Intermediating organisations in regional innovation systems: high-technology enterprise survey from Northern Finland

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PhD Theses: Innovation systems and innovation policy in the periphery: the case of Northern Finland


3. Suorsa, K. & Inkinen, T. Intermediating organisations in regional innovation systems. High-technology enterprise survey from Northern Finland

4. Suorsa, K. Regions in regional innovation systems: aspects in theories, governance and enterprises’ behaviour
Context: Northern Finland

- National innovation policy and system!

- Territory: 156,000 km²; 0.7 million inhabitants – population density 4.7 inhabitants / km²

- Largest cities:
  - Oulu (131,600)
  - Rovaniemi (58,800)
  - Kajaani (38,100)
  - Kokkola (37,000)
Population and R&D investments

Population in year 2006
- 210,000
- 105,000
- 21,000

R&D expenditure (Million €)
- 740
- 370
- 74

200 km scale
Higher education

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High-tech enterprises

Amount of the high technology firms in 2003 (by Oulutech Ltd)

- 340
- 170
- 34

Amount of the high technology firms in 2003 (Statistics Finland)

- 600
- 300
- 60
The aim of the study and research questions

The aim of the study is to discuss how firms in a peripheral region experience they benefit from intermediating organisations.

Research questions

- What type of intermediating organisations are the most important to studied high-technology enterprises?
- What kind of high-technology enterprises benefit most from intermediating organisations?
- What public sector measures do the studied high-technology enterprises appreciate most?
Research material and methods

- Background material: statistics, policy documents, annual reports and internet pages from intermediating organisations

- Survey of high-tech firms in Northern Finland
  - Conducted by phone or in internet (February to April 2008)
  - total population: 451 firms with product development; our data 168 firms (response rate 37.3 %)

- Methods: gross tabulation, Khii square test, Pearson correlation, Mann-Whitney and Kruskall-Wallis tests; categorization in an open question
Main concepts

• National and regional innovation systems
  – organisations, firms and their cooperation

• National and regional innovation policies
  – ”governance of innovation systems”

• Intermediating organisations
  – Operate between knowledge producers and knowledge users
  – Tasks: technology transfer and commercializing of technology
  – Challenges: lack of knowledge of markets, unfair conditions to competition, efficiency of direct support (see Ebesberger 2005)
Intermediating organisations in Northern Finland

• National: Tekes, Finnvera, Foundations for Finnish Inventions, Finpro

• Regional: Regional Councils, TE-centres, Regional development companies, Centres of Expertise, Regional Centres

• Local: Technology centres, business incubators, employment agencies, trade promoters

+ VTT Technical Research Centre and higher education institutions (2 universities, 2 university consortiums, 5 universities of applied sciences)
The firms in survey

- **Sample size:** 168 firms, all of them have product development activities
  - Amount of cooperation partners low

- **Background**
  - **Size:** most very small
    - 71.1 % had less than 10 employees
    - Revenue less than 200,000 in 34.6 % of firms
  - **Age:** most young companies
    - 65.4 % established in 2000’s, 33.9 % after 2004
  - **Principal business activity**
    - Software houses (43.5 %)
    - Architectural and engineering activities (22.6 %)
  - **Location:** most in FUR Oulu
"Activity" of firms in the survey

- Aim to significant growth in turnover: 75.6% of firms
- Aim to international cooperation: 60.4% of firms
- Product innovation in 2004-2007: 75.0% of firms
- R&D investments
  - Quite low: 48.9 per cent invested less than 50,000 € annually to R&D
- 52 (31.0%) of firms received Tekes funding in year 2006 and/or 2007
Results: importance of intermediating organisations

- TE-centre
- Tekes
- Polytechnic
- University of Oulu
- Finnvera
- Local technology Centre
- Other Finnish University
- Business incubator
- VTT, Oulu
- Oulu Innovation
- Employment Agency
- Business promoter
- Centre of Expertice
- Regional Centre Programme
- Regional Council
- University of Lapland
- Foreign University

[Bar chart showing percentage importance]
Results: the most important task of the most important organisation

<table>
<thead>
<tr>
<th>Task</th>
<th>Number of answers</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding</td>
<td>80</td>
<td>61.1</td>
</tr>
<tr>
<td>Services (i.e. advice in money applications)</td>
<td>14</td>
<td>10.7</td>
</tr>
<tr>
<td>Projects, networking</td>
<td>12</td>
<td>9.1</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>8.4</td>
</tr>
<tr>
<td>Knowledge, cooperation in R&amp;D</td>
<td>7</td>
<td>5.3</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>4</td>
<td>3.1</td>
</tr>
<tr>
<td>Education</td>
<td>3</td>
<td>2.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>131</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

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Results: Firms that benefit the most

- Firms that appreciate most the intermediating organisations

- firms that benefit the most:
  - ”active” firms
  - small but not the smallest
  - Firms that had received Tekes funding

- Groups in intermediating organisations:
  - Tekes, TE-centres, VTT, university of Oulu (the most active firms)
  - Regional intermediating organisations

- 52 (31.0 %) could not name any intermediating organisation important or did not answer the question
Results: Recommendations to public sector

- Increase or improve funding

- Increase or improve other support (e.g. infrastructure, networking)

- Increase or improve networking and cooperation between public and private sector

- Increase or improve education

- Use more private and local companies

- Decrease bureaucratic obstacles
Conclusions

- Firms that are the "target" group of innovation policy measures appreciate most the intermediating organisations

- Firms did not see most of the intermediating organisations important to their product development
  - Most important ones were those that offered direct support or were in direct contact to firms
  - TE-centres and Tekes was the most important ones, however, over 40 % of firms did not consider them important

- 52 firms could not name the most important intermediating organisations and 8 firms felt that public could not help or should not interfere in business activities
Conclusions

• Funding was considered the most important task of the most important intermediating organisation

• However, there were criticism against funding
  – Criteria?
  – Funding decisions?
  – Funding to marketing
  – Problems in getting funding when a firm is too small (1-4 employees)
Recommendations

• Besides funding, there is a need to develop other support measures

• Public sector should communicate more with private sector when developing support measures

• Intermediating organisations should inform more about themselves and their tasks to private sector

• When considering peripheral regions, also other than "active" firms should be included in innovation or other support measures
Thank you for your attention!

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