Triple Helix 2002
Track 11.Triple Helix and regional innovation clusters.

New and emerging good practice of regional innovation clusters to university-industry and university-government interaction. Reflections on findings from good-practice-cases documented for European Space Research and Technology Centre (ESTEC).

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Abstract:
Baseline data for this paper is derived from a study and exchanges among HiTec Marketing (Austria), JRA Technology (UK), and the Technology & Systems Division at ESTEC (Noordwijk, Netherlands) on the topic of academic-industry relations in the space sector, with a focus on mechanisms that speed up collaborative research and development activities that lead to commercial exploitation of technologies and knowledge.
ESTEC commissioned the study with the intention to increase its understanding of emerging regional trends in science parks, interdisciplinary research centres and other 'new' mechanisms. 'Look for experience that is not documented in standard books' was the guideline given to the study team.
This exploratory focus allows higher methodological degrees of freedom. Qualitative interviews with representatives from 'specific leads' throughout Europe (research, industry and government) helped to collect thick-descriptions ('the meat on the bones') on actual practice behind formal procedures and processes.
This paper reflects material from the case studies as well as the reactions of researchers, research managers, governments, national space representatives and the ESTEC community to these results.
Specific communities seem to face specific difficulties to adoption / diffusion of state-of-the art knowledge (e.g. complexity levels as well as prevailing contexts (local and national innovation systems). What can be roles for supranational bodies in order to foster and leverage innovation strength in a European innovation landscape that becomes more complex rather than more homogenous? After four presentations with the communities who commissioned the study this is the first presentation of our findings and reflections to an academic community.

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Triple Helix 2002

Track 11: Triple Helix and regional innovation clusters
session: analytical case studies (1)

New and emerging good practice of regional innovation clusters to university-industry and university-government interaction. Reflections on findings from good-practice-cases documented for European Space Research and Technology Centre (ESTEC)

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Linkages to Philippe Laredo's keynote

- We here look for existing bridges instead of forcing new ones
- Newly emerging multitude of public authorities who all have to find a role in the system
- The challenge to successfully identify groups of people who could be funded
- The importance of locally rooted universities

Linkages to other papers in our session

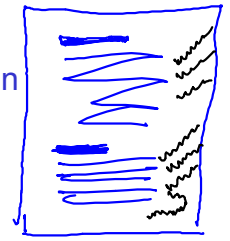
- **track 11: triple helix and regional innovation clusters**
- **session: analytical case studies (1)**
- Chair: Björn Asheim
- How Local Institutions act as Intermediary Agents between External Networks and Industrial District Firms. F. Xavier Molina-Morales
  Defining opportunities in terms of weak ties networks
  Path dependence
- Global Science in Western Canadian Clusters: Wireless, Global Positioning, and Agricultural Biotechnology. Cooper H. Langford, Jaime Wood, Peter W. B. Phillips
  Informal foot soldier paths

Linkages

- Link to this track – regional innovation clusters
- Link to this session – analytical case studies (1)
- Link to Molina-Morales
- Invitation to look at the issue from an rather different perspective

Objective

- Remarks from the margin / for the margin
- I share a story
- Invitation to share
- Invitation to address jointly



Pergamon

Acta Astronautica Vol. 44, Nos. 7–12, pp. 745–754, 1999

PII: S0094-5765(99)00086-7
0094-5765/99 $ - see front matter

INNOVATIONS FOR COMPETITIVENESS :
EUROPEAN VIEWS ON "BETTER-FASTER-CHEAPER"

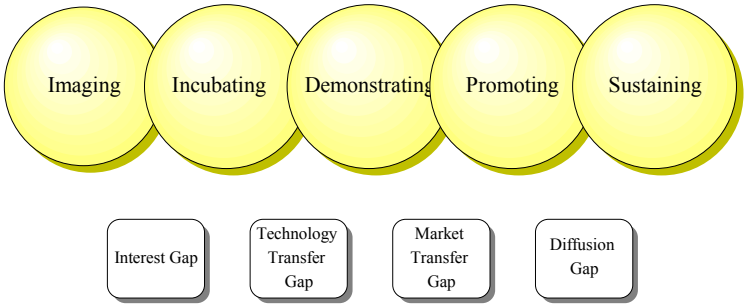
A. Atzei, P. Groepper, M. Novara
ESA/ESTEC, Noordwijk, The Netherlands
K. Pseiner,
Austrian Space Agency, Vienna, Austria

