Cluster Life Cycles: Integrating the Policy Dimension

Outline

1) Background: Comparative Cluster Policy Research
2) CLC Project: Proposal for Integrating the Policy Dimension
3) Looking Beyond the CLC Project
Comparative Cluster Policy Research: Guiding Questions

- Impact of structural & institutional variety on the design, implementation and effectiveness of cluster policies poorly understood
  - E.g. varieties of capitalism (Hall/Soskice 2001) ⇒ liberal vs. coordinated market economies (cf. Sternberg et al. 2010)
  - Constellations of actors in regional governance structures
  - Interdependencies across spatial scales ⇒ multilevel governance (cf. Callaghan 2010)
    ⇒ Convergent vs. divergent forces
    ⇒ Determine scope for policy learning
- Diffusion of cluster policies across time and space
  - How? ⇒ Channels of policy transfer
  - What impact? ⇒ Evaluation
- Relationship between theory, empirical cluster research, policy and practice ⇒ Public Choice perspective (cf. Kiese/Wrobel 2011)

Clusters, Cluster Initiatives and Cluster Policy

- Cluster = geographical concentration of
  - interconnected companies
  - specialised suppliers
  - service providers
  - firms in related industries
  - associated institutions (e.g. universities, standard agencies, trade associations)
  - in particular fields that compete but also cooperate (Porter 1998, p. 197 f.)

Cluster Initiative = an organised effort to increase the growth and competitiveness of a cluster within a region, involving cluster firms, government and/or the research community (Sölvell et al. 2003, p. 31)

(Regional) Cluster Policy = all efforts of government to develop and support clusters (in a particular region) (Hospers/Beugelsdijk 2002, p. 382)
- Industrial, structural, technology or innovation policy promoting regional specialisation
- Public efforts to develop concentrations of industry or network structures into clusters, or to promote existing clusters (cf. Bruch-Klumbein/Hochmuth 2000, p. 69 f.)
Emergence of Cluster Policy

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• European Union
  • Identification and networking of clusters
  • Exchange of Knowledge between policymakers and practitioners (cluster managers)
  • Support through Structural Funds


• State government: e.g. North Rhine-Westphalia (NRW)
  • 16 NRW Clusters + open RegioCluster contest
  • Support through Structural Funds (Objective 2)

• Regions and Municipalities
  • Of 144 cities > 50,000 inhabitants, 63 % claimed to have a coherent strategy for the development of clusters, networks, or fields of technology/competence (Hollbach-Grömg/Floating 2008)
  • Examples: dortmund-project (Röllinghoff 2008), kompetenzhoch in Wuppertal-Solingen-Remscheid (Dewald 2006)
Cluster Life Cycles: Policy Impact vs. Implications

Policy Analysis → Cluster Life Cycles → Policy Implications

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Policy Impacts

Key questions
- What?
- When?
- How?

Various Policies
- Industrial policy
- Regional policy
- Science and technology policy
- Innovation policy
- Environmental policy
- Trade policy
- Competition policy
- ...

Cluster Policy Dimensions
- Governance
- Cluster reference
- Complexity
- Cluster orientation
- Coherence
- Institutionalisation
- Maturity

Menzel/Fornahl 2010, p. 218
# Seven Dimensions of Cluster Policy

<table>
<thead>
<tr>
<th>Governance</th>
<th>Public</th>
<th>PPP</th>
<th>Private</th>
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<tbody>
<tr>
<td>Cluster reference</td>
<td>Implicit</td>
<td>Explicit</td>
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<tr>
<td>Complexity</td>
<td>Single Instrument</td>
<td>Holistic Approach</td>
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<td>Cluster Orientation</td>
<td>Low</td>
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<td>Coherence</td>
<td>Low</td>
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<tr>
<td>Institutionalisation</td>
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<td>Strong</td>
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<tr>
<td>Maturity</td>
<td>Embryonic</td>
<td>Completed</td>
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1) cf. Fromhold-Eisebith/Eisebith 2005: 1256

Cf. Kiese 2008: 130-132

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## Dimension 1: Governance

- Includes *initiation*, *funding* and *governance*
- *Cluster policy* requires a certain degree of public intervention ⇒ otherwise private *cluster initiative*
- Continuum of *Public-Private-Partnerships (PPP)*
- Co-operative role of the state: Government ⇒ *Governance*

