

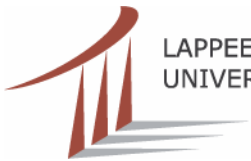


EXPERTISE IN TECHNOLOGY AND ECONOMICS

# Views and practices on inter-organizational learning in innovation networks

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ICEB+eBRF -Conference  
28.11.-1.12.2006 Tampere, Finland



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# Introduction

- Innovations in product or service development are born especially in the boundaries that combine different areas of expertise and operations.
- Innovation networks typically consist of parts of several separate organizations working together but in distributed locations. This form of organizing in networks is challenging particularly from knowledge creation and sharing point of view.
- The organization's learning capabilities also have crucial importance in generating innovations.

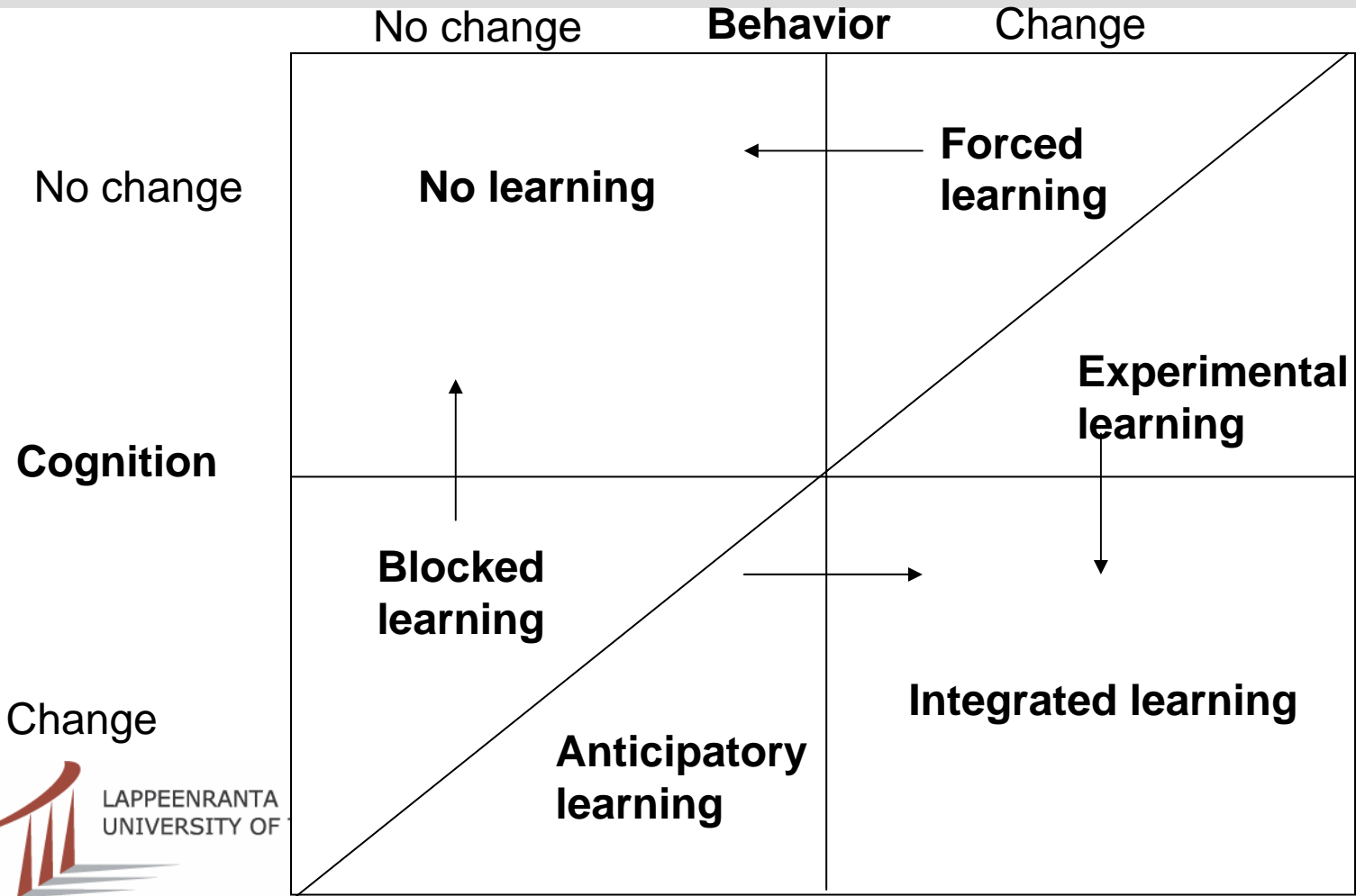
# Objectives

- In this paper, the aim is to study inter-organizational learning in innovation networks.
- We will particularly concentrate on different currently important or increasingly important approaches and views on organizational learning which are particularly relevant from the standpoint of networked innovation.
- We aim to analyze the different learning approaches and evaluate their suitability in various situations and conditions of innovation networks in particular.

# Types of organizational learning

- Behavioral and cognitive dimensions of learning
- Single loop and double loop levels of learning
- Framework for learning types: behavioral and cognitive aspects combined, presented by Crossan (1991)

