The Contrary Forces of Innovation: An ethnography of innovation processes in the food industry

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Agenda

- Presentation
- Scandinavian/Norwegian insights?
- My approach to innovation and entrepreneurship
  - The Salma case – agro-marine high quality innovation
  - The contrary forces of innovation – a conceptual model
Presentation

- Cand.mag (BSc) in social science and humanities (University of Oslo)
- Master’s in organizational learning (Lancaster Uni, 2002)
- PhD in innovation and entrepreneurship (BI, 2009)

- Now:

  • ICT innovation in Healthcare (3 projects funded by the Research Council of Norway, with a total of 5 PhDs and 4 postdocs). University of Oslo, Oslo University Hospital are key partners. Warwick, Stockholm, Lancaster, etc. international partners.

  • Finishing food industry study (power dynamics between retailers and producers + effects of specialization for innovation)

  • Teaching entrepreneurship, innovation management and organizational change

Publications

- The Contrary Forces of Innovation - An Ethnography of Innovation in the Food Industry (Palgrave, 2011)

- Constructing, enacting and packaging innovations
  BE Mørk, T Hoholm, M Aanestad

- Challenging expertise: On power relations within and across communities of practice in medical innovation
  BE Mørk, T Hoholm, G Ellingsen, B Edwin, M Aanestad
  Management Learning 41 (5), 575, 2010

- Studying innovation processes in real-time: The promises and challenges of ethnography
  T Hoholm, L Araujo
  Industrial Marketing Management, 2011

- Changing practice through boundary organizing: A case from medical R&amp;D
  BE Mork, T Hoholm, E Maaninen-Olsson, M Aanestad
  Human Relations 65 (2), 263-288, 2012

- The contrary forces of innovation A conceptual model for studying networked innovation processes
  T Hoholm, PI Olsen
  Industrial Marketing Management, 2012
Scandinavian/Norwegian insights?

- Perhaps:
  - Consensus driven culture (politically, business, etc)
  - High trust towards government – and between people
  - Welfare state

- Triggered interest in controversial aspects of organizing
  - Conflict, politics, power struggles, interests, boundaries
  - …and participation, dialogue, collaboration
  - Creative processes: learning and innovation

- Implications for empirical studies (?):
  - Access to ethnographic and historical research – very close to ‘all’ aspects of practice (e.g. agro-industry, fish industry, healthcare, energy)

French/Swedish theoretical basis

- Science and technology studies (particularly Actor-network theory: Latour, Callon, Stark)
- Industrial networks (the IMP group: Håkansson, Araujo)
- Innovation process studies (Van de Ven, Garud, Karnøe, Hernes)
- Practice-based studies of organizing, knowing & learning (Nicolini, Orlikowski, Czarniawska)
...connected with...

- Exploring the empirical field accessible via the Center for Cooperative Studies at BI:
  - Agriculture cooperatives
  - TINE BA
  - TINE R&D
  - Gilde
  - Maritex (omega 3)
  - Neptun/Umi No Kami
  - Bremnes Seashore
  - 'Blue-green innovation'

...led to a research design

- **Topic:**
  - How do innovation processes evolve over time? How is it done in practice?

- **Purpose:**
  - Describe the organising of innovation processes crossing technological, organisational and industrial boundaries

- **Questions:**
  - How do innovation processes evolve over time?
  - How is knowledge translated, transformed and combined?
  - What are the contrary forces of innovation processes?

- **Theory:** Sociology of translation (or Actor-network theory)
  - The rise, maintenance and fall of heterogeneous actor-networks

- **Method:**
  - Ethnographic case study: following processes in real-time
Why ethnography?

- Avoid post-hoc rationalization
  - Different interests at stake
  - Stories of failure and success…

- Follow the controversies – opening the 'black boxes'

- Recreate decisions while they happened
  - What seems obvious (post-hoc) becomes uncertain

- Innovation as stabilization of relationships

(Hoholm & Araujo, 2011)

...and choice of a case

- The Umi No Kami/Salma project involved all aspects needed for my study:
  - A novel product technology based on a combination of marine and agricultural technologies and practices
  - A resulting product that was experienced as radically new and having an uncertain categorisation within existing food markets
  - A networked organisation of the project, involving actors from the fish industry, the agro-food industry and from academia
  - All these aspects suggested a need for extensive learning and knowledge production across practices, organisations and industries
Two main storylines

• **Storyline 1**
  • TINE’s innovation strategy
  • …and TINE R&D’s innovation activities
    • (together with Norwegian Food Research Inst. and UMB, etc)

