Sustainability of Cross-Border RTDI Projects and Networks

-The Case of CIRCE

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Austrian funded cross-border RTDI programme

In the first 3 calls 395 participants (mainly SMEs) involved

Partners were initially primarily from “Central Europe”; recently mostly from SEE
Programme Goals

1. Increasing the **innovation capacity** of enterprises and their capability to absorb and apply external knowledge

2. Increasing the **cooperation capacity** of enterprises and creation of cross-border innovation networks and cooperation structures

Both goals go together!
Basic Assumption

1) Innovation happens through cooperation (approximated by measuring exchange density, intensity and patterns)

2) A balanced use for project partners and their contribution to build up capacities and knowledge depends on functioning exchange relations (approximated by inclusion/exclusion of partners; accessibility of partners etc.)
Globalisation of business R&D: the changing determinants of location

Up to 1979
- Legacy 29%
  - Skills Capabilities 16%
  - Proximity Production 18%
  - Market Customer 10%
  - Close to HQ 14%
  - Subsidies incentives 9%

1980 to 1995
- Legacy 17%
  - Skills Capabilities 16%
  - Proximity Production 17%
  - Market & Customer Insight 19%
  - Close to HQ 10%
  - Low Cost skills 2%
  - Subsidies incentives 13%

1996 to 2005
- Legacy 11%
  - Skills Capabilities 22%
  - Market & Customer Insight 19%
  - Close to HQ 7%
  - Low Cost skills 9%

Source: INSEAD survey
Measurement of Exchange Relations

1. Communication about project management
2. Communication about project content
3. Non-project related communication
4. Exchange of goods
5. Exchange of services
6. Exchange of money
7. Exchange about important contacts
8. Exchange about other important information

9. And mutual trust!
Objective of our Study

Investigation how project networks are developing

Conclusion can be drawn on:
1) the management of project networks
2) the development of science-industry relations
3) development of customer-vendor relations
4) development of internationalisation
5) sustainability of public interventions
Evaluation Concept
Science-Industry Relations

Benchmark: at least 80% of all possible relations between science and industry in terms of exchange about project content and other valuable information should be realised.

Proj_cont density: science -> industry (SMEs) > 80%

Information density: science -> industry (SMEs) > 80%
Development of Science-Industry Relations
Internationalisation

Benchmark: at least 30% of all possible exchange relations between Austrian and foreign partners should be realised

\[ \Sigma \text{ of Exchange Austrian <-> EE/SEE partners} > 30 \% \text{partners} \]
### Development of international exchange relations

<table>
<thead>
<tr>
<th>All exchange relations – network density between Austrian and non-Austrian</th>
<th>Project_3</th>
<th>T1</th>
<th>46/485</th>
<th>= 9.48%</th>
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<tbody>
<tr>
<td>All exchange relations – network density between Austrian and non-Austrian</td>
<td>Project_3</td>
<td>T2</td>
<td>50/405</td>
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<td>Project_3</td>
<td>T3</td>
<td>175/469</td>
<td>= 37.31%</td>
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</table>
Increasing Network Density by Project (T1 vs T3)
Development of Project Networks (T1 vs T3)
Development of Project Networks (T1 vs T3)
Development of Project Networks (T1 vs T3)
So Far - So Good?
Entwicklung der Netzwerke (T1 vs T4)
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Zuwachs der Netzwerkdichte pro Projekt (T1 vs T4)
Sustainability

Not all exchange relations make sense for measuring sustainability (e.g. project management)

T4 > T1

- Trust network density
- Project content exchange relations
- Other valuable information exchange
Development of Trust
(T1 vs T4)
Project and non-project related communication (T1 vs T4)
Intensity of project related communication
(T1 vs T4) (low=1; very high=3)
Sustainability of Science-Industry relations

T4 > T1

- exchange on project content continues
- exchange of other valuable information continues
Project content exchange and exchange about other valuable information (T1 vs T4)
Sustainability of Customer-Vendor relations

**T4 > T1**

- Exchange of goods
- Exchange of services

<table>
<thead>
<tr>
<th>customer-vendor</th>
<th>proj 1</th>
<th>proj 2</th>
<th>proj 3</th>
<th>proj 4</th>
<th>proj 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>goods exchange T1</td>
<td>3.57%</td>
<td>2.08%</td>
<td>0.00%</td>
<td>2.50%</td>
<td>4.29%</td>
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<tr>
<td>goods exchange T2</td>
<td>12.31%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>5.00%</td>
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<tr>
<td>goods exchange T3</td>
<td>8.22%</td>
<td>4.65%</td>
<td>3.54%</td>
<td>13.85%</td>
<td>19.64%</td>
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<tr>
<td>goods exchange T4</td>
<td>12.73%</td>
<td>7.89%</td>
<td>1.98%</td>
<td>7.69%</td>
<td>2.74%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>customer-vendor</th>
<th>proj 1</th>
<th>proj 2</th>
<th>proj 3</th>
<th>proj 4</th>
<th>proj 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>service exchange T1</td>
<td>9.29%</td>
<td>4.14%</td>
<td>2.56%</td>
<td>13.33%</td>
<td>8.57%</td>
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<tr>
<td>service exchange T2</td>
<td>23.85%</td>
<td>2.08%</td>
<td>5.05%</td>
<td>9.52%</td>
<td>8.33%</td>
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<tr>
<td>service exchange T3</td>
<td>15.07%</td>
<td>6.98%</td>
<td>7.86%</td>
<td>10.77%</td>
<td>17.86%</td>
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<td>service exchange T4</td>
<td>21.82%</td>
<td>5.26%</td>
<td>3.96%</td>
<td>7.69%</td>
<td>4.79%</td>
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Change of network density by category (T1 vs T4)