

# Table of contents

|                                                                         |           |
|-------------------------------------------------------------------------|-----------|
| <b>1. Introduction</b>                                                  | <b>1</b>  |
| <b>2. The absorptive capacity framework and social network research</b> | <b>7</b>  |
| 2.1 The absorptive capacity framework                                   | 7         |
| 2.1.1 <i>The process of absorptive capacity</i>                         | 11        |
| 2.2 The social network approach                                         | 12        |
| 2.3 Integrating absorptive capacity and social network theory           | 18        |
| <b>3. The micro-foundation of absorptive capacity</b>                   | <b>21</b> |
| 3.1 The social structure of innovation                                  | 21        |
| 3.2 External knowledge                                                  | 23        |
| 3.2.1 <i>Scientific vs. industrial external knowledge</i>               | 23        |
| 3.3 Internal social structure                                           | 25        |
| 3.2.1 <i>Is brokerage always good for innovation?</i>                   | 26        |
| 3.4 A new framework for social structure and innovativeness             | 28        |
| 3.5 Local vs. global information advantages                             | 30        |
| <b>4. Empirical setting and data</b>                                    | <b>35</b> |
| 4.1 Research site                                                       | 35        |
| 4.2 Data                                                                | 36        |
| 4.2.1 <i>Survey data: external sources of knowledge</i>                 | 37        |
| 4.2.2 <i>Survey data: social networks</i>                               | 37        |
| 4.2.3 <i>Archival data</i>                                              | 39        |
| 4.3 Measures: dependent variable                                        | 40        |
| 4.4 Measures: independent variables                                     | 43        |

|                                                                              |           |
|------------------------------------------------------------------------------|-----------|
| <b>5. Findings and results</b>                                               | <b>49</b> |
| 5.1 Main findings                                                            | 49        |
| 5.1.1 <i>Testing additional specification models</i>                         | 51        |
| 5.2 Addressing endogeneity                                                   | 52        |
| 5.3 Additional analysis: testing higher order interaction effects            | 56        |
| 5.4 Robustness checks                                                        | 58        |
| <b>6. Discussion</b>                                                         | <b>63</b> |
| 6.1 Contributions                                                            | 63        |
| 6.2 Limitations                                                              | 69        |
| 6.3 Future research                                                          | 70        |
| 6.4 Summary                                                                  | 72        |
| <b>Extending the scope of the analysis plus some managerial implications</b> | <b>73</b> |
| Four factors for building effective networks                                 | 78        |
| <b>Appendix</b>                                                              | <b>85</b> |
| Protocol used for preliminary interviews                                     | 86        |
| Network questions used for survey                                            | 88        |
| Table with network measures of the variable used in the analysis             | 90        |
| Factor analysis                                                              | 91        |
| <b>Bibliography</b>                                                          | <b>97</b> |