# Behavioral-cognitive framework

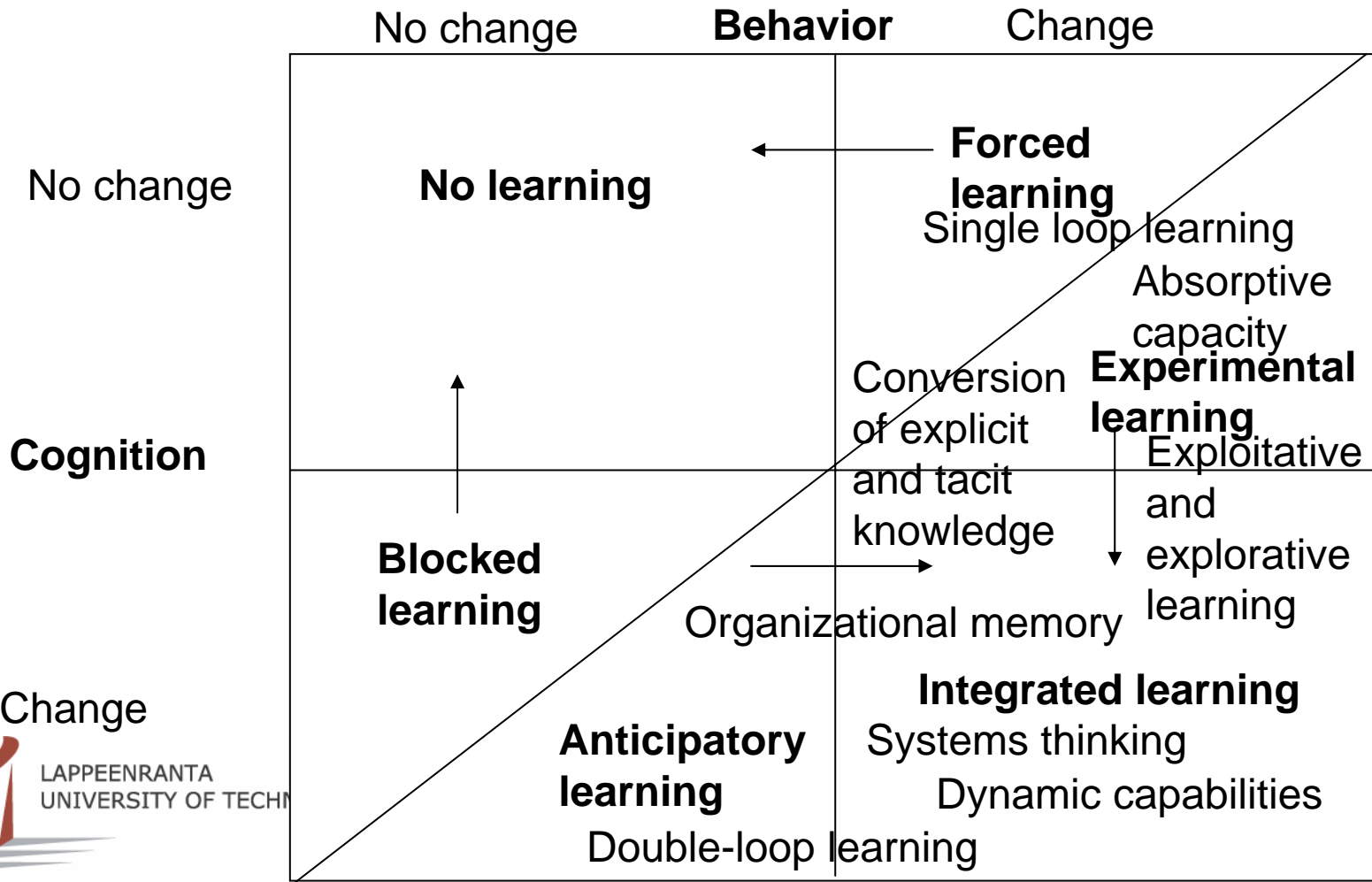


# Views of inter-organizational learning

- Conversion of explicit and tacit knowledge
- Exploitative and explorative learning
- Absorptive capacity, relative absorptive capacity
- Organizational memory
- Systems thinking
- Dynamic capabilities



# Views of learning according to the framework



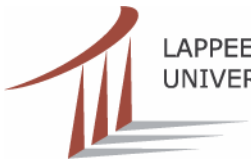
# Inter-organizational learning in innovation networks

- Different types of approaches should be drawn to attention when organizations and networks aim to develop their learning abilities in innovation.
- Effective learning with sustainable, long-term impact on organizational competitive advantage can be achieved by combining various aspects and standpoints of learning.
- The conditions affecting the learning approach emphasis can be divided into two categories: network-specific factors and factors concerning the business environment
- We have collected examples of general practices or actions in organizations and networks that can be seen as important and that are typical for each of the selected organizational learning views. These practices can be used for supporting effective inter-organizational learning in innovation activities.
- Practices include for example creating formal and informal processes or common routines, or identifying critical knowledge and knowledge similarity between partners.



# Conclusions

- In the pursuit of a competitive advantage, learning in the context of innovation and innovation-related networks is a particularly challenging but increasingly more important task for companies.
- We selected and described different approaches and views on organizational learning, which are particularly relevant from the standpoint of networked innovation.
- Effective learning with sustainable, long-term impact on organizational competitive advantage can be achieved most likely when various aspects and standpoints of learning are simultaneously taken into consideration when planning inter-organizational network cooperation.
- We found clearly that several network-specific internal and external factors affect the suitability and emphasis of selected inter-organizational learning approaches in different situations.



