

Inheriting knowledge in the region

Anet Weterings

Netherlands Institute for Spatial Research

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Outline of the presentation

- Introduction
- Inheriting knowledge or sustaining relationships: what stimulates innovation? (PhD thesis)
 - Theoretical framework: hypotheses
 - Empirical results
 - Conclusions & recommendations
- Regional knowledge networks (current)
 - Research questions
 - Data and research method

Internalized Experience

- Industry-specific knowledge:
 - In same sector (spin-off)
 - In a related sector (experienced start-up)
 - User experience (User entrepreneur)
- Generic organisational knowledge
 - Entrepreneurship experience
 - Managerial experience

Pre-established relationships

- Contacts established during previous job can also be beneficial
- Focus on relationship with previous employer after starting a firm: positive or negative effect?
- Spatial proximity to previous workplace:
 - Facilitates regular interactions
 - Possible reputation effect

Hypotheses

1. Pre-entry experiences of founders (both industry-specific and organisational) have a positive effect on the innovation output of firms;
2. Contacts with the previous employer have a positive effect on innovation output of firms;
3. Being established in the same region as the previous employer has a positive effect on innovation output;
4. The effect of having continued contacts with the previous employer on innovation output is reinforced when the firms are located in the same region.

Data collection

- Population: independent firms with more than 1 employee and software development as their main activity
- Cross-sectional data gathered with a telephonic survey among 617 software firms
- Response: 265 firms, sample representative for the total population with respect to size, NACE code and location

Explanatory variables

- Industry-specific pre-entry experience in the:
 - Software industry than spin-off (33%),
 - ICT firm than related industry (24%)
 - Client firm than user entrepreneur (12%)
- Generic organizational experience as a:
 - Manager (35%)
 - Entrepreneur (18%)
- Pre-established relationships: continued contacts with previous employer after the start (30%)
- Location in same region: firm established within a range of 50 km surrounding the prior workplace of the founder (60%)

Research method

- Tobit regression to estimate effect of pre-entry experience and relationships on innovative performance of software firms
- Dependent variable: innovation output (% of total turnover due to the sales of new products or services)
- Control variables: innovation input, type of innovation, age and size of the firm

Results regression analyses

Variable	Model 1		Model 2		Model 3	
	B	Std. Error	B	Std. Error	B	Std. Error
Constant	12.60	11.09	12.63	11.01	6.77	10.99
Spin-off	0.79	5.33	--	--	4.71	6.62
Related industry exp.	-3.94	5.84	--	--	--	--
User entrepreneur	3.93	7.60	--	--	--	--
Manager experience	8.22	5.43	--	--	6.44	6.35
Habitual entrepreneur	13.65*	7.01	9.56	6.89	20.83**	9.26
Relationship prev. employer	--	--	-9.41*	5.22	0.91	9.26
Location prev. workplace	--	--	6.32	5.11	11.36**	5.67
Location * relationship	--	--	--	--	-17.85*	9.54
Spin-off * manager	--	--	--	--	4.46	10.38
Spin-off * entrepreneur	--	--	--	--	-17.53	13.23
Innovation input	0.64***	0.09	0.70***	0.09	0.71***	0.09
Radical innovation	-18.13***	5.32	-16.17***	5.53	-18.93***	5.64
Age of the firm	-0.62	0.43	-1.01**	0.42	-0.82*	0.43
Log (size of the firm)	3.11	7.30	6.85	7.18	5.14	7.13
N	169		164		164	
-2 Log likelihood	1428.20		1384.28		1376.03	
Sigma	29.10***		28.86***		28.04***	
Pseudo R square	0.262		0.277		0.305	

*** p < 0.01 ** p < 0.05 * p < 0.10

Conclusions

- Industry-specific experiences do not affect innovative performance, but the ability to manage and combine it does
- Relationship with previous employer limits the innovation output of firms, mainly when both firms are located near one another
- **HOWEVER**, starting the firm in same region where the founder used to work does contribute to the innovation output

Recommendations

- Examine effect of working experience of founder during whole career
- Examine reasons for the negative effect of support from the previous employer
- **Examine reasons for the positive effect of remaining located in the same region as the prior workplace of the founder**

Regional knowledge networks and spin-offs

- To what extent do founders of the firms in the region have working or studying experience at a local organisation (either a firm or a university)?
- To what extent are the knowledge transfer relationships between organisations in this region established among firms that have founders or employees who used to work at similar organisations?

Regional knowledge networks and spin-offs: method

- Telephonic survey among ICT and biotechnology firms in three concentration areas
- Gather data on working experience of the founder and relationships that the firm uses to gather technical and organisational knowledge
- Social network analysis: overlap between spin-off network and knowledge network?