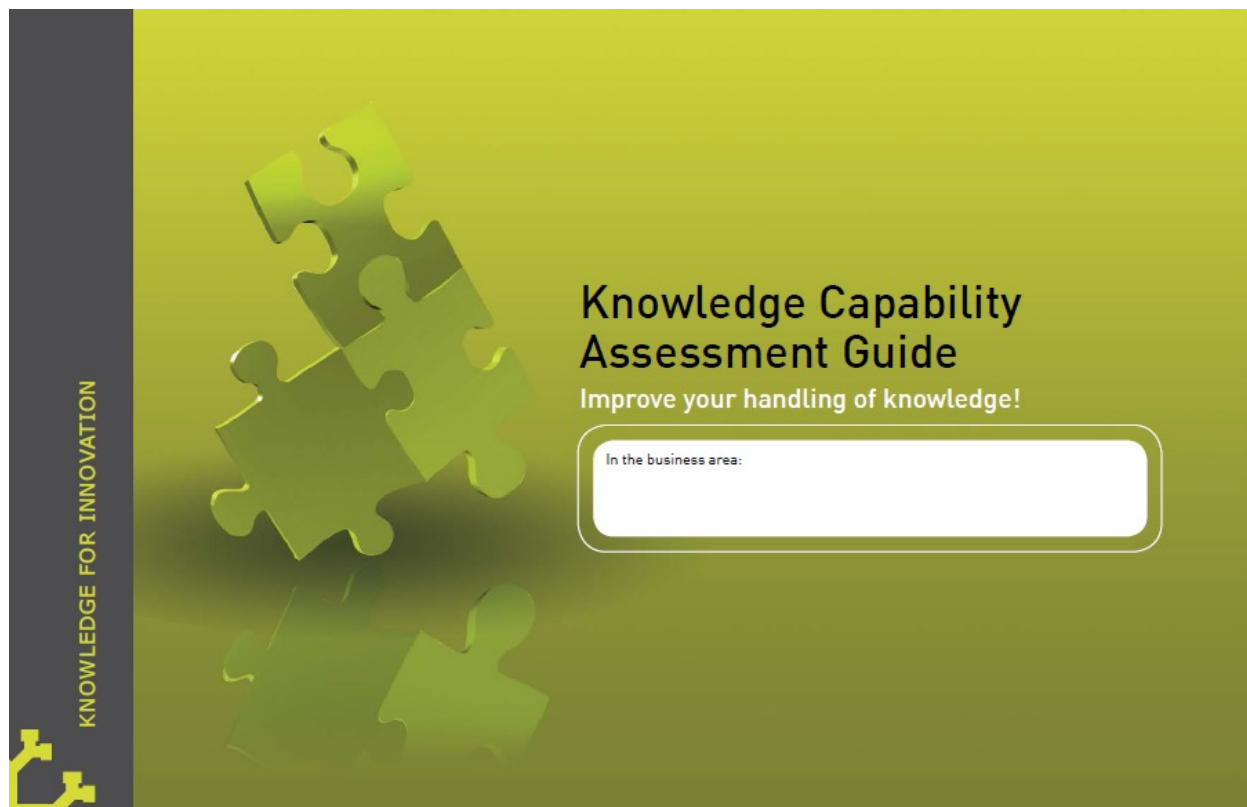
Computer-supported process modelling required a **large effort** for data gathering.



During the use of an excel-based analysis tool, we observed **acceptance issues** with our interview partners.



Semi-structured interview guide required additional analysis and could not deliver **quick results**.



# 3

## Evaluation of strenghts & potential for improvement of handling knowledge

With the following evaluation steps you will assess the procedures, methods and tools currently used to handle knowledge within the context of the selected business process. This will be done from four perspectives: create – store – share – apply – knowledge. The current procedures and tools will be described briefly, the need for improvement will be assessed, existing strengths identified and ideas for improvement collected.

The results will be visualised according to the traffic light principle.

Example:



**Tip:** Take your time to reflect about the current procedures, but keep the discussion focused on the assessment task at hand. Describe the current procedures and methods in detail and comprehensibly. Be critical regarding the assessment.

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# 3

create

## 3.1. Assessment of core activity: „create knowledge“

Which method or/and tool supports to **create**

„knowledge about .....“ within the process .....“?

Briefly: „How do you create knowledge?“

Brief description of the procedure and the applied method/tool/instruments:

1. Reflect on how?

.....  
.....  
.....

How do you assess the need for improvement regarding the described procedures and tools to create knowledge?

- Take into account the criteria reliability and efficiency of the procedures, method, tool.
- The point of reference is the successful accomplishment of the aims of the business process under analysis.

Please provide a rationale for your assessment:

3. Provide rationale for assessment

2. Assess how good?

Please fill out



**Tip:** Create knowledge: Think about the „new knowledge“ as well as important lessons and experiences gained from the daily application of knowledge in the process.

# 3

## 3.1. Potential for „Good Practice“ or ideas for improvement of the core activity „create knowledge“



Brief description of the strengths in the sense of „Good Practice“ .....

.....

What would make the „Good Practice“ a generally accepted operating procedure?.....

.....

(A) Describe Good Practice in detail



What are the weaknesses? .....

.....

What are the causes?.....

.....

(B) Describe weakness & causes



What ideas for improvement exist?.....

.....

.....

(C) Collect improvement ideas

**Tip:** Proceed with the evaluation according to your previous assessment result. If there is no need for improvement, describe the strengths and propose steps for a generally accepted procedure. If there is need for improvement, briefly describe the weaknesses and causes and suggest first ideas for improvement.

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# 3

## 3.5. Summary of your assessment

Procedure / Method / Tool

.....

Weakness or Good Practice

.....

Improvement idea / General adoption:

.....

Procedure / Method / Tool:

.....

Weakness or Good Practice

.....

Improvement idea / General adoption:

.....

Business process / area:

Knowledge domain:

Procedure / Method / Tool:

Weakness or Good Practice

Improvement idea / General adoption:

.....

Procedure / Method / Tool:

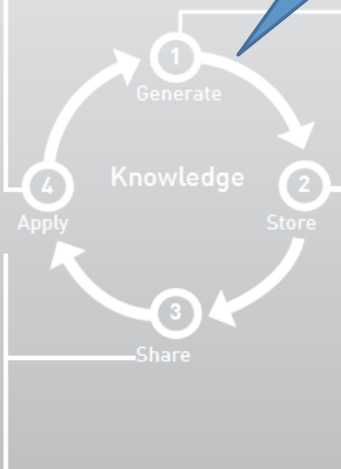
.....

Weakness or Good Practice

.....

Improvement idea / General adoption:

.....