# Views on inter-organizational learning: implications and supporting practices in networked innovation

<i>View / perspective</i> (Authors)	<i>Implications for inter-organizational learning:</i>	<i>Implications for networked innovation from the standpoint of effective learning:</i>	<i>Examples of <u>typical/specialized</u> practices to support inter-organizational learning in innovation</i>
<b><i>Conversion of explicit and tacit knowledge</i></b> (Nonaka & Takeuchi, Holmqvist)	Knowledge creation processes between explicit and tacit knowledge are needed also between organizations.	Knowledge creation processes should be built-in explicitly in both formal and informal innovation processes.	<ul style="list-style-type: none"> <li>- Identification and mobilization of important tacit knowledge for the network</li> <li>- Formal processes: meetings, written documents and instructions, objectives for learning</li> <li>Informal processes: possibility to share knowledge in informal setting, employee-organized activities</li> </ul>
<b><i>Exploitative and explorative learning</i></b> (Levinthal & March, Nooteboom)	Balance between exploitation and exploration varies in the different stages of the network relationship.	The importance of routines for exploration increases as a source of innovation.	<ul style="list-style-type: none"> <li>- Identify and evaluate the needed balance between explorative and exploitative routines in different stages of the relationship, first need for more explorative and then exploitative learning</li> <li>- Learning requires commitment, keeping the relationships alive on personal and organizational level</li> </ul>
<b><i>Absorptive capacity, relative absorptive capacity</i></b> (Cohen & Levinthal Lane & Lubatkin Dyer & Singh)	Greatest potential comes from learning from teachers with similar basic knowledge but different specialized knowledge. Routines can be made more effective by enhancing partner-specific absorptive capacity (ability to absorb knowledge from specific partner).	Partners should possess similar type of knowledge bases, similar organizational structures and compensation policies, similar knowledge-processing style, as well as similarity in the companies' commercial objectives.	<ul style="list-style-type: none"> <li>- Identification of basic and specialized knowledge by taking stock of the existing knowledge base =&gt; possibility to evaluate similarity</li> <li>- Talk about objectives and future plans with the innovation partners; find possible common present and future goals for network participants</li> <li>- Identification of one or more suitable participants as possible teacher</li> </ul>