Cf. Kiese 2008: 131
Dimension 2: Cluster Reference

- **Implicit cluster policy**
  - Unintended spatial impacts of sectoral policies, e.g. industrial or technology policy
    - E.g. regional impacts of federal research funding or public procurement, such as defense-related R&D in Silicon Valley & Route 128 (cf. Saxenian 1994, Leslie 2000)
  - Intentional support of specialised agglomerations without reference to the cluster concept/term
    - Alternative terminology & country-specific variations, e.g. *Pôles de Compétitivité* (F), *Kompetenzfeld* (D)

- **Explicit cluster policy**: Usage of cluster term
  - Does not imply reference to underlying theoretical concepts
  - Often merely used as label for marketing purposes

Cf. Kiese 2008: 131
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Dimension 3: Cluster Orientation

- **Degree to which a policy is focused on clusters**
- **Ratio of industry-, technology- or cluster-specific vis-à-vis generic projects or instruments**
  - Business incubators
  - Organised networks of firms
  - Start-up contests
  - Information platforms

Cf. Kiese 2008: 131
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Cluster Life Cycles

• Cluster = holistic, complex, multidimensional concept
• Cluster policies should
  • Combine a mixture of instruments/measures
  • Target a portfolio of industries/technologies to allow for synergies and technological convergence
• High degree of complexity ⇒ regional innovation strategies, smart specialisation (RIS3, European Commission 2011), integrated location management etc.

Cf. Kiese 2008: 131
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Dimension 5: Coherence

• Comprehensive cluster strategy, jointly developed/approved by all relevant stakeholders (consensus)
• Broad strategy, possibly encompassing several clusters ⇒ alignment of measures/ instruments
• Opposite example: Incoherence
  • Competing actors pursuing conflicting aims
  • Isolated measures for the promotion of individual clusters or cluster elements

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Dimension 6: Institutionalisation

- **Strong institutionalisation**
  - Individuals or organisations commissioned with implementation
  - Creation of dedicated agencies, e.g. cluster management organisations (CMO)

- **Weak institutionalisation**
  - Non-binding arrangements, e.g. memoranda of understanding
  - Unclear commitment of stakeholders

⇒ Not necessarily linked to the impact/success/outcome of cluster policies!

Cf. Kiese 2008: 132

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Dimension 7: Maturity

- Time elapsed since implementation of a policy
- Political decision and formation of CMO as milestones (“date of birth”)

- Degree of realisation ⇒ prospects for evaluation

- Evolutionary perspective
  - **Path dependence / trajectory**
  - **Flexibility** and **adaptability** to changes in selection environment

- **Sustainability**, e.g. beyond election cycles

- **Worst practice**: learning from failures of embryonic (“aborted”) cluster strategies

Cf. Kiese 2008: 132
Policy Integration: Case Study Inputs

- Relevant policies influencing the trajectory of your cluster
  - Who, when and how?
  - Key strategies, programs and measures ⇒ impact?
  - Repository of policy documents ⇒ website

- Specific cluster policies and initiatives targeting your cluster
  - Who, when and how?
  - Key strategies, programs and measures ⇒ impact?
  - Seven dimensions of cluster policy
  - Repository of policy documents ⇒ website

Case Study xy: General Policy Template

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⇒ relevance of different policies by industry and life cycle stage
## Policy Categories and the Cluster Life Cycle

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<tr>
<th>Policy Category</th>
<th>Impact during CLC*</th>
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| Education                       | • Strongest in expansion phase  
                                 | • General training in early phases, more specific labour force at later stages   |
| Public research                 | • Strong throughout the life cycle  
                                 | • Recommended for mature and especially initial stage                          |
| Support of private R&D          | • Strongest in initial and mature phases                                           |
| Support of start-ups            | • Most effective in early phases  
                                 | • Start-ups ⇒ spin-offs                                                      |
| Support of networks / co-operation | • Strongest in initial and mature phases                                      |
| Improving other local conditions| • Strongest in expansion phase  
                                 | • Supportive services in mature phase                                          |

*Based on literature review, mathematical modeling and empirical calibration of this model.


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Comparative Cluster Policy Research: Towards an Agenda

- **Diffusion** of cluster policies across time and space
- Forces of policy **convergence**
  - globalisation, locational competition, shift towards knowledge-based economy
  - Various channels of **policy transfer**
- Sources of **variety** and **divergence** necessitate **adaptation**
  - structural and institutional differences between nations and regions
  - path-dependent learning by doing in policy and practice

⇒ Scope for **policy learning and transfer**

- **Varieties of Capitalism** approach captures institutional differences at the national level
  - Combined with **multilevel governance** perspective to account for subnational variation (cf. Callaghan 2010)

References (1/2)


References (2/2)