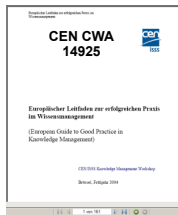


Walk-through all four views takes 90-120 min.  
=> Assessment results

**Tip:** Use this schema to sum up your assessment results and to present your first suggestions.

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My literature review identified around 300 KM methods & tools.  
This is a selection of about 80 tools:



After Action Review, Analogy-Model, Balanced Scorecards, Best Practices, Black Board, Brain pool, Brainstorming, Business TV, Coaching, "Coffee corner", Cognitive Mapping, Communication forum, communication training, Communities of Practice, Computer/Web-based Training (W/CBT), cooperation, conference calls, Corporate Universities, Data Mining, Data Warehouse Database, Debriefing, Discussion forum, Document Management System, Electronic Who-is-who, Employees interview,

Experience exchange, Experience database, External Benchmarking, Expert Interview, External Partner, Expert Systems, Hotline, Info-Centre, Information travel, Internal knowledge market, Internal Benchmarking, IC Reporting, Internet, Intranet, Intranet-Portal, Job Rotation, Knowledge Communities, Knowledge-Links, Knowledge broker, Knowledge fairs, Knowledge maps, Knowledge portfolios, Library, Literature, Learning laboratory, Learning modules, Lessons Learned, Manuals, Management by Knowledge Objectives,

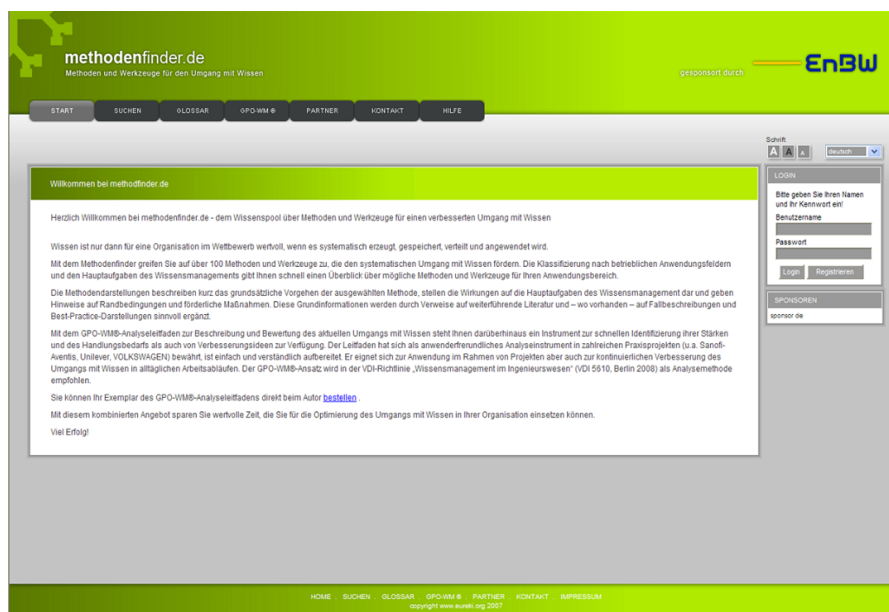
Mentoring, Mergers&Acquisitions, Method 4+1, Method 635, Morphology, Newsgroups, Open Space, Patent evaluation, Minutes, Newsletter, Self-reflexion, self-managing, interdisciplinary Teams, Scenario technique, Seminars, Senior-Junior-Pools, Simulation Games, Stakeholder networks, Success stories, Suggestion scheme, Technology scouts, Tele working, Think Tanks, Knowledge evaluation, Video conferences, Workflow optimization, Work-Out-Sessions, Workshops, Yellow Pages, etc.



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KM method database to support the development of solutions

