The role of intangibles in the innovative performance of firms: IRI research activities

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Outlines

- Background
- Conceptual framework
- General aims of the research strand
- Lines of research: IRI expected contribution
- Conclusions and Policy implications

What do we know?

- Previous IRI research activity has demonstrated that beyond R&D, training, marketing and design do affect European firms' innovative performance.

- It also highlighted that on average smaller firms spend less in training and marketing than larger firms, while size does not affect the amount spent on design.

- In addition, whereas SMEs show lower returns to R&D than non-SMEs firms, returns to training and design efforts (in terms of innovative sales) do not differ between SMEs and non-SMEs.

Conceptual framework and definitions

The analysis will focus on the role of intangibles in the innovation-chain, i.e. on those that have been found to have a manifest nature of innovation inputs.

In particular, the conceptual framework will combine:

1. Economic studies – especially in the neo-Schumpeterian, evolutionary theory (e.g. Nelson, 1994; Winter & Szulanski, 2001; Clement et al., 1998).

2. Innovation management works – in particular, in the resource (and knowledge)-based view of the firm (Penrose, 1959; Peteraf, 1993; Hoopes & Madsen, 2008; Montealegre, 2002; Kogut & Zander, 1992; Romijn & Albaladejo, 2002).

3. Human capital and the dynamic and technological capabilities approach (e.g. von Tunzelmann and Wang, 2007; Wang et al., 2009, Sen, 1997, Dosi, Faillo & Marengo, 2008).

- Definitions, classifications and measurement issues about intangibles will be addressed by looking transversally at micro/company based studies (e.g. Lev, 2001; Lev and Radhakrishnan, 2005) and macroeconomic ones (e.g. Corrado et al., 2009).

General aims of the research strand

- (To contribute to the definition of intangibles at micro level).
- To investigate the actual impact that non-R&D, intangible resources have on European firms` innovation.
    - Investment in intangibles creates a firm-specific knowledge of a tacit and not easily transferable nature, which in turn sustains a firm's specific competitive advantage.
- Investigating if, and to what extent the market failures, from which R&D has been found to suffer, are also characteristic of *other intangibles*.
- *Output*: elaboration of policy-driven working papers and articles, on a number of specific lines of analysis related to intangible resources. A policy brief is already in progress.

Lines of research. IRI expected contribution (2012-13):

Line of research 1: the role of human capital, training, skills and competences/capabilities for firms' innovation

- *Focus:* training, human capital, skills, competences and capabilities
- *Data:* CIS 2008 (also, other data sources e.g. OECD, ILO)
- *Methodology:* Structural equation modelling (SEM for cross-sectional data).

- **Research questions:**

1. Are training and R&D personnel jointly contributing to firms' innovative performance?
2. Does training serve to turn the firms' absorptive capacity in innovation?
3. What is the impact of skills as competencies and capabilities, on the firms' innovation activities?

    a. What is the impact of competencies and capabilities on innovative sales?
    b. To what extent do competencies and capabilities drive R&D activities?
    c. What is the impact of competencies and capabilities on firms' growth?

Lines of research. IRI expected contribution (2012-13):

Line of research 2: focuses on the innovation impact of other "softer" company drivers, such as creativity, design and, more in general, the organizational capital of the firm

- *Focus:* Design and Organizational capital
- *Data:* CIS 2008 and IRI Scoreboard
- *Methodology:*
  - Design: Structural equation modelling (SEM; Multiple groups analysis).
  - Organizational capital: knowledge production function estimation.

- **Research questions:**

1. Are there complementarities between design and R&D? Are we measuring the "same thing" (design) in manufacturing and services? Are firms innovating through design more innovative than those that do not? If, so what?

2. Which is the elasticity that the innovation output of European and non-European companies reveals with respect to their organizational capital?

Conclusions and Policy implications

- R&D investments is one of the different forms of knowledge investments, with which they present different kinds of complementarities.

- Intangibles Resources, (training, design, organizational capital and skills) leading innovative firms, are significant to support and boost the firms' innovation performance.

- In addition they may have an impact on economic growth through, for instance, on employment generation.

Thanks for your attention!