ASSESSING NEW APPLICATIONS AND TESTING
BUSINESS OPPORTUNITIES†

A. ATZEI, F. GAMPE and K. PSEINER
European Space Agency/ESTEC, P.O. Box 299, 2200 AG Noordwijk, The Netherlands

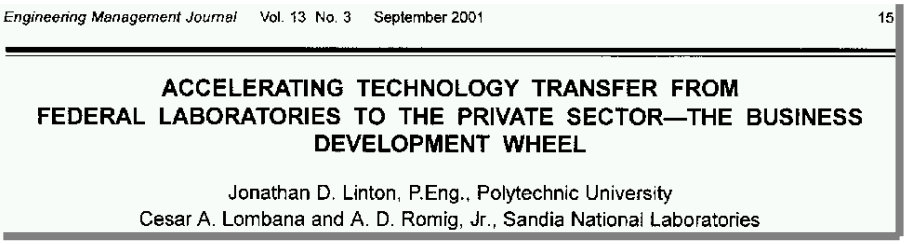
BREAKING BOUNDARIES · BUILDING BRIDGES

Windows and Gaps in Commercializing a Technology



Triple Helix 2000 – Aigner/Meinhard: Reflections on findings from good-practice-cases

Traditional research tradition framing



Engineering Management Journal Vol. 13 No. 3 September 2001 15

ACCELERATING TECHNOLOGY TRANSFER FROM FEDERAL LABORATORIES TO THE PRIVATE SECTOR—THE BUSINESS DEVELOPMENT WHEEL

Jonathan D. Linton, P.Eng., Polytechnic University
Cesar A. Lombana and A. D. Romig, Jr., Sandia National Laboratories

Context of the problem

Situation in Europe:

- Part of the Policy Layer perceives a gap between “confidentiality-stage” to “European-recognition-stage”
- Gap = lack of fast and effective
- Ongoing initiatives to reduce this gap

Complication:

- Regional clusters and local players are difficult to track / monitor for supranational funding institutions
- You never know how strong a silent consent is that nothing should change

Question:

- How can you increase the impact of modern innovation research at broader levels of the policy layer within study contract settings?

Outline

1. Our small study project retold under various context layers
2. Our project (Data-Method-emerging knowledge)
3. Illustration what happened afterwards – statements from presentations
4. Reflection using a forthcoming Research Policy article
5. Consequences for (accompanying) innovation research
6. Managerial implications
7. Conclusions – for our session

The problem seen through different research traditions

1. Alignment of technology and structure through roles and networks (Barley; 1990)
2. Practice: The Social Life of Information – Brown/Duguid
3. Technology Communities and Innovation Communities (Lynn 1997)
4. Commercialising Technologies (Jolly 1997)
5. Interface between Research and Marketing (Gupta; Souders; ...)
6. Customer Centred Selling (Jolles)
7. Triple-Helix
8. User Involvement in Innovation Projects (information processing model) (Gales 1995)

BREAKING BOUNDARIES • BUILDING BRIDGES

CAPITALIZING KNOWLEDGE

New Intersections of Industry and Academia

Edited by Henry Etzkowitz, Andrew Webster, and Peter Healey

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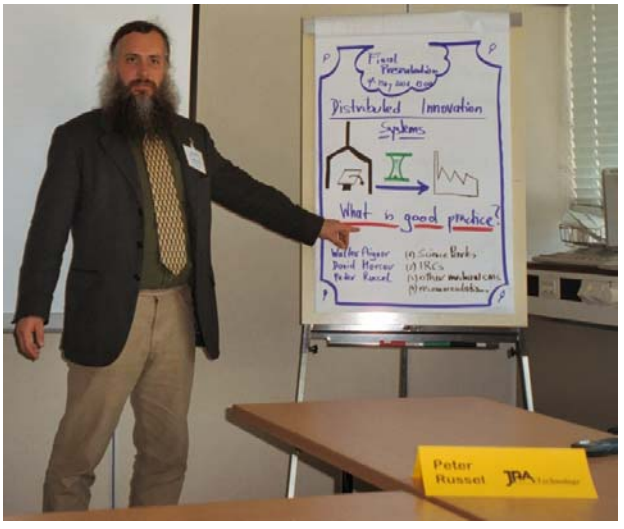

