Innovation, Knowledge Sourcing and Location Decisions of SMEs in Periphery

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• Innovation is placed high on the list of competitive advantage (Porter, 1990).
• Spatial differences in the innovativeness of small firms; urban vs. rural; accessible rural vs. peripheral rural (e.g. Cosh and Hughes, 1996, Keeble et al, 1992, Vaessen and Keeble, 1995, North and Smallbone, 2000).
• Mixed evidence.
• Ability of SMEs to innovate is linked to the extent to which they enter into interactive learning networks with other firms, customers and suppliers and various agencies (Asheim, 1996, Morgan, 1997).
Possible Problems With Peripheral Rural Location

• Limited possibilities for interaction with external innovation actors (universities, knowledge transferring organizations, etc), reliance on knowledge held within the firm (Smallbone, North and Vickers, 2003).

• Fewer knowledge intensive firms, resulting in less innovative activity (Huggins and Johnston, 2009).

• However, potential for new innovations, i.e. different kind of competencies and resources.
Research Questions 1

• Are peripheral rural SMEs’ innovative? Are there any sectoral differences in the degree of innovativeness between these SMEs?
• What motivates SMEs to locate in peripheral rural areas?
• What kind of formal and informal knowledge sourcing networks do these companies maintain? Over what distance do these networks function?
Research Questions 2

• How innovative peripheral rural SMEs contribute to local economy?
• To what extent are peripheral rural SMEs constrained by their environment?
Teesdale Case Study-Background

• Teesdale occupies an area of some 325 square miles in rural County Durham in North East England.
• Despite its size, the rural nature of the area means that it is very sparsely populated, with less than 25,000 residents.
• Barnard Castle is the main employment and service centre in Teesdale. In addition, Teesdale is home to a number of former mining and rural villages dispersed throughout.
Teesdale Economy-Characteristics

• Very high level of entrepreneurship as measured by numbers of VAT registrations per 10,000 population compared to elsewhere in the NE.
• Very high percentage of self employment.
• Highest proportion of workforce employed in manufacturing (35%), wholesale and retail followed by education, health and social work and hotels and restaurants.
• Underrepresentation of Knowledge Intensive Business Services compared to the national average.
Methodology 1

• A web survey was created using marketing research software Constant Contact. An email invitation was sent to some 570 businesses in Teesdale.

• Postal survey was distributed to all businesses from the Enterprise Agency database, 910 enterprises in total (all SMEs).

• Response rate- 13% (118 usable completed questionnaires).
Methodology 2

• Comparative method (generalisable model) vs. evidence from a single region?
• Correlation of findings with Annual Small Business Survey (BERR).
• Comparisons with other studies.
Employment by industry in 2007 as a percentage of total employment

Source: ABI, 2007
### Teesdale sample, breakdown by sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry and fishing</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Electricity, gas, steam and air conditioning supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water supply, sewerage, waste management and remediation activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Wholesale and retail trade, repair of motor vehicles and motorcycles</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>Transportation and storage</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Accommodation and food service activities</td>
<td>22</td>
<td>19</td>
</tr>
<tr>
<td>Information and communication</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Financial and insurance activities</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Real estate activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional, scientific and technical activities</td>
<td>23</td>
<td>19</td>
</tr>
<tr>
<td>Administrative and support service activities</td>
<td></td>
<td></td>
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<tr>
<td>Public administration and defence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Human health and social work activities</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Arts, entertainment and recreation</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Other (repair of computers and personal household goods; activities of membership organisations (religious, political etc), hairdressing)</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>118</td>
<td>100</td>
</tr>
</tbody>
</table>
Survey Findings- Business Characteristics

• High proportion of sole traders.
• Majority-micro businesses (Median=2, Mean=6).
• Low VAT registration.
• Slightly higher proportion of home based businesses.
• Good representation of female led businesses.
• Low numbers of new staff recruitment (one or two on average).
Survey Findings- Growth and Financial Performance

