DAS FRAUNHOFER-INSTITUT FÜR SYSTEM- UND INNOVATIONSFORSCHUNG ISI

„Challenges and success factors for a creative expert management. Evidence from company case studies"

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Exogenous challenges for technology oriented companies

1   Shortening of product life cycles

2   Increasing innovation dynamics

3   Increasing need for cooperation

4   Increasing complexity

5   Increasing structural transformation of technologies

6   Increasing uncertainty and technological risk

7   Increasing customer orientation and new markets

- Emphasize early phase in the innovation process

- Shape future developments

- Integrate different funcional perspectives or disciplines

Wildemann/Weissenberger-Eibl 2000/2001

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Lack of knowledge usage and application in technology oriented companies

1	Unnecessary parallel developments
2	Development of existing solutions
3	Knowledge monopolies and lack of sharing
4	Costy and stressful information search
5	Lack of usage of existing knowledge
6	Lack of knowledge transfer

Wildemann/Weissenberger-Eibl 2000/2001

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Deficits in knowledge usage and application to adress exogeneous challenges...

| Problems | | Solution to Problems |

„market pull"
Problemtypen

Innovationen in der Praxis

„technology push"
Solution to Problems

Erst-fixierte Ideen
1919

Rohprojekte
524

Boardprojekte
369

Lancierte Produkte
176

| 124 Flops | 24 Verlust-bringer | 17 Mittel-mäßig | 11 Erfolgs-produkte |
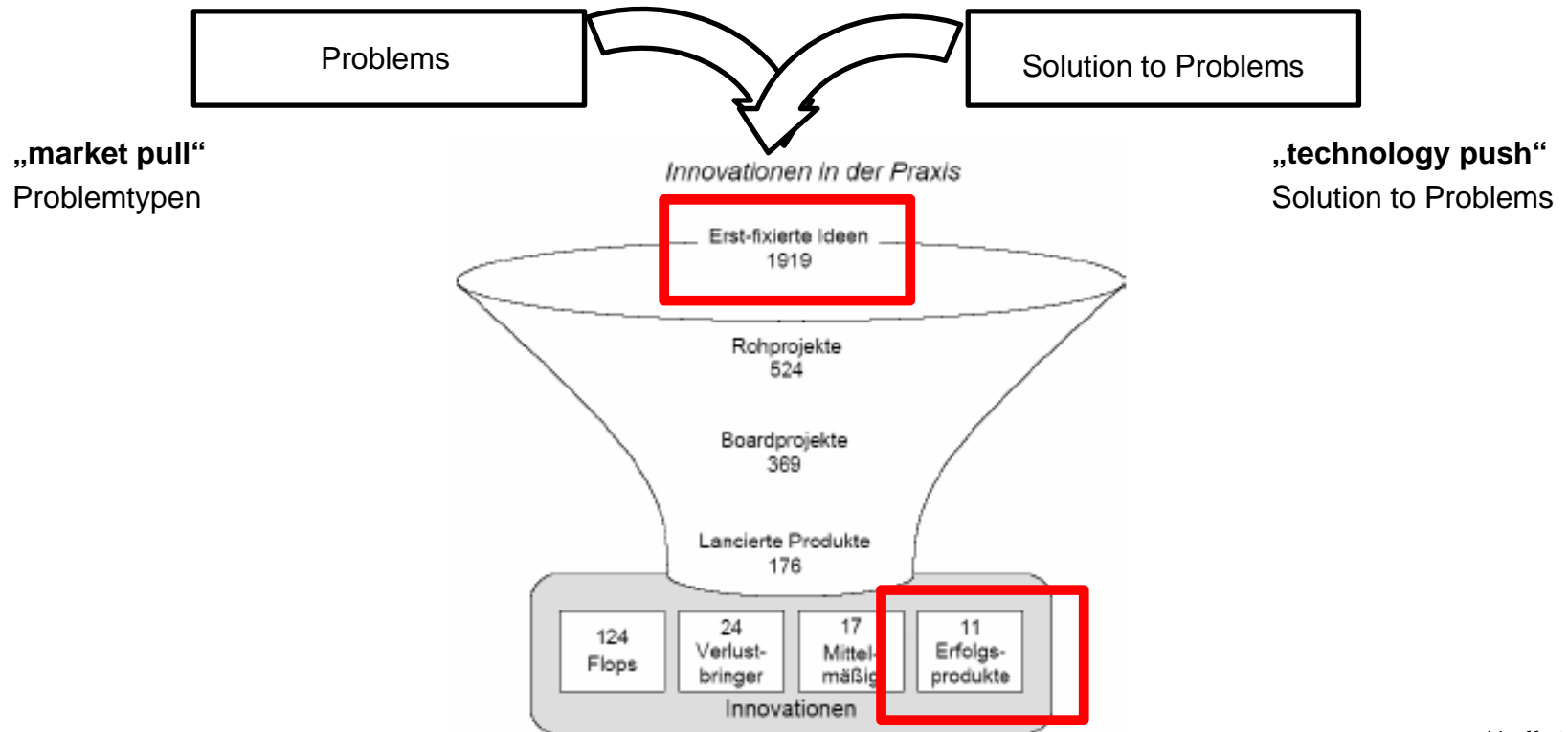
Innovationen