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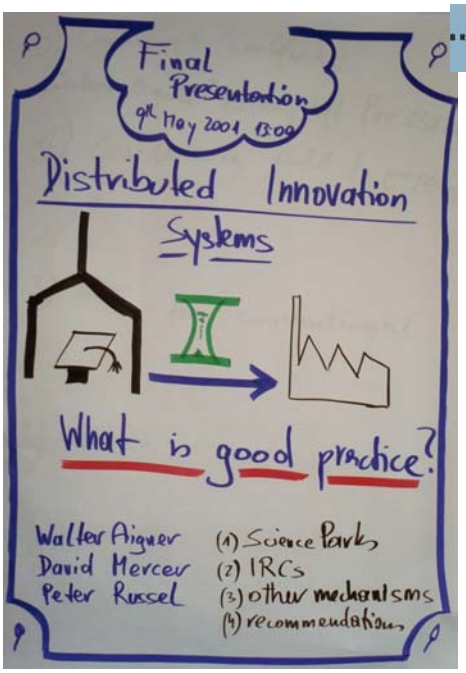

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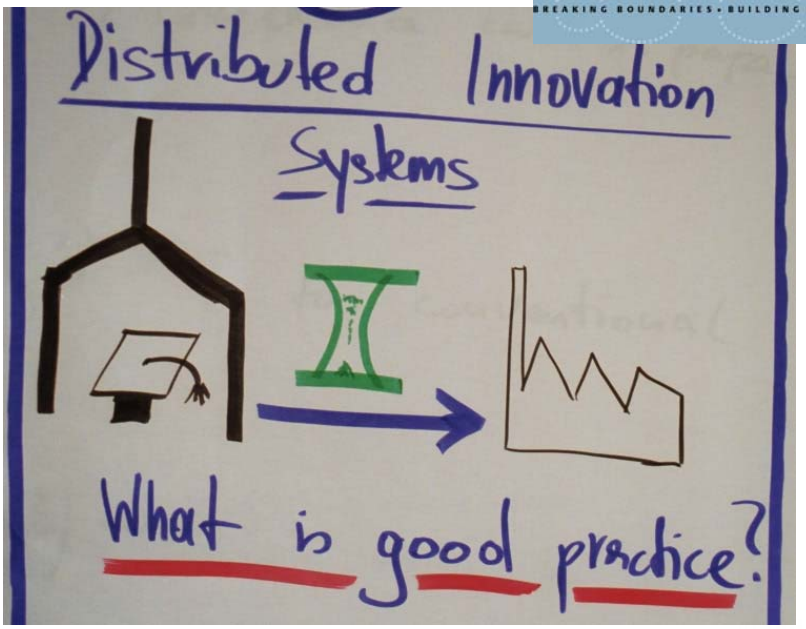

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Our project 'distributed innovation systems – effective practices'

1. Data
2. Method
3. Results
4. Limitations
5. Problems during the research project
6. Surprises
7. Emerging new not yet explicit knowledge

wise principal – ‚there is something out there'

Emerging new not yet explicit knowledge

- OD framed in study-form
- Study maybe a legitimisation exercise
- Complexity issue
- Practice issue
- Diffusion of innovation theory problem
- Difficulty for ESTEC to accept soft issues and slack as a valid or feasible contribution while DARPA and many national authorities do it

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Research Policy 1423 (2002) 1–13

research policy

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Policy learning and innovation theory: an interactive and co-evolving process

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Received 27 September 2001; received in revised form 16 October 2001; accepted 16 November 2001

5. Co-evolution of theory and policy – the gaps that remain

research policy

www.elsevier.com/locat econbase

interactive

ıe Netherlands

16 November 2001

Today's rapid technological change coupled with the restructuring underway in OECD economies leads some to associate technology with unemployment and social distress. However technology per se is not the culprit. Its economy-wide employment impact is likely to be positive provided that the mechanisms for translating technology into jobs are not impaired by deficiencies in training and innovation systems and rigidities in product, labour and financial markets ... wide-ranging and coherent policy reforms (will be needed) ... to enhance the contribution of technology to growth, productivity and jobs ... innovation and technology diffusion policies themselves continue to be too piecemeal, with insufficient consideration of the linkages within national innovation systems. (OECD, 1998, p. 7).

