Academic insights into cluster development – the Nordic perspective

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- Clusters and regional development
- Clusters and the Nordic experience
- The future of clusters?
Jukka Teräs, CV in brief

• Doctor of Science (Technology), University of Oulu, Finland; MBA, Helsinki School of Economics and Thunderbird, Phoenix, USA

• 25 years of experience on regional development, clusters and innovation environments

• Post-doc fellowship on SME clusters: Scuola Superiore Sant’Anna, Pisa, Italy (2009-2011)

• Senior Research Fellow, Nordregio, Stockholm (2013-)
Nordregio - a leading international Nordic research institute in the broad field of regional studies

- Established in 1997
- Located in Stockholm, Sweden
- More than 30 international researchers
What is a cluster?

Cluster:

“Geographic concentrations of interconnected companies and institutions in a particular field.” (Porter 1998)

Regional cluster:

“The geographic boundaries by the distances the entrepreneurs are willing to travel for face to face meetings, and employees are willing to travel to work” (Rosenfeld 2005)

Clusters and innovation systems:

“Clusters can be seen as nested within other spatial scales of analysis, including regional and national innovation systems” (Wolfe & Gertler 2004)
Clusters as part of Regional Innovation System
(Cooke et al. 2007)
Cluster development – history in brief

• Clusters have existed since the early history of economic activity; many goods have been produced cooperatively and in specialised regions

• The idea of industrial localisation can be traced back to Marshall’s observations about industrial districts in the UK (Marshall, 1961).

• Agglomeration - a major theme of urban and regional studies for decades.

• The interest in industrial districts increased in the 1980s, inspired by observations on the “third Italy” concept (e.g. Brusco 1982).

• The cluster phenomenon has attracted increasing attention during the last 25 years. Porter (1990, 1998) work on competitiveness and notion of industrial or business clusters became a dominant concept

• Recently, Cluster Policy has become more organized (e.g. the European Cluster Observatory)
Enright (2001) typology and case study clusters

<table>
<thead>
<tr>
<th>Cluster category</th>
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<tbody>
<tr>
<td>Working clusters</td>
<td>&quot;those with a critical mass&quot;</td>
</tr>
<tr>
<td>Latent clusters</td>
<td>&quot;critical mass – but not sufficient level of interaction to benefit from clustering&quot;</td>
</tr>
<tr>
<td>Potential clusters</td>
<td>&quot;some elements for the development of successful clusters&quot;</td>
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<tr>
<td>Policy driven clusters</td>
<td>&quot;government support – but lack of critical mass&quot;</td>
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<tr>
<td>Wishful thinking</td>
<td>&quot;policy driven – but without critical mass or any particular advantage&quot;</td>
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Actors on the Cluster Stage
(Sölvell 2009)
Local buzz vs. global pipelines: remarkable change in the 2000’s (partly adopted from Bathelt et al. 2002)

- actors, firms
- region
- shared values, attitudes, interpretative schemes
- local information flows, gossip, news, buzz
- global pipelines
Cluster life cycle: self-enforcing spiral path or ”Museum”? (Sölvell 2009)
Local economic development policy, entrepreneurship, and clusters
(adapted from Sotarauta 2008, www library)

<table>
<thead>
<tr>
<th>Policy</th>
<th>General local economic development policy</th>
<th>Focused local economic development policy</th>
<th>Experimental local development policy searching for new openings</th>
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<tbody>
<tr>
<td>Mission</td>
<td>Support all companies independently of the branch</td>
<td>Targeted support to selected key clusters</td>
<td>Risk taking, new openings, future oriented</td>
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<tr>
<td>Key strategy</td>
<td>Remove bottlenecks, take care of business infrastructure</td>
<td>Tailor-made actions based on the cluster life cycle</td>
<td>Risk taking, experimental, supporting the risk taking of others</td>
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Regional high-tech cluster policy has become trendy due to the EU-driven propagation of ‘best practices’ (Hospers 2005). Most regions target similar activities, with the support of public authorities; nearly all of them back information, bio and nanotechnology clusters. The policy is fostering excessive investment in the same technologies.