Brockhoff 1999

...seems to lead to inefficiencies in the innovation process and increasing coordination costs because of an increasing division of knowledge within the company.

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Knowledgeable experts are seen to adress inefficiencies in the innovation process

- Focus on
  - Experts and their unique knowledge in the early phase
  - Increasing experts networking
  - Experts Management and expert organisations to
- increase the efficiency in the innovation process

- Concept of Poincare, Leibniz, Hadamard, Einstein and Wallace:
  - "First Insight" or "Problem Formulation" in terms of agenda setting
  - **"Preparation" or "Information gathering"**
  - "Incubation"
  - "Illumination", "Inspiration" or "Ah-Ha effect"
  - "Verification and elaboration" or "Implementation and testing of ideas"

What influences the gathering of knowledge and information?

# The knowledge transfer is influenced by the knowledge object
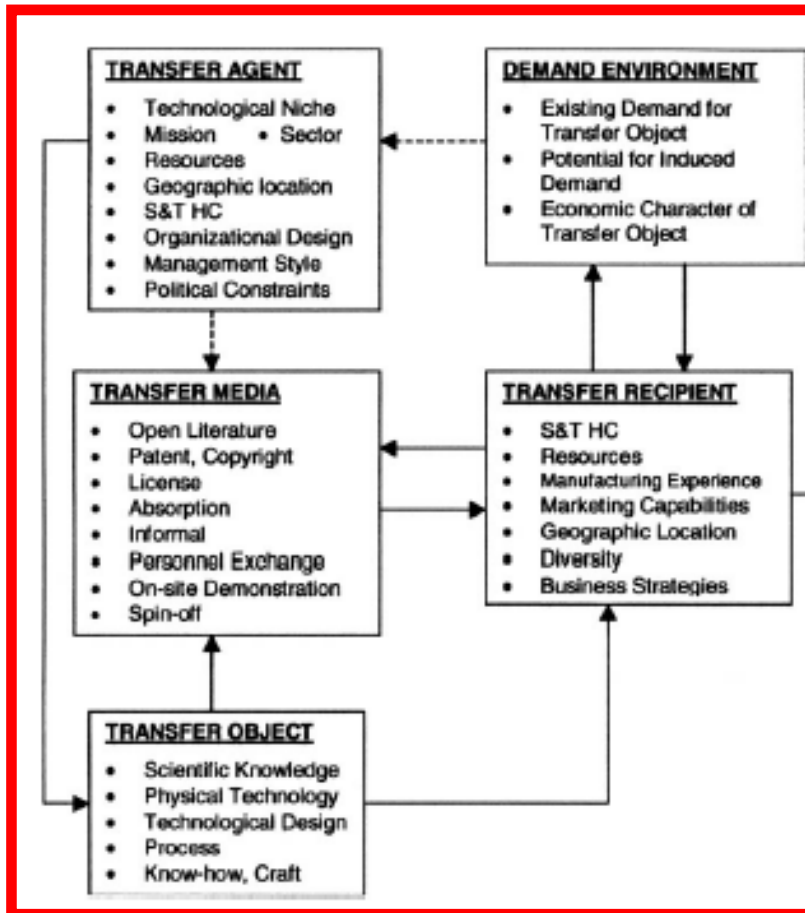
- Innovation can be seen as a coordination of information

- The main challenge is to understand the acquisition of complex information

- Knowledgeable Experts search for and acquire new knowledge themselves

- Experts Management tries to understand the main challenges in transfering complex knowledge.

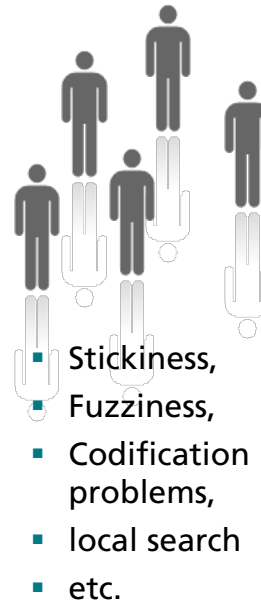- How can experts be supported in their acquisition of knowledge?