Triple Helix 2000 – Aigner/Meinhard: Reflections on findings from good-practice-cases

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Implications for innovation theory and regional innovation theory

1. „The absence of a unified theory that relates innovation to growth and links macro-approaches to the micro level has slowed the application of innovation theory“
2. „Lack of new measurement tools has limited the translation of innovation theory into effective policy instruments“
3. „It was not until the focus shifted to regional development policies that the kind of interactions that theory suggested were critical for innovation, became more fully integrated into EU-Programmes“

Mytelka / Smith 2002

Managerial Implications

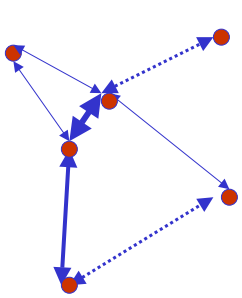
For supra-national technology and innovation stimulation

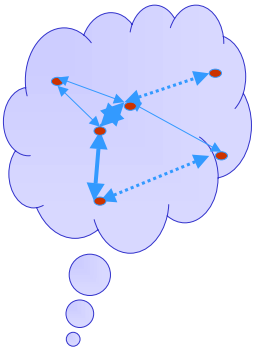
- Signalling
- Interweavement
- Networks
- Broaden the knowledge on modern innovation theory

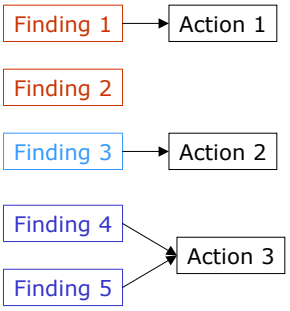
For regional innovation clusters

- How to cooperate with stakeholders with a different interest?
- Self presentation seems to be history driven
- How to leverage wise study principals

Concept 2.: Internal vs External Complexity







Interviewees´ view	Idea captured by presenter	Expected complexity level

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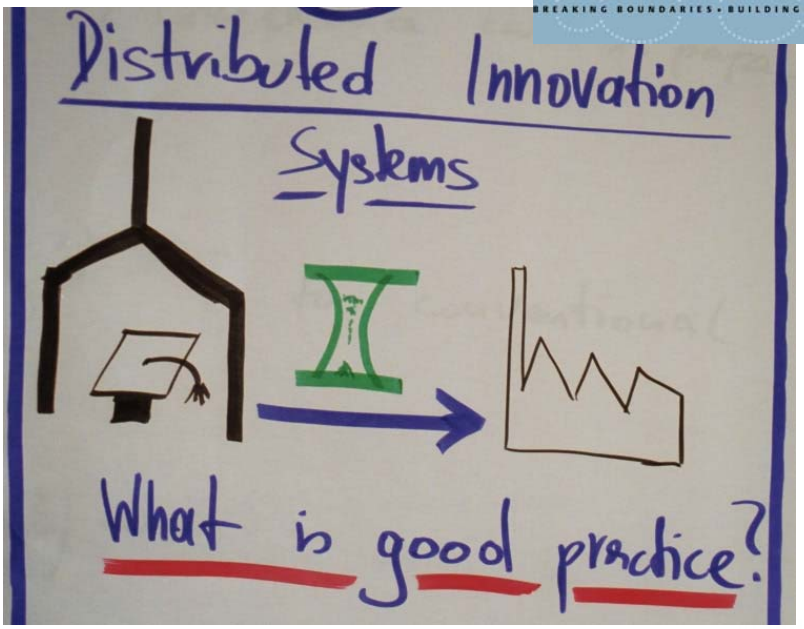


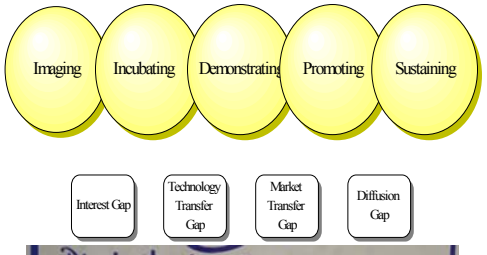
Triple Helix 2000 – Aigner/Meinhard: Reflections on findings from good-practice-cases

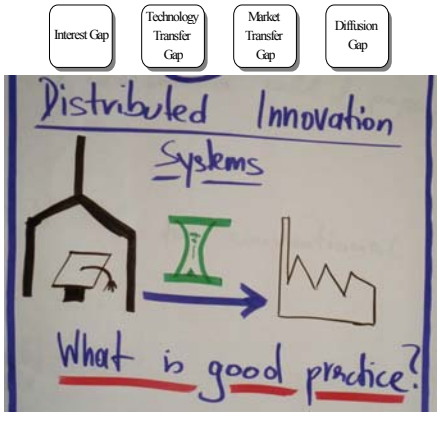
Concept 3.: Potential Culture Clash

The community investigated is typically different from what public research administration bodies expect in terms of values and ways of doing things. According to *Allan A. Gibb* „Government“ looks for