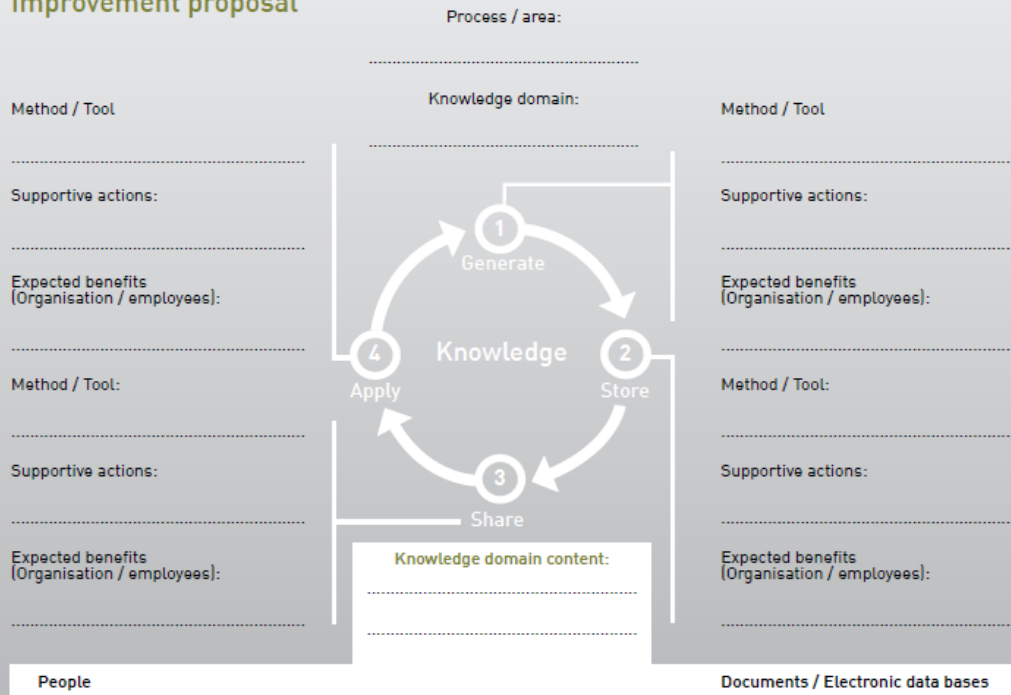


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# 4

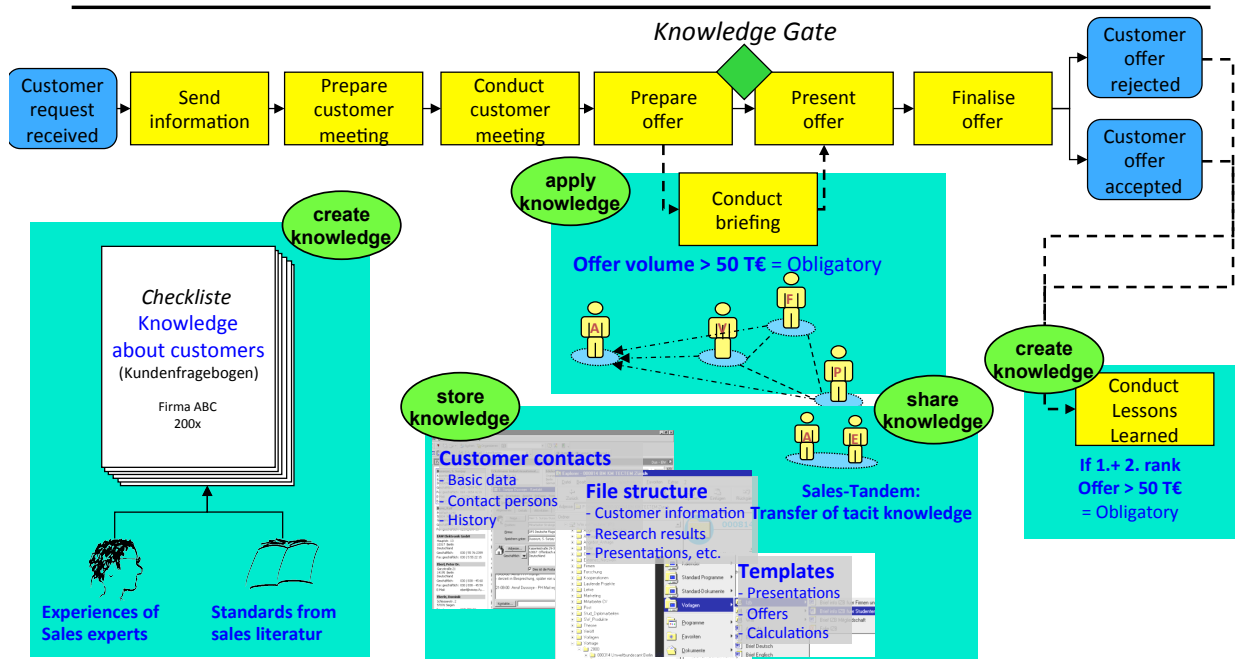
## Improvement proposal



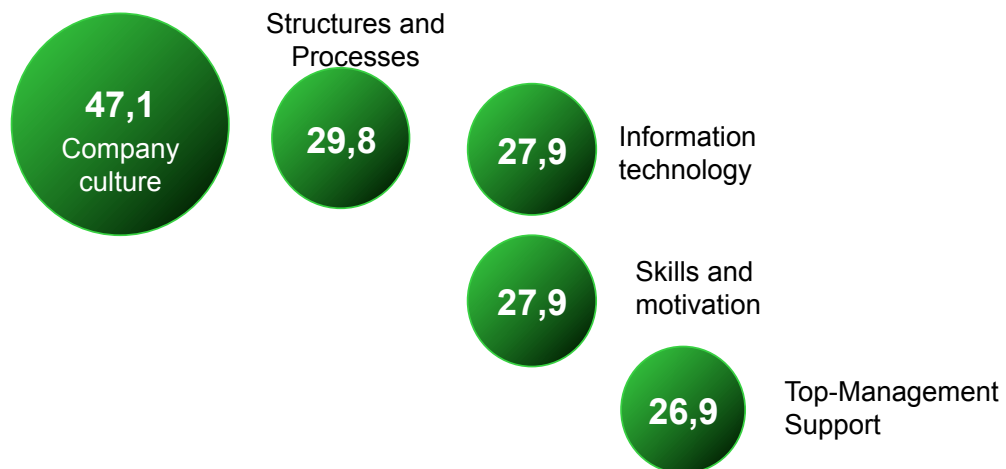
20

Tip: Use for your search also the experiences of other companies and organisations. Check under [www.methodenfinder.de](http://www.methodenfinder.de) what other useful solutions are available.