Bozeman, 2000, pp. 627

Different dimension of a creative experts management in companies...

Knowledge characteristics
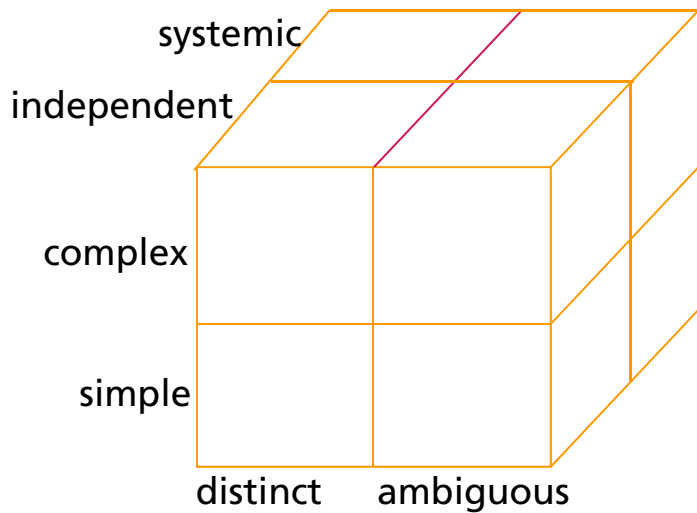
Experts Characteristics are moderated by knowledge characteristics

Areas of Influence depend on experts and knowledge characteristics

systemic

independent

complex

simple

distinct   ambiguous

- Stickiness,
- Fuzziness,
- Codification problems,
- local search
- etc.

| Leadership and Management |
| Organisation, CoP´s, Networks |
| Methods and Processes |
| Technologie (Text Mining etc.) |
| Selection of Experts and Team Design based on Expertise |

Probst, Raub, Romhardt 1999

...to support the gathering, acquisition and transfer of knowledge.

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Creative Experts Management involves Wikis and social networks for knowledge transfer

Analogies from information and media richness

Examples based on case experiences

DeRosa, 2004
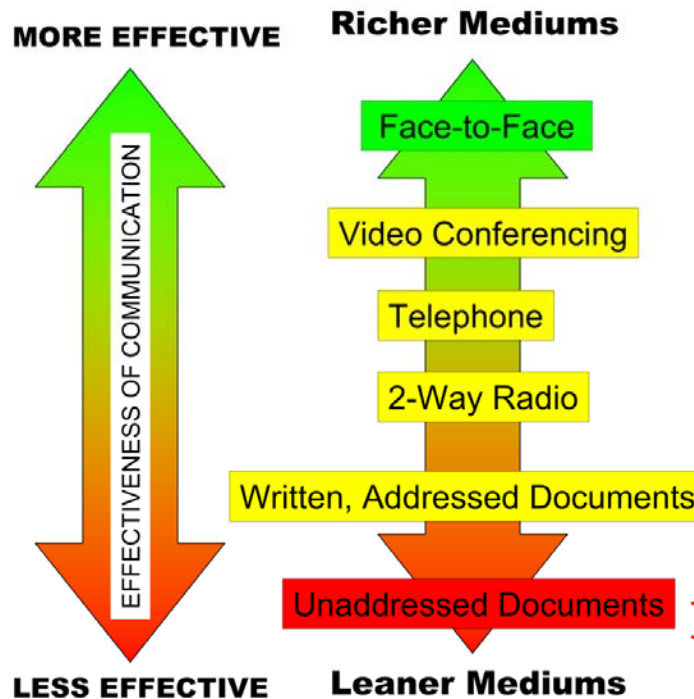
- "Complex knowledge" leads to problems of codification and of therefore difficult to search -Wikis, Blogs and "Facebook" or "Xing" like Networks with a distinctive presentation of Expertise **do not work.**

- "Simple Knowledge" (Wikipedia Knowledge) allows for easy codification, Wikis, Blogs and "Facebook" or "Xing" like Networks with a distinctive presentation of Expertise **do work.**

Understanding knowledge complexity to support experts

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Future Challenges

- **Definition of different levels of complexity of knowledge**

- **Design of Areas of influence (Leadership Management, Methods and Processes, Organization, Technology, Team Selection….) following these knowledge characteristics.**

- **Gather effects of different Designs of areas of influence**

- **Enhance knowledge transfer between experts within technology oriented companies supported by experts management**

Zeichner: Heyko Stöber

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