- Accountability
- Information
- Clear demarcation
- Control measures
- Formal standards
- Transparency
- Hierarchy

BREAKING BOUNDARIES · BUILDING BRIDGES





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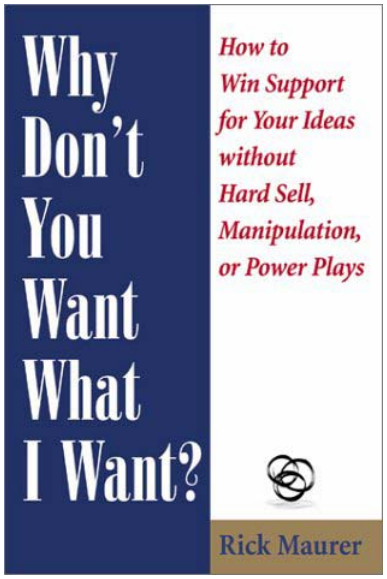

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My feedback in 2001 at the Workshop:

What could be stressed more clearly?

- Mr. Hernández-Ros
  We do not build roads any more we enhance the soft issues (e. g. networks, climate)
- Mr. Broquet (Eurospace)
  There is a transfer gap from "confidentiality-stage" to "European-recognition-stage"
- Mr. Kreisel (Genes Venture Services)
  Time-to-market (=speed) are not recognised in "Business-plans"
- Mr. Aigner (HiTec Marketing)
  Speed is an issue in innovation and
  there is new knowledge available on good-practices in academic-industry co-operation

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Conclusion

Questions to discuss

Study
DISTRIBUTED INNOVATION SYSTEMS
What is Good Practice in Fast Innovation Transfer from academia to industry

Technology Harmonization and Strategy Division at ESTEC

HiTec Marketing: Walter Aigner + Team
JRA Technology: David Mercer + Team

Our projects at HiTec Marketing in „Commercialising new Technologies“

- EU-SPIRIT (1998-2001; DG INFSO, FP4)
- User profiles Earth Observation
- User profiles SatNav in Austria
- EU-VAST-Galileo (DG VII)
- GNSS-Cluster Austria
- Space Technology Strategy Austria
- Geminus (5 FP; DG TREN)
- Distributed Innovation Systems (ESA)
- Cooperation SME-Universities in Space research (ESA)
- Automated Early Defibrillation
- Imagination GmbH - Virtual Reality / Augmented Reality
- TTTech AG: Time Triggered Technologies (1999)
- ARTIST (GNSS / Loran-C Testbed Austria) (Sep 2000)
- GLORIA (DG INFSO) (Sep 2000)
- FIT-IT Embedded Systems (2001) Kompetenzstudie (BM:VIT)
- FIT-IT Embedded Systems (2001) Programmdesign (BM:VIT)
- EGNOS-TRAN (ESA Aug 2001)
- GMES (ESA Sep 2001)

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Literature

- *Brown, John Seely, Duguid Paul (2000): The Social Life of Information. Harvard Business School Press. pp 95-97*
- *Crozier, Michel (2001): The Crisis of Complexity. In Viale, Riccardo [Ed.]:: Knowledge and Politics. Physica-Verlag, Heidelberg. pp 147-152*
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- *von Hippel, Eric (2001): PERSPECTIVE: User toolkits for innovation, Journal of Product Innovation Management, Volume 18, Issue 4, July 2001, pp 247-257*
- *Gladwell, Malcolm (2000): The Tipping Point: How Little Things Can Make a Big Difference*

