

Contents

Acknowledgements	9
1. Introduction and research questions	11
2. The position of social network analysis within the sociological research tradition	15
<i>2.1. Why networks? Theoretical perspectives of social network analysis</i>	<i>16</i>
2.1.1. Critique of atomized views and the argument for embeddedness	17
2.1.2. Relational embeddedness: dyadic relationships as the unit of analysis	18
2.1.3. Structural embeddedness, structural analysis of actions	19
2.1.4. Beyond structural determinism	21
<i>2.2. Why quantitative representation? Methodical perspective of social network analysis</i>	<i>24</i>
2.2.1. Beyond individualistic methods	24
2.2.2. Representing social networks	26
2.2.3. Beyond static snapshots	30
<i>2.3. Basic methodical concepts of social network analysis</i>	<i>31</i>
2.3.1. Individual actors in networks I: centrality and prestige	32
2.3.2. Individual actors in networks II: positions and roles	34
2.3.3. Sub-groups in networks	35
2.3.4. Affiliations and overlapping sub-groups	37
2.3.5. Structure of overall networks	38
2.3.6. Quantitative models for understanding mechanisms of social networks	40
<i>2.4. Conclusion: Clarifying the relationship of individuals and social structure</i>	<i>42</i>
3. Localised knowledge spillovers: theoretical perspectives and critique	49
<i>3.1. What are localised knowledge spillovers?</i>	<i>50</i>
3.1.1. Definition of localised knowledge spillovers	50
3.1.2. Two general types of knowledge spillovers	51
3.1.3. Mechanisms of localised knowledge spillovers based on tacit knowledge?	52
<i>3.2. Localised knowledge spillovers in the new economics of innovation/econometric approaches</i>	<i>53</i>
3.2.1. Knowledge production function	53
3.2.2. Patent citations	55
<i>3.3. Localised knowledge spillovers in economic geography/territorial innovation models</i>	<i>56</i>
3.3.1. Localised knowledge spillovers and tacit knowledge	57
3.3.2. Local preconditions for localised knowledge spillovers	58
3.3.3. Unstructured local buzz	59
<i>3.4. Critique of previous studies on localised knowledge spillovers</i>	<i>60</i>
3.4.1. Mediation by market mechanisms? Intentional knowledge flows?	61
3.4.2. Econometric approaches: no cogent evidence of localised knowledge spillovers ..	61
3.4.3. Territorial innovation models: problems of empirical evidence	65
3.4.4. Tacitness and localised knowledge spillovers form an odd couple	66

<i>3.5. Conclusion: the need for deeper investigations of localised knowledge spillovers.....</i>	<i>68</i>
4. Knowledge, communities, space and scope for social network analysis.....	71
<i>4.1. Knowledge and knowing.....</i>	<i>71</i>
4.1.1. A variety of knowledge concepts	71
4.1.2. Knowledge as possession versus knowing as practice	72
<i>4.2. Codified and unarticulated knowledge: a new knowledge topography</i>	<i>73</i>
4.2.1. Codified knowledge.....	75
4.2.2. Tackling tacit knowledge.....	75
4.2.3. Knowledge topography.....	76
<i>4.3. Communities, networks and collectives: knowledge flows beyond islands of innovation?</i>	<i>78</i>
4.3.1. Communities of practice and epistemic communities	80
4.3.2. Epistemic collectives, networks of practice and networked individualism	81
4.3.3. Manifest knowledge practices versus latent opportunities in awareness spaces.....	82
4.3.4. Knowledge activities beyond firm boundaries and geographical boundaries?	84
<i>4.4. Opening the black box localised knowledge spillovers</i>	<i>87</i>
4.4.1. The necessity for disentangling different mechanisms	87
4.4.2. Mechanisms of knowledge spillovers.....	89
4.4.3. Geographical proximity and localisation of knowledge spillovers.....	91
4.4.4. Scope for social network analysis.....	95
5. Some perspectives of social network analysis for analysing localised knowledge spillovers.....	97
<i>5.1. Case study I: networks of inventors.....</i>	<i>97</i>
5.1.1. Reconsidering the patent citation exercise.....	97
5.1.2. Social distance and mobility	99
5.1.3. Empirical results	101
5.1.4. Conclusion	104
<i>5.2. Case study II: advice networks of technicians in industrial clusters.....</i>	<i>105</i>
5.2.1. Knowledge spillovers via informal advice flows among the technical personnel	106
5.2.2. Analysing network structural characteristics of the knowledge system	107
5.2.3. Conclusion.....	118
<i>5.3. Interpreting social networks of knowledge workers.....</i>	<i>120</i>
5.3.1. Networks of inventors via patent data	120
5.3.2. Advice networks among knowledge workers.....	126
5.3.3. Conclusion.....	131
<i>5.4. Limitations of social network analysis</i>	<i>131</i>
5.4.1. How can we get the data?	132
5.4.2. Mechanisms of knowledge spillovers out of sight?.....	133
5.4.3. Conclusion.....	135
6. Overall conclusion: what have we learnt?.....	137
Tables and Figures.....	145
Bibliography.....	147