Organizing for exploration and exploitation; the case of biotechnology

Klaasjan Visscher,
Petra de Weerd-Nederhof,
University of Twente
&
Bart van Looy,
Catholic University of Leuven

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Exploration and exploitation

- “The basic problem confronting an organization is to engage in sufficient exploitation to ensure its current viability and, at the same time, to devote enough energy to exploration to ensure its future viability. Survival requires a balance […]” (Levinthal & March, 1993, p.105).
- Strategic dimension
  - Focused or diversified technology portfolio
  - Exploration and exploitation as a sequence or a balance
- Structural dimension
  - Differentiation in organizational practices for radical and incremental innovation
  - Ambidexterity

Central research questions

- To what extent and under which circumstances is a strategy to engage in multiple technological trajectories effective?
- To what extent and under which circumstances are ambidextrous organizational forms effective for pursuing a multiple technology strategy?

Diversified technology strategies

- Method
  - EPO-patent data from 171 top R&D spenders in 5 high-tech industries
- Results (Leten, Belderbos & Van Looy, 2006)
  - Technological diversification has an inverted U-shaped relationship with technological performance
  - Technological coherence moderates the relationship between diversification and performance positively

Organizational practices

- Method
  - Patterns in NPD questionnaire and case studies
  - 17 biotech firms in the Netherlands and Belgium
- Results
  - Structural ambidexterity for firms with 10-60% radical innovation
  - Differences in formalization of the NPD process, innovative climate, and NPD team structure…
  - But never in all three elements, and not always in line with expectations from literature

Further research

- Linking organizational practices to performance on short and longer term
- Linking technology portfolios to organizational practices
  - Using ‘Patterns in NPD’ data from other countries (Denmark, Germany, Australia, Britain)
  - Using data from annual reports and patent databases