## How did I implemented KM Example for integration into (sales) process



## Critical success factors for KM

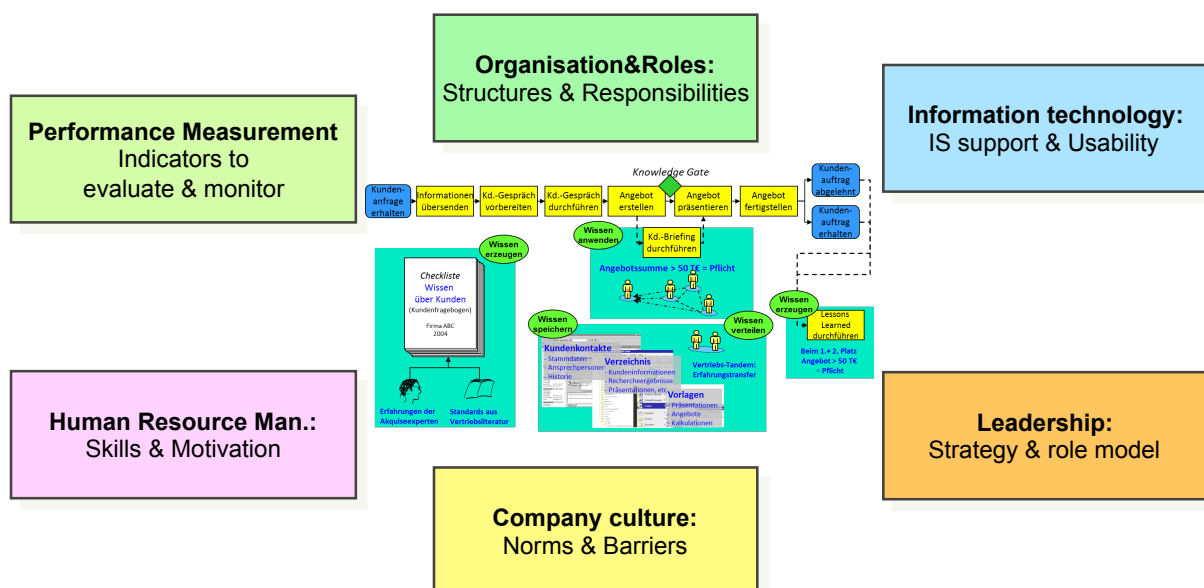


### What are the Top3 factors for successful KM implementation?

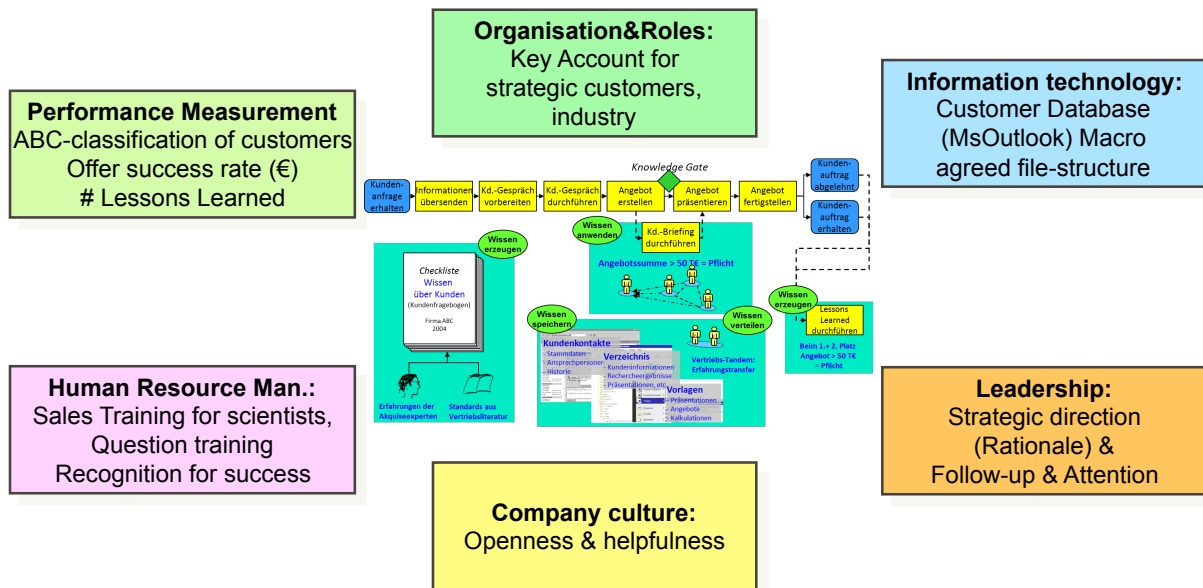
n = 104

Source: Heisig, Vorbeck 2001

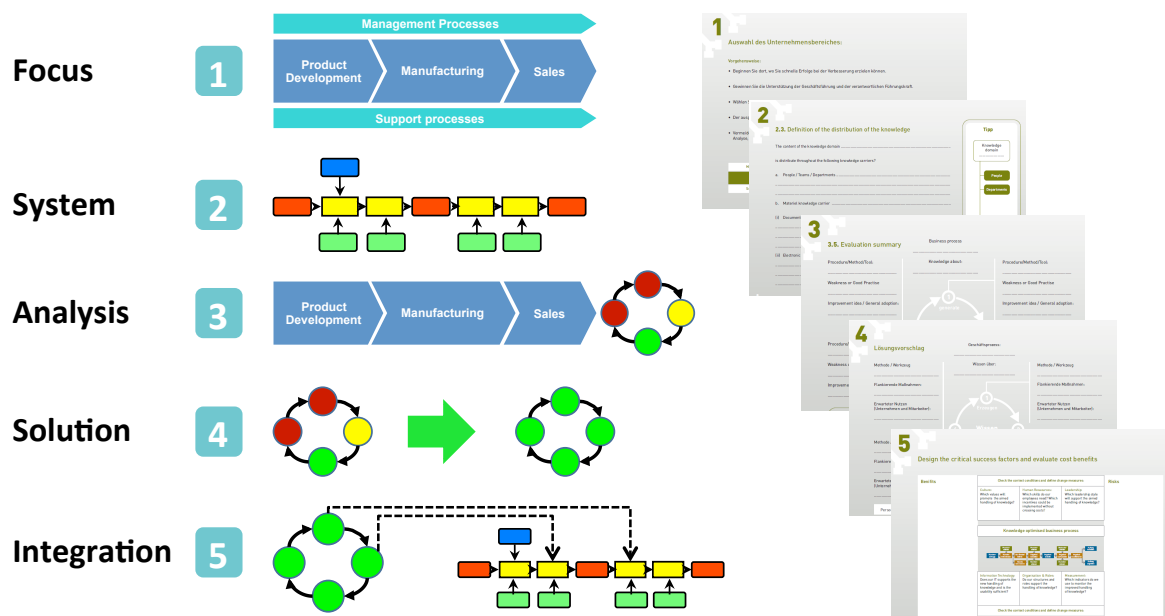
## Context and Design dimensions in KM

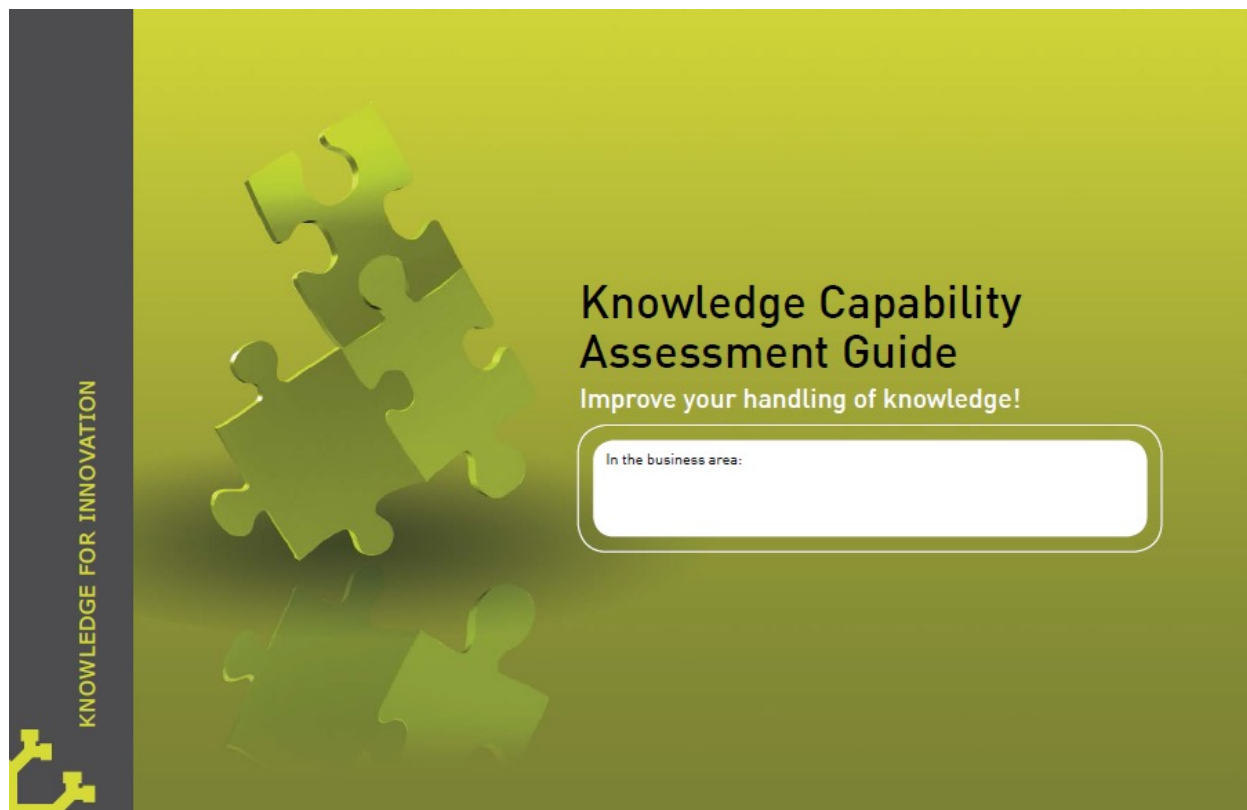


## Context and Design dimensions in KM



## 5 Steps to improve knowledge use in organisations





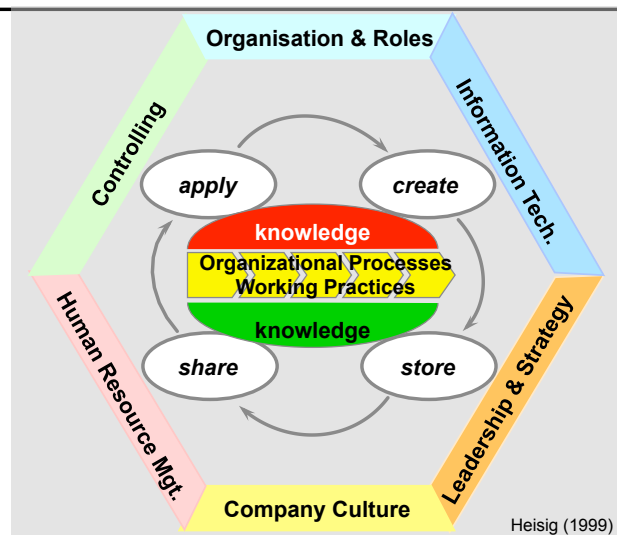
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## KM Framework by Heisig (1999)

1. Mission critical knowledge is applied and created within **organizational processes & work practices**.  
Its often routinized and lack of conscious handling of knowledge.
2. KM aims to ensure that knowledge will be effectively and efficiently **created, stored, shared** and **applied** within the working processes.
3. Supportive measures in **six critical areas** assure successful KM.



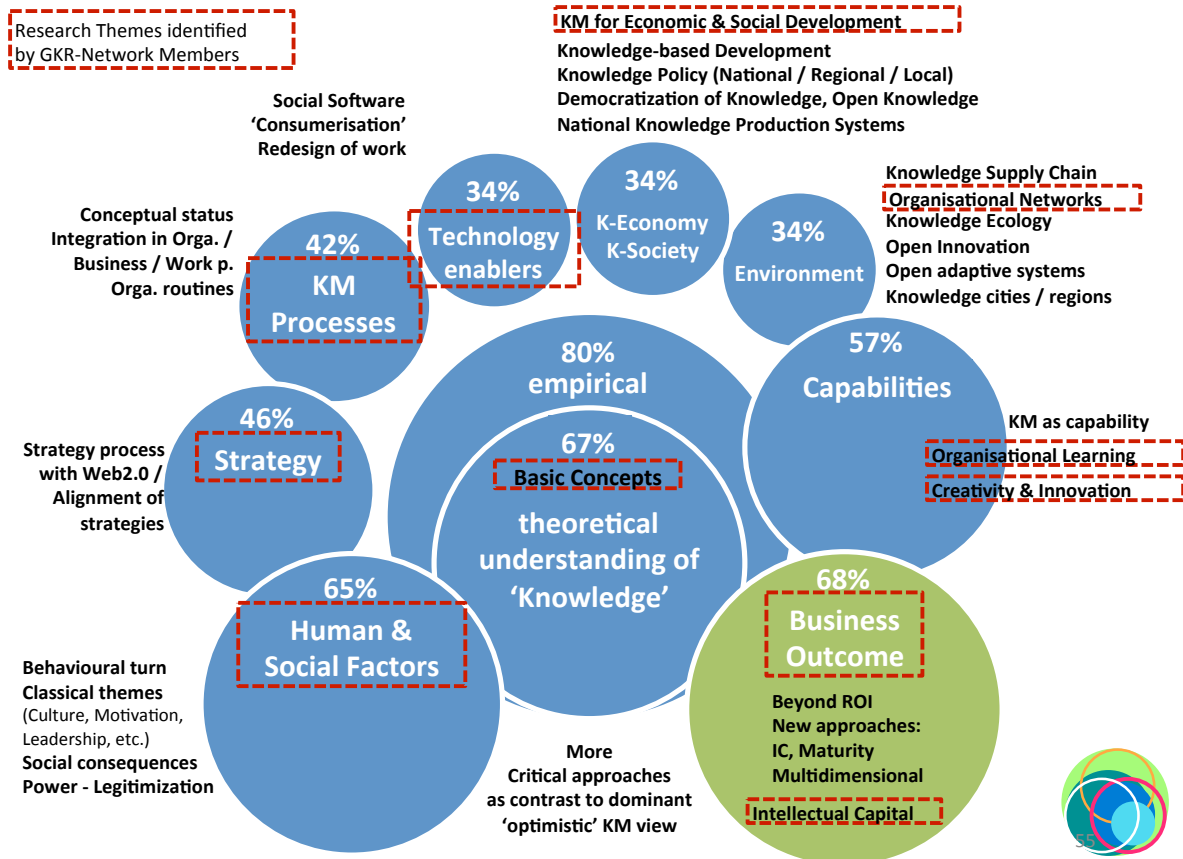
GPO-WM Framework was model for European KM Framework (CWA 14924), the VDI Guide "KM in Engineering" (2008) and DIN SPEC 91281 (2012) KM for SME.

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## Importance of KM research areas and selected research themes



## GKRN Global KM Expert Study Advancements – **Challenges** - Approaches

Consensus about research to provide evidence about #1:

**“What is the added value of KM to organisations”:**

*“link between KM and organisational outcomes, such as performance and value-creation.”*

- *“KM has to be accepted by leadership as an effective tool to produce results and to reduce risks and not only as a way to retain organisational knowledge. That is the only way KM will be accepted as management tool”* BR-03-ECM-IKM-6-NA;
- *“At the end of the day, that’s what it’s all about. If KM does not link to business outcomes, then the whole thing is useless.”* CA-07-HE-PRO-18-KM;
- *“A company’s bottom line remains, and will remain, the #1 driver a method or approach that does not deliver to the bottom line does not have a future.”* TH-02-CPS-IKM-3-KM.

