Knowledge Creation and Knowledge Management in Inter-Organizational Innovation Networks

Claudia Loebbecke
Department of Business, Media and Technology Management
University of Cologne, Germany
claudia.loebbecke@uni-koeln.de
www.mtm.uni-koeln.de

Agenda
- Inter-Organizational Knowledge Basics
- Inter-Organizational Knowledge Creation
  - Framework for Investigation
  - Two Brief Cases:
    - Astra Zeneca and METRO Group
    - Conclusions and Lessons Learnt from Cases
  - Insights and Opportunities

Knowledge Management: Two Schools of Thought

Sharing-enabled knowledge
- At center of popular KM
- Improvements in team effectiveness at low cost
- Rewarded by changes in culture and morale
- Communities of Practice

Results-driven knowledge
- Integrating knowledge into management
- Required for achieving strategic impact
  (CEO / top manager perspective)

Knowledge as Resource

Knowledge as intellectual resource, not naturally scarce
(Suchmann 1989; Dean, Kretschmer 2007)

Resource-Based View
- Knowledge as competitively relevant resource
- Threat of leakage and dilution of valuable assets

Relational View
- Sharing of capabilities and knowledge
- Competitive advantage from re-combining commonly available knowledge

Co-opetition: Simultaneous cooperation and competition
(Brandenburger, Nalebuff 1996)
Co-opetition: Relevant Questions

• What to share?
• With whom?
• When?
• Under what conditions?

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Research Question

Challenge of cost-effective knowledge creation and absorption

Why and how do organizations initiate or get involved in such networks despite potential competitive counter-arguments?

Requiring Inter-Organizationally Mutual Understanding of Knowledge

Each organization with idiosyncratic knowledge and jargons creating formative context

• Different understanding of knowledge (Pentland 1992)
• Hampered knowledge absorption (Reagans, McEvily 2003)

• Common frame of reference as contextual framework
• Facilitated interpretation of transferred knowledge (Weick 1995)

Issues of Knowledge Exchange

Knowledge 'Sociality'

Embedded within routines, culture, and norms (Spender 1996)

Not readily tradable

No equilibration or transfer via factor markets Relations necessary

BUT

Intra-organizational learning via interaction facilitating knowledge absorption (Lasson et al. 1998)

Interaction based on shared understanding; Extrapolation to new context (Nonaka 1994; Reagans, McEvily 2003)

OR

Interaction based on radically different interpretative models (March 1991)
Inter-Organizational Knowledge Creation

- Externalization of Knowledge Creation
- Inter-Organizational Knowledge Network Formation
- Specific Interaction Schemes for Mutual Understanding
- Avoidance of Core Competence Leakage

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AstraZeneca Case

- Pharmaceutical company
- Resulting from '99 merger of Swedish Astra AB and British Zeneca PLC
- > 60,000 employees
- '08 revenues of ~ $ 31.6 bill. and EBIT of $ 11.8 billion

Industry Challenge
Increasingly strict FDA requirements causing difficulties for pharmaceuticals’ R&D labs

Industry Approach
Contracting knowledge creation tasks to academic/non profit laboratories (Roth 2003)

AstraZeneca’s Knowledge Network

Clinical Science Unit (CSU)

- Statistics
- Epidemiology
- Medicine & Science
- Health Economy
- Quality of Life

Contracting out discovery-development process

- All groups staffed with highly qualified, scientific personnel
- One CSU expert per project
- CSU re-combining newly created knowledge from various CROs for specific drug discovery-registration process

AstraZeneca's Knowledge Creation Process

- Request for specific part of discovery-development process
- Project Leader: Expert with generic, relevant knowledge
- Personal Network: Experts in scientific research centers
- Provision of specialized knowledge
- Monitoring and managing body of knowledge

METRO Group Case

- World's third largest retailer
- '08 sales of ~ $ 111 bill. and EBIT of $ 3.1 billion
- Wholesale, supermarket, hypermarket, department store, and electronics discounter sales divisions, and several central service units