• Small number of high performers- 9% (average turnover £1,000,000 and above).
• 16% record turnover of less than £9,000.
• Growth aspirations lower than the national average, however effects of current economic climate may play part.
• 85% of Teesdale have customers UK wide and abroad.
Defining Innovation

• “New” or “significantly improved” products, services and processes (incremental rather than radical innovation).
• The “new to the firm” and “completely new” definition.
• Broad view including 1) products and services, 2) organisational processes 3) new markets and marketing methods, 4) strategic, delivery or managerial innovations.
Survey Findings-Innovation 1

• 53% of Teesdale SMEs introduced new or significantly improved product or service. This compares favorably to the national average of 46%. Of these 35% said that the product/service was completely new. Nationally 26% of innovators reported completely new innovations.
Survey Findings-Innovation 2

• 39% SMEs said they introduced new processes as opposed to 33% in the national sample.
• For 27% the process was completely new, compared to 18% in the national sample.
• Only 17% introduced new strategic, delivery or managerial innovations.
• Just 18% worked with external organisations to introduce innovation.
Survey findings- Impact of Innovation 1

• Only 35% of innovators recruited new staff in the past 12 months.

• Only 19 SMEs in total recruited new employees in the past 12 months but all of these were innovators! 68% of these (13 SMEs) also expanded into new markets and introduced new organisational processes.

• Only 25% of product or service innovators worked with external organisations to introduce the innovation.
Survey Findings-Impact of Innovation 2

- 53% of innovators expanded into new markets as opposed to only 16% of those who didn’t introduce new product/service.
- Firms that introduced product and service innovation were slightly more likely to introduce process innovation (56%-innovators, 43%-non innovators).
- Product and service innovators are more likely to source knowledge outside the region (only 16% source knowledge locally-within Teesdale).
Survey Findings-Sectoral Differences

- KIS seem to be more innovative compared to other industries (70% of KIS introduced new product or service as opposed to 48% in other sectors).
- KIS were also more successful in penetrating new markets and introducing new marketing methods (50%-KIS, 32%-Other).
- KIS were more likely to source knowledge elsewhere in the UK (42%-KIS, 33-Other).
Survey Findings- Geographic Location 1

• The most important reason for locating anywhere in Teesdale was proximity to founders home followed by quality of life, less important is proximity to customers and clients.

• Proximity to local knowledge is not important.

• The most important attribute of business location for competitiveness is low cost of premises and business rates.
Survey Findings- Geographic Location 2

• Some listed disadvantages of business location are: lack of commercial opportunities, distance from customer base, remoteness, poor broadband, high cost of international travel and transport.
Survey Findings-Knowledge Sources

• Most important sources of knowledge are customers and suppliers (vertical/traded relationships) and these are located within as well as outside the region, but are less likely to be very local.

• Inapplicability and quality of local knowledge is not a significant barrier for firms’ competitiveness.
Discussion 1

• It does not seem that being located in remote rural region impairs the ability of SMEs to innovate.

• Some evidence of how Teesdale SMEs (such as food and tourism) derive their innovativeness from being in the rural environment.

• However, KIS SMEs are more innovative than SMEs in other industries.
Discussion 2

• Unlike some other studies (e.g. North and Smallbone, 2000), this study finds no relationship between innovativeness and propensity to grow and to create employment.

• Need to emphasise the effects of sectoral composition since firms in more innovative/high growth sectors such as engineering, R&D, business services, computer and related are under represented in Teesdale.

• Evidence supports importance of traded relationships outside the region for learning.
Policy Background


• DTI (2003), Promotion of innovation through knowledge transfer in uncompetitive regions.
Policy Conclusion

- Enterprise creation per se is not enough as majority of these businesses don’t grow!
- Peripheral regions need to attract high growing sectors (e.g. retail, KIS) and “hungry” entrepreneurs.
- Existing SMEs need help to expand into new markets.