# Review of empirical research on knowledge management practices and firm performance

Henri Inkinen

*Journal of Knowledge Management*, 2016, Vol. 20, No 2, pp. 230-257



Henri Inkinen is Researcher at School of Business and Management, Lappeenranta University of Technology, Lappeenranta, Finland.

## Abstract

**Purpose** – Knowledge management (KM) has emerged as one of the most discussed new management methods. Among the most debated areas in KM has been the association between knowledge and firm performance, but a lack of understanding and consensus still remains as a major issue. This paper aims to address the research gap by reviewing the empirical literature and determining how KM-based managerial and organizational practices are related with firm performance.

**Design/methodology/approach** – This study followed a systematic review procedure.

**Findings** – The findings demonstrate that utilization of KM practices is significant driver for innovation. Also, specific leadership characteristics and organizational arrangements are likely to support firm performance through more efficient and effective management of knowledge resources.

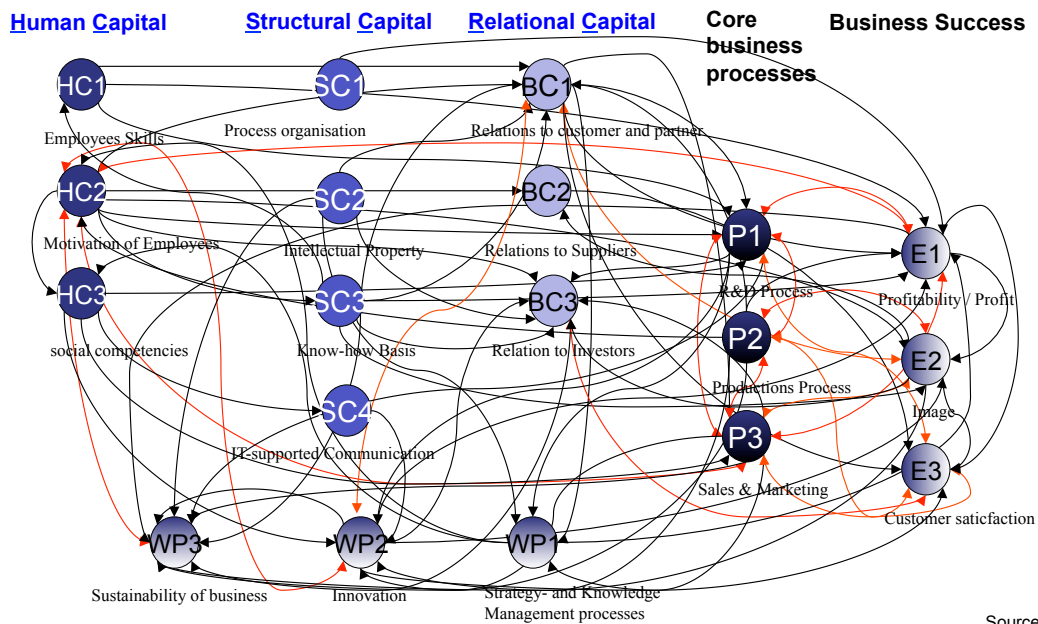
**Research limitations/implications** – This study adds to the discussion on knowledge-based view of the firm by pointing out the key organizational and managerial practices that are associated with firm performance. The results of this study also add structure to the previously scattered discussion on KM practices by synthesizing the relevant literature

**Practical implications** – Measuring KM performance is characterized by organizational complexity;

## KM and Performance? Conclusions from the review (Inkinen, 2016)

1. Human-oriented, technology-oriented and management process-oriented KM practices were associated with **innovation**.
2. Especially, knowledge-based HRM practices, technology-oriented practices for KM and strategic management of knowledge were touted as significant drivers for innovation performance of the focal firm.
3. The review found less proof of the bearing on the financial performance of the firm.
4. **Much deeper understanding of the organizational complexity and utilization of more sophisticated research models are needed to manifest the association between KM practices and financial performance outcomes.**
5. **Leadership** in KM requires a modern approach that appreciates people for their knowledge and intellectual qualities.
6. Creation of **specific roles** and units was a more efficient firm performance driver.

# The complexity to relate intellectual capital to the bottom line.



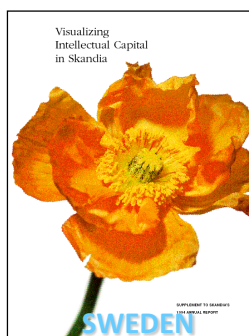
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## “Wissensbilanz – Made in Germany”

1<sup>st</sup> step: Learning from experiences in Scandinavia and Austria



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# Intellectual Capital Statement – Made in Germany

## Wissensbilanz – Made in Germany

Funded by the Federal  
Ministry of Economics  
and Labour within the  
Initiative  
"Fit für den Wissens-  
wettbewerb !"

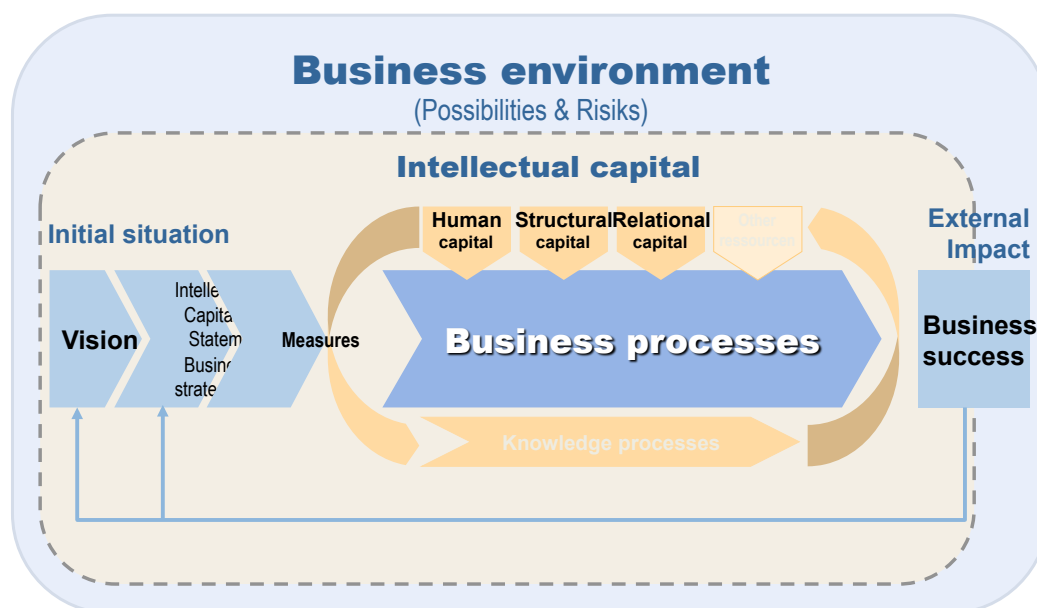


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## Intellectual Capital Statement – Conceptual Model