Industry Challenge
Competitive pressure leading retailers towards differentiation

METRO Group Approach
Offering customers innovative, increasingly individualized and comfortable shopping experience
**METRO Group Case**

**Objective**
- Establishing end-to-end infrastructure chain, facilitating innovative IT for in-store applications

**METRO Group IT (MGI)**
- Meetings and conferences with external experts
- Initiated inter-organizational knowledge network called MG Future Store Initiative (FSI)
- Re-combining knowledge from external FSI members in lab called MG Innovation Center

**Future Store Initiative**
- Technology vendors
- Consultants
- Brand manufacturers
- Etc.

**Partners in Future Store Initiative (FSI)**
- Intel
- IBM
- SAP
- Oracle
- Fujitsu Siemens
- Pireno
- Microsoft
- Hewlett Packard
- Philips
- DHL
- Boston Consulting Group
- Nestlé
- Coca Cola
- Gillette
- Kraft Foods
- Johnson & Johnson
- Nestlé
- Procter & Gamble
- METRO Group

**Content Provision Devices**
- ... for faster & easier shopping
- ... for new form of customer communication

- Personal Shopping Assistants (PSAs) & Customer Cards
- Checkouts via PSA & Self-Checkout
- Info Terminals
- Electronic Advertising Displays
- Electronic Price Labeling
- PDAs for FS employees

**Externalization of Knowledge Creation**
- Gaining specialized external knowledge with different perspectives from Contract Research Organizations (CROs)
- Gathering experts from different industry perspectives

**Externalization of knowledge creation feasible and advantageous**

**Inter-Organizational Knowledge Network Formation**
- Strategic flexibility through on-demand access to knowledge creation
- METRO Group balancing interests with interests of external experts

**Inter-Organizational Knowledge Network Formation**
- AstraZeneca
- METRO Group

- Inter-organizational knowledge networks complex, but providing cost and flexibility advantage
Specific Interaction Schemes for Mutual Understanding

AstraZeneca
Scientific personnel specifically suited for initiating and coordinating knowledge creation via interaction with Contract Research Organizations (CROs)

METRO Group
Organizing events for enhanced interaction among inter-organizational network members

Similar educational background and face-to-face encounters improving mutual understanding and knowledge transfer

Avoidance of Core Competence Leakage

AstraZeneca
Creating new context-specific knowledge by re-combining externally created knowledge

METRO Group
Aiming for time advantage by taking technology leadership position

Position as knowledge aggregator or early mover avoiding fast depreciation of knowledge

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Lessons Learnt from Two Cases: Inter-Organizational Knowledge Creation

- Externalization of knowledge creation feasible and advantageous
- Inter-organizational knowledge networks complex, but providing cost and flexibility advantage
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- Position as knowledge aggregator or early mover avoiding fast depreciation of knowledge

Inter-organizational knowledge creation as strategic opportunity in markets increasingly depending on knowledge

Conclusions from Two Cases: Inter-Organizational Knowledge Creation

- Shift to knowledge creation in inter-organizational networks based on complexity and cost arguments
- Organizations benefiting in terms of cost savings and specialized knowledge from inter-organizational knowledge networks
- No transactional, but relational knowledge transfer
- Experts with similar educational background required for
  - Creating common formative context
  - Allowing for proper interpretation of knowledge
- Knowledge reassembly capabilities and speed of innovation as core competencies

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Insights
Inter-organizational collaboration / learning needed and wanted! Positive measurable results!

Stopping of fruitful inter-organizational knowledge exchange due to unwanted leaking / competitive impact

Active, strategic management of inter-organizational knowledge exchange considered to be a serious success factor, but very few outlined 'strategies'

Issues and Opportunities
Complicating empirical investigations
• Finding explicit strategies
• Value assessment of knowledge
• 'Knowledge not to be shared'

BUT …
Plenty of Opportunities
to take knowledge creation and management issues to Internet, Web 2.0, Mobile, B2B and B2C

…. Questions, Comments, Complaints?

Thanks for your attention!

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