# Views on inter-organizational learning: implications and supporting practices in networked innovation

<p><b>Organizational memory/</b> (Walsh &amp; Ungson, Moorman &amp; Miner, Koistinen)</p>	<p>Creation of interorganizational routines, and creation of formal and informal networks as well as databases etc.</p>	<p>Creation of common, commonly understood innovation processes and routines, as well as the creation of other important memory forms.</p>	<ul style="list-style-type: none"> <li>- Creation of common organizational memory for the network as a goal</li> <li>- Model and describe current processes and routines of <u>individual organizations</u>, as well as formal databases</li> <li>- Transactive memory: important to learn efficiently who knows what. Centralized / distributed control.</li> <li>- Instead of copying processes from others, try to create new processes together</li> </ul>
<p><b>Systems thinking</b> (Senge, Sterman, Argyris)</p>	<p>Common and in-depth understanding of their mutual interdependencies and the larger system they are part of. Continuous, regular feedback and approaches that support the utilization of feedback are important.</p>	<p>Enables questioning the existing mental models as well as creating radical innovations. Identifying the virtuous or vicious loops in innovation processes and taking advantage of the loops in questioning the present thinking as well as in creating new ways to innovate.</p>	<ul style="list-style-type: none"> <li>- Describe the network and its objectives together to establish a shared view of each participant's role in the network</li> <li>- Recognition and description of interdependencies of network participants</li> <li>- Establish feedback processes in different stages of the innovation process</li> <li>- Design the product, service and process architecture together with other network partners to minimize interdependencies and communication needs during innovation projects, for instance when the participants in networked innovation activities are located in geographically distant places or different countries</li> <li>- Identification of virtuous / vicious loops</li> </ul>
<p><b>Dynamic capabilities/</b> (Teece &amp; Pisano &amp; Shuen, Dyer &amp; Singh)</p>	<p>Firm's critical resources (rare, valuable, complementary, hard to imitate) may extend beyond firm boundaries. Partnerships enable inter-firm learning by helping to recognize dysfunctional routines and develop them.</p>	<p>Identification of critical resources in innovation process. Strategic integration of complementary capabilities in innovation networks leads to better chances for radical innovations.</p>	<ul style="list-style-type: none"> <li>- Recognize and describe own capabilities and critical resources, particularly knowledge based resources from the network point of view; continuous re-evaluation</li> <li>- Develop routines together with partners</li> </ul>

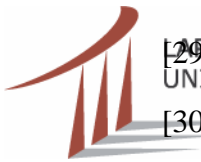
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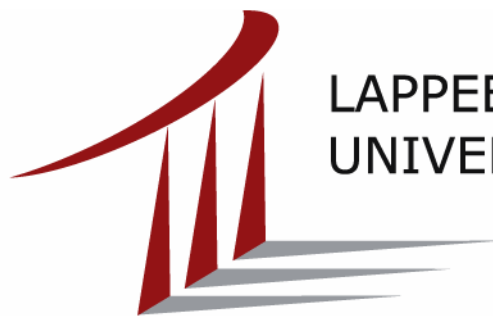


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