Source: BMWA 2004, AK-WB

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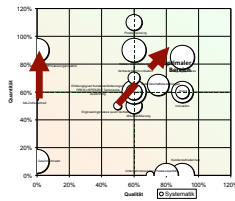
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# ICS approach

## Strength and weakness profile



## Indicators

Humankapital	2002	2003	2004	Bewertung	Ziel
Anzahl der MA's	62,3	62,6	9,5	⊖	⊖
Mitarbeiterausbildung		2,5	2,1	⊖	⊖
Abgeschlossene		6	5	⊖	⊖
Fachkräfte		4	4	⊖	⊖
Ungeleitete Arbeitskräfte (Stellen ohne Abschlüsse)		4	3	⊖	⊖
Abschließende		4	3	⊖	⊖
Mitarbeiterweiterbildung					
Weiterbildungsquote pro Mitarbeiter	2,6	3,3	3,8	⊖	⊖

## Influence analysis to prioritise actions



## Human capital:

- Employees skills and experiences
- Leadership skills and social competencies
- Employee motivation

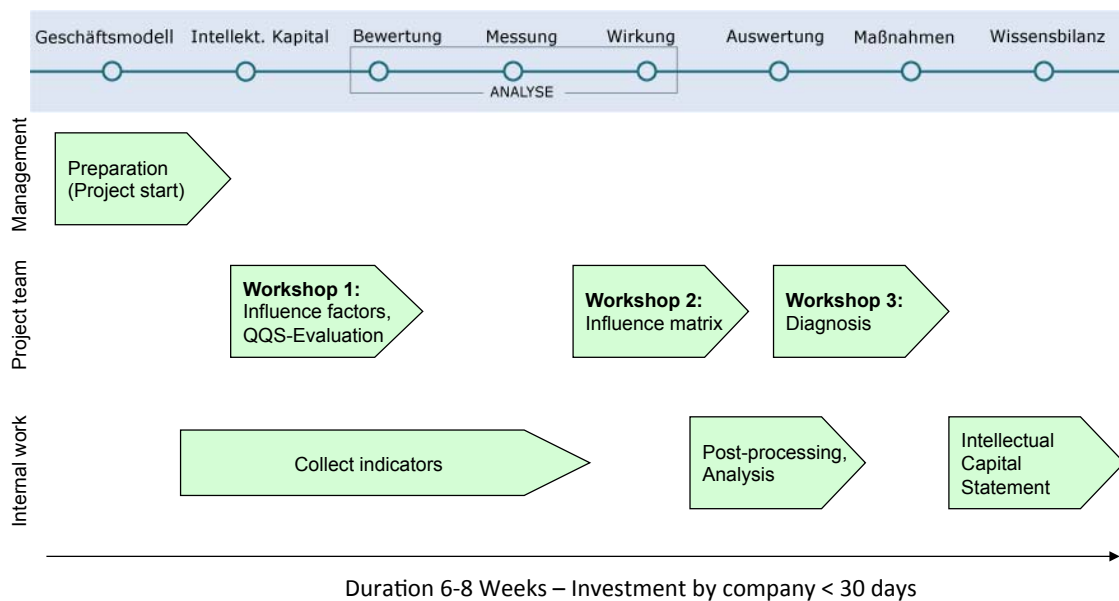
## Structural capital:

- Company culture
- Co-operation and organisational structures
- Product innovation (e.g. by R&D)
- Process innovations and -optimization
- Knowledge transfer and capture

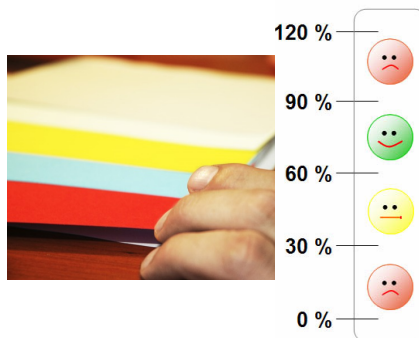
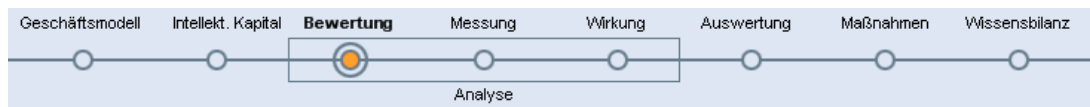
## Relational capital:

- Relationships with clients, suppliers, and investors
- External cooperation and knowledge acquisition
- Social engagement and public relation