The problem seen through traditional eyes 1

The Alignment of Technology and Structure through Roles and Networks

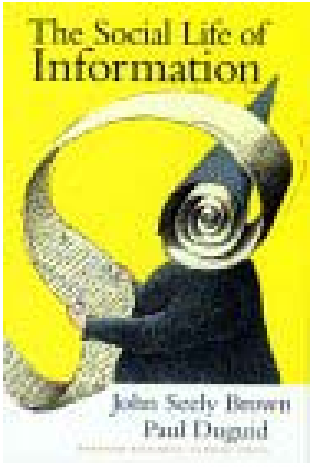
Stephen R. Barley
Cornell University

This paper outlines a role-based approach for conceptualizing and investigating the contention in some previous research that technologies change organizational and occupational structures by transforming patterns of action and interaction. Building on Nadel's theory of social structure, the paper argues that the microsocial dynamics occasioned by new technologies reverberate up levels of analysis in an orderly manner. Specifically, a technology's material attributes are said to have an immediate impact on the nonrelational elements of one or more work roles. These changes, in turn, influence the role's relational elements, which eventually affect the structure of an organization's social networks. Consequently, roles and social networks are held to mediate a technology's structural effects. The theory is illustrated by ethnographic and sociometric data drawn from a comparative field study of the use of traditional and computerized imaging devices in two radiology departments.*

Few organizational scholars would dispute the claim that the structures of organizations and occupations are related to the technologies they employ. Until quite recently, however, organizational theorists have largely ignored the dynamics of technical change, the question of how and why such relations arise. Instead, most have adopted the perspective of contingency theory.

61/Administrative Science Quarterly, 35 (1990): 61–103

The problem seen through traditional eyes 2



The problem seen through traditional eyes 3

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J. Eng. Technol. Manage. 12 (1995) 77–109

Journal of ENGINEERING AND TECHNOLOGY MANAGEMENT JET-M

User involvement in innovation projects: Toward an information processing model

Lawrence Gales *, Dina Mansour-Cole

College of Business Administration, Dept. of Management, University of Cincinnati, P.O. Box 210165, Cincinnati, OH 45221-0165, USA

The problem seen through a community eye

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J. Eng. Technol. Manage. 14 (1997) 129–145

Journal of ENGINEERING AND TECHNOLOGY MANAGEMENT JET-M

Technology communities and innovation communities

Leonard H. Lynn *, John D. Aram, N. Mohan Reddy

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New way of looking at latent / future service needs

Assessment of hidden and future customer needs in Finnish business-to-business companies

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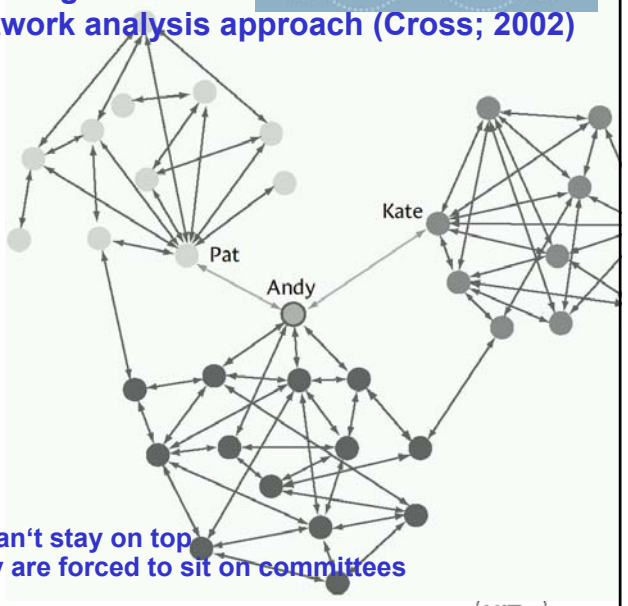
R&D Management 31, 4, 2001. © Blackwell Publishers Ltd, 2001.

The development of new products should be based on the needs expected to exist even several years ahead – at the moment of market introduction and during the whole lifecycle of the product. To develop successful new products in the toughening business environment, companies should be able to surpass customers' expectations and to assess emerging customer needs proactively. Early, thorough understanding of the customer's real needs, including the assessment of hidden and future customer needs and requirements, plays a very important role in the successful development of new products.

The purpose of our paper is to study the assessment of new (hidden and future) customer needs for product development in Finnish business-to-business companies. We have carried out a survey in 93 Finnish business-to-business companies and SBUs to study their common problems in the assessment of unrecognized customer needs and potentially effective ways in clarifying new customer needs and dealing with important problems. On the basis of the results, we propose several possible ways to facilitate the assessment of unrecognized customer needs.

The problem seen through a generic informal network analysis approach (Cross; 2002)

- Peripheral expert
- Connector
- Boundary Spanner
- Information Broker



Peripheral expert – they can't stay on top of what they do when they are forced to sit on committees