The regional cluster decision-makers should not imitate other regions, but should combine the information from other clusters with the existing, cumulated cluster know-how in the region – to create new possibilities for advanced cluster concepts.
Clusters and the Nordic perspective
Finland: OSKE Centre of Expertise programme (Valle 2011)
The ICT cluster in the Oulu region (Pikka, 2006)

Supporting industries
- Contract manufacturing
- Software services
- R&D services
- Logistics services
- Associated services
  - Technopolis Plc
  - VC finance
  - The Oulu Region Centre of Expertise

Focus business area
- Wireless communication technology firms

Public organisations
- City of Oulu
- Council of Oulu Region
- Province of Oulu
- Employment and Economic Development Centre

Related industries
- Traditional media
- Wellness firms
- Other services
- Education and research services
  - University of Oulu
  - VTT
  - Oulu Polytechnic
  - POHTO

Wellness firms
- Logistics services
- R&D services
- Software services
- Contract manufacturing

Other services
- Focus business area
- Public organisations
- Related industries
Finland: Strategic Centers for Science, Technology and Innovation (SHOK): a cooperation platform for innovative companies and spearheading research
Finland: INKA Innovative Cities programme 2014-2020

• “The INKA programme aims to create internationally attractive local innovation hubs in Finland.

• INKA helps urban regions to focus on their strengths, encouraging them to select new types of focus areas and intensify cooperation between the public and private sectors.

(Pikkarainen 2013)

INKA themes and participating regions (TEM 2013):

• **Bioeconomy**: Joensuu, Jyväskylä, and Seinäjoki
• **Sustainable energy solutions**: Vaasa, Lappeenranta and Pori
• **Health in the future**: Oulu, Kuopio, Pääkaupunkiseutu, Tampere and Turku
• **Smart city and renewing industry**: Tampere, Lahti, Oulu, Helsinki Metropolitan region and Turku
• **Cyber security**: Jyväskylä
Sweden and cluster policy

• “Despite a business environment and academic tradition conducive to cluster development, Swedish economic policy has for a long time been skeptical about its use. Despite the skepticism, cluster policy has become an important factor in government policy” (Ketells 2009)

• The flagship project for Swedish cluster policy is VINNVÄXT, a programme run by VINNOVA since 2001, with a 10-year co-funding

• “To qualify as a VINNVÄXT winner, the proposed strategic idea must renew the traditional strengths and clusters of its region. It must address them by forming new combinations with other sectors, such as the IT infrastructure, service management etc. Emerging areas of business and growth like these are consistent with the EU’s new innovation policy concept, Smart specialisation” (Vinnova 2015)
Bioeconomy cluster in Örnsköldsvik, Sweden


Source: Processum
Denmark and clusters

(The Danish Ministry of Science Innovation and Higher Education 2013)

- Eight ministries, the six regional growth forums and Local Government Denmark (LGDK) have produced a joint strategy on how an efficient cluster policy can contribute to creating tomorrow’s strong competitive and innovative enterprises.

- The cluster policy strategy has three specific focus areas: More international clusters, More professional cluster organisations, Forum for the Danish cluster and network policy

- Three ‘leagues for cluster organisations’ are to be established, following the EU model (Gold, Silver and Bronze label)

- More than 6,000 Danish enterprises participate in the activities that are launched by local, regional or national cluster and network organisations. More than 80 percent are small and medium-sized enterprises.
Clusters and the future?
Clusters - recent discussion and development

- **Clusters - not any more national projects (only):** “Clusters are not similar to what they used to be. It is not any more possible to build up national projects based on clusters. Today, there are small, regional clusters or international, big clusters.” (Ylä-Anttila 2007)

- **Towards global ecosystems:** “From the viewpoint of companies, the work on innovations is more and more done in company-driven, ecosystems following the global rules – and less in national clusters. This means that innovation policy needs to focus on providing the regional top expertise with direct channels to international hubs” (TEM Synocus, Evaluation of OSKE Programme 2013)

- **Clusters and smart specialisation:** ”The full potential of clusters and cluster policies will be reached if The Smart Specialisation Strategies integrate cluster policies into a broader transformation agenda for the entire regional economy…with crosscutting and technology/knowledge domain--specific activities” (EC 2013)
EU and clusters: recent development

• EU Cluster Observatory
• Smart specialisation and clustering
• Model regions, a new type of clusters?
Modern Cluster Policies by European Model Demonstrator Regions (European Cluster Observatory)

Six European regions have been selected by European Cluster Observatory in 2014 to demonstrate new or better ways of designing and implementing modern cluster policies:

**Centro**/Portugal

**Hamburg**/Germany

**Lapland**/Finland

**Nord-Pas de Calais**/France

**Stockholm**/Sweden

**West Region**/Romania
Thank you!