# ICS-Process and project

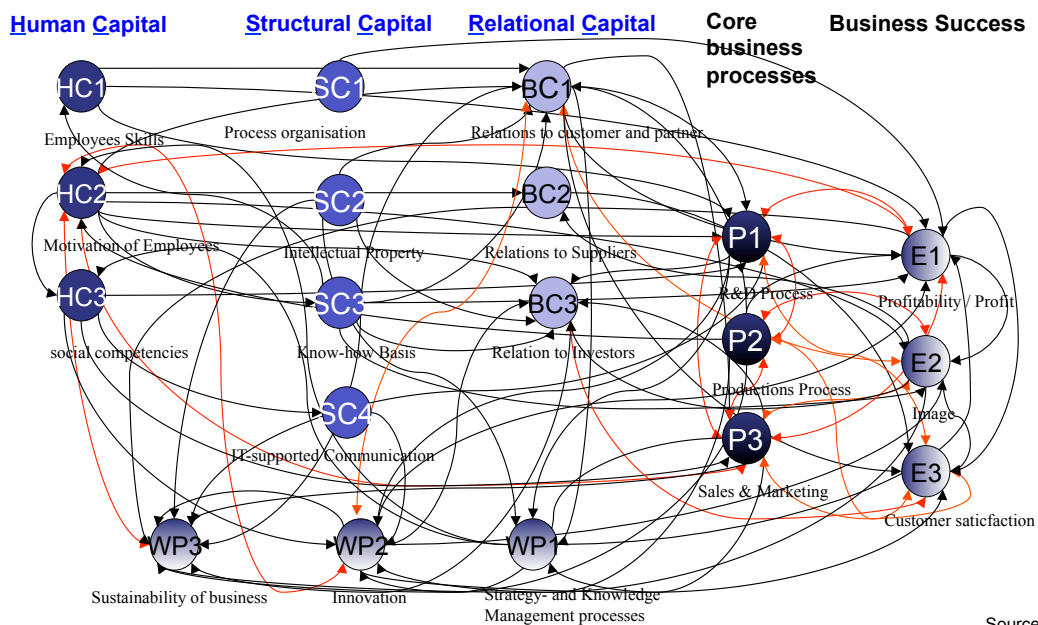


# Workshops to workout the ICS



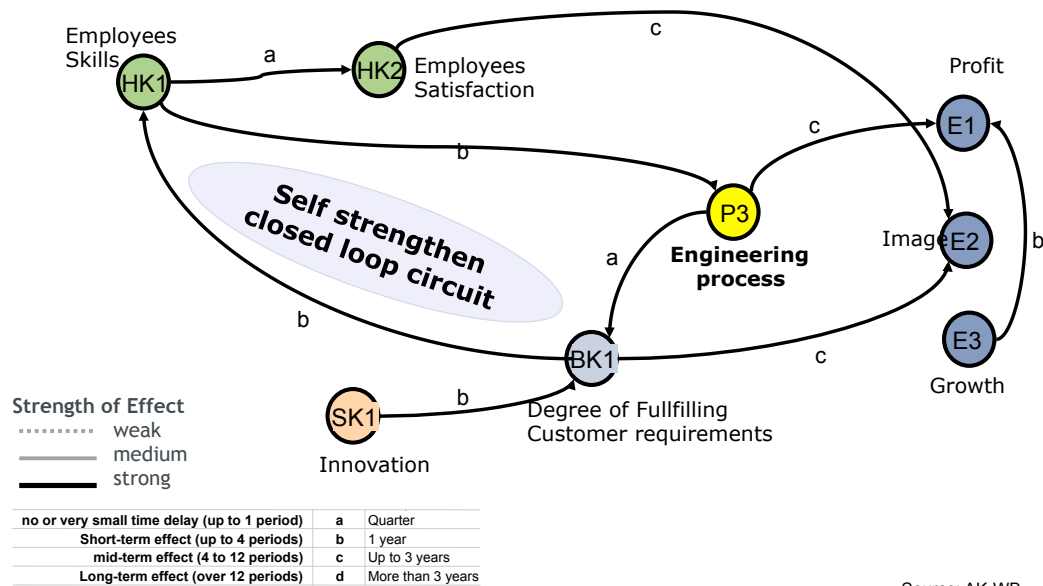
Fotos: BWH GmbH, Hannover 2006

## The complexity to relate intellectual capital to the bottom line.



Source: AK-WB

# Analysis of interrelations and interactions



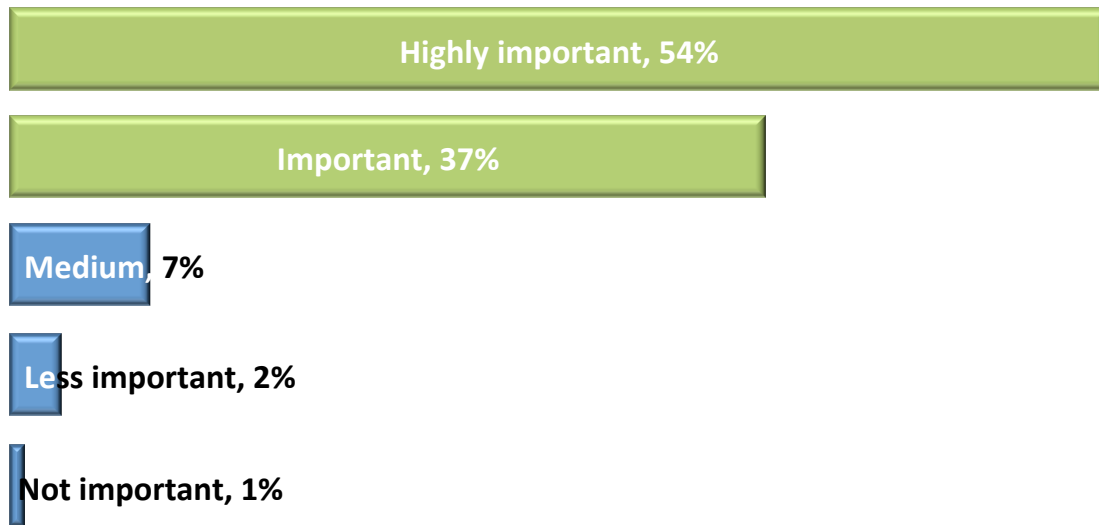
## Intellectual Capital Statement – Made in Germany Wissensbilanz – Made in Germany



- **Simple and efficient method** to implement ICS:
  - Diagnosis and Decision Support
  - Controlling and Management
  - Reporting for external and internal stakeholders
- **120.000 orders** of ICS-Guideline and electronic ICS-Toolbox
- Ca. **1.000** Implementations in companies
- Training program for facilitators
- **300** member network of ICS facilitators
- Foundation of the Federal Association Wissensbilanzierung (BVWB)

## GKRN Global Expert Study KM Education

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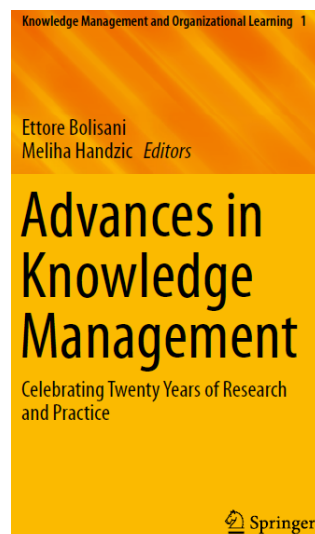
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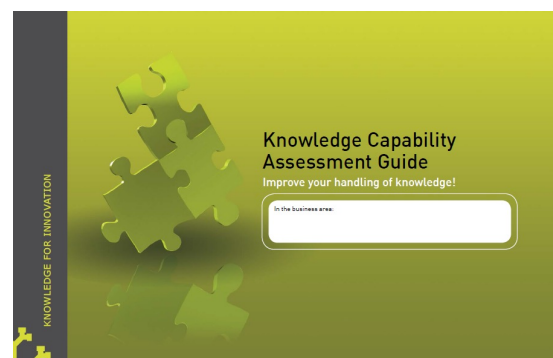
## Further readings & practical guides

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### Research & case studies



### Practical Analysis & Design Guide for KM



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**MANY THANKS FOR YOUR  
INTEREST AND ATTENTION!**

**Q&A**

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[heisig@fh-Potsdam.de](mailto:heisig@fh-Potsdam.de)