• The Neptun project: using milk proteins to stabilize fatty acids (emphasis on fish)

• The Umi No Kami project: applying the Neptun knowledge in developing products

Umi No Kami, or the 'salmon salami'
Two main storylines

• Storyline 2
  • Bremnes Seashore + Norwegian University of Life Sciences
  • The ‘Cold fish’ project: cooling, slaughtering and processing of farmed salmon
    • Processing pre-rigor
    • Documented high quality: colour, texture, shelf-life, etc

Pre-rigor salmon
Translation and counter-translation

- TINE and the UNK-project recruited/mobilized the pre-rigor salmon: improved the salami
- Pre-rigor salmon translated: an ingredient in TINE’s innovative salmon salami
- Started a joint venture, Salmon Brands, between Bremnes Seashore and TINE to produce and commercialize 'Salma'
  
  Counter-translation: Salmon Brands became a visionary representative of fresh high-quality loins of salmon
- 'Salma Cured' on a side-track, 'Salma Fresh' the locomotive

...and the winner is...
An analytic scheme of innovation processes

- **Knowledge exploration**: Formulating and testing propositions about social, technical and economic relations in practice.
- **Staging of innovation process**: Boundary spanning, problematization and small-scale mobilisation of resources.
- **Interaction and confrontation**: between sub-processes; Mobilised actor-network vs. explored knowledge.
- **Mobilising actor-networks**: Constructing innovation entities.

...and then expanding the scheme
Innovation problems...

- Why do innovations tend to ‘explode’ into multiple versions when inventors seek to realize them?
- Why do most innovators/entrepreneurs seem to promise too much certainty about the future?
- Why is it so hard for innovations to succeed in finding use and establishing a market?

Suggested implications for innovation and entrepreneurship processes (1)

- Uncertainty
  - Radical innovations includes multiple ‘knowbody knows’ problems/elements that are causing indefinite development risk.
  - Asymmetrical information and mobilized (apparent) authority may be part of constructing a ‘market for new ideas’, ie a trigger for economic exchange of ideas.
Suggested implications for innovation and entrepreneurship processes (2)

• Controversies during innovation:
  • Power to mobilize resources and decisions for innovation produced by constructing a (coherent) chain of arguments. (Convergence)
  • To *realize* innovations includes research-like processes of formulating and testing propositions about social and technical relations *in practice*. (Divergence)
  • Chains of power and chains of propositions tend to ‘borrow’ elements from each other. Interaction often controversial.
  • Actors often avoid interacting with others to not be influenced
  • Shifts come out of interactions, producing new connections, new confrontations, new elements.

Suggested implications for innovation and entrepreneurship processes (3)

• Commercialization/use:
  • When partially stabilized innovations (and their internal propositions about users) are tested with actual users, new propositions and adaptations will arise, and lead to new development phases and new selection processes.
  • When commercializing a ‘final’ version of the innovation, one goes with the alternative containing fewer elements, and that is most similar to what exists already, to reduce development risk. Commercialization of radical innovations, therefore, consist of a process of radical simplification.
Concluding that…

**For practice:**
- A key to convince management and partners is simplification of the concept… knowing that – in reality – things will be different…
- Managers need to understand this dynamic to better handle (support and control) this circular process
- The interconnecting of processes is a crucial challenge during innovation processes

**For theory:**
- Contrary forces model explaining divergence / convergence patterns
- ‘Friction’ as conservative (economic) force from within resource network
- ‘Confrontation’ as challenging status quo from outside – but struggling to relate and realize (Hoholm & Olsen, 2012)

What is happening in the fish sector?

**Domestication of increasing number of species**
- Control on supply: quantity and quality
- Processing technologies
- Industrialization: product development, distribution, marketing, etc
- Convergence with agriculture?

**Consolidation and integration**
- Professionalization of all activities in the value chain
What does this change mean?

• New business opportunities for an emerging Norwegian (and international) fish industry?
  • Product development?
  • High-quality innovation?
  • Super-fresh?
  • By-products/biotech

What does this change mean?

• Challenges to the established fish industry:
  • Marketing of high quality products requires development of high quality production and distribution practices.
  • Nutrition standards
  • Production/processing practice
  • SCM and cold chain technology
  • Branding, packaging, marketing
  • Involving and educating customers and consumers
A few practical examples

- Microbiology: production practice/standards
- Aesthetics: production practice/priorities
- Tracing technologies: for what reasons?
- By-products: documentation (knowledge) on use (applications) and effect (health, etc)