Evaluating Business Support Measures: the Bayesian Network approach

Emanuela Sirtori – Centre for Industrial Studies (CSIL)
Birth of an idea
Bayesian Network Analysis (BNA) applied

- visit to Asia?
- smoking?
- tuberculosis?
- lung cancer?
- bronchitis?
- either tuberculosis or lung cancer?
- dyspnoea?
- positive X-ray?
BNA to evaluate business support policies

Ex-post evaluation of ERDF programmes 2007-2013
Work Package 2: Small and medium sized enterprises, innovation, ICT

- Theory-based impact evaluation
- 3 policy instruments
- 3 on-line surveys
- 700 beneficiary small enterprises (SMEs) surveyed
An example: Support to R&D in Castilla Y Leon

Theory of intervention

- Grant for R&D projects
- Reduced risks to embark on R&D activities
- Start of R&D projects
- The R&D projects are successfully completed
- SMEs implement other R&D projects
- SMEs start collaborative R&D projects
- SMEs introduce new or improved products on the market
- SMEs increase the riskiness and ambition of subsequent R&D projects

Support to R&D in Castilla Y Leon

- Availability of complementary sources of financing
- Propensity/interest for carrying out R&D
- Availability of skills to implement the R&D project
- The market demand for the research outputs has been adequately estimated
- Improved economic performance of supported SMEs
An example: Support to R&D in Castilla Y Leon
Bayesian Network
Value added of BNA

• Test the theory
• Multiple relationships between variables
• Explain (causal) links
• Find unexpected links
• Not only quantitative variables
# Which role for BNA?

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<th>Learning for improvement</th>
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<td>What has been achieved? How much progress has been made?</td>
<td>What works in solving the problem?</td>
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<td>Finding evidence on the contribution of the policy</td>
<td>Establishing the causal link between policy and outcomes</td>
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Would you like to know more?

Ms Emanuela SIRTORI
Partner and Project Manager,
CSIL Centre for Industrial Studies
ITALY

E-mail: sirtori@csilmilano.com
www.csilmilano.com