



Building a Knowledge Region: University Spin-off Generation in Vienna

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Why a Knowledge Region?

In the 21st century global economy, those regions which can grow and nurture clusters of innovative firms will be the most economically competitive and healthy





Building Knowledge Regions: Key Drivers

- Supply of talented and creative scientists, engineers, entrepreneurs
- Productive infrastructure
- Effective institutions and institutional capacity
 - Social capital
 - Leadership
 - Good governance
 - Culture supportive of innovation
 - Connectivity among actors
- Sources of finance for investment





Why Spin-offs?

- Many of the most innovative gazelle companies began as university spinoffs e.g. Genentech (UC), Lycos (Carnegie-Mellon, Cisco Systems (Stanford), and Netscape (Univ. Illinois)
- University spin-offs have higher survival and success rates
- Leverage existing regional strengths
- Create synergy, energy, dynamism, role models (positive externalities)
- Better 'return' than patenting/licensing IP
- Success breeds further success . . .





Objectives of Our Study

- *How well does Vienna do in generating university spin-offs?*
 - Estimate the number of spin-offs generated in Vienna
 - Compare it to a benchmark region

- *Identify the most critical obstacles and barriers to spin-off generation*
 - Perceptions of different actors: university leaders, TTOs, faculty entrepreneurs, government officials, intermediary orgs, key experts



How Did We Conduct the Study?

- Preliminary lists from university TTOs (Vienna and Munich), plus INiTS, AWS, . . .
- Intensive internet search (Vienna and Munich)
- Interviews with
 - University Vice-Rectors and TTO directors
 - Faculty entrepreneurs
 - Federal ministry officials
 - Leaders of funding and support organizations
 - Key experts
- Questionnaires and analysis of response data
- Feedback on preliminary results from interviewees





Our Spin-off Definition

A new company whose technological/scientific basis came from a university-based (or joint university-industry) research project

- University researchers need *not* be an owner or employee of the company
- Does *not* include companies formed *only* on the basis of the human capital of the researcher or graduate student
- Does *not* require that the university own the IPR





How Did Vienna Do?

- Between 2007-2012: ca. 110 spin-offs
 - Slightly less than average 20 per year
 - Mostly in life sciences and ICT
- Our benchmark region: Munich
 - Only slightly more than average 20 per year





What are the Major Barriers to Generating More Spin-offs? Are they . . .

- *Individual* faculty attitudes and motivations towards entrepreneurship?
- *University* policies and reward systems?
- *Regional milieu*: support, infrastructure, investors
- *Federal government* policies, regulations, support?





Key Results



- Scientific quality, particularly in the life sciences and IT, is *not* the problem!
- Agreement across *types of actors* on most items
- First set of barriers: *Attitudes, motivations, incentives* towards entrepreneurship are lacking
- Second: *Lack of seed capital* from universities and difficulty of finding *angel investors and VC* in the Vienna region
- Lack of a *coordinated strategy* among key partners: federal ministries, universities, and intermediary support, and funding organizations.



How Can Vienna Do Even Better?

A Few Key Recommendations

- Dedication of a 'pool' of public funds for equity capital at early-stage for the most promising spin-offs
- Incentives such as a 'funding bonus' be given to universities for each spin-off generated
- Make it easier for faculty mobility between university and industry
- Exposure to entrepreneurship/entrepreneurial role models become normal part of scientific training of doctoral students
- Pool the resources and know-how of the university TTOs



A Few More Recommendations . . .

- Build and maintain a shared database of resources available for the support of new technology-based businesses
- Create a network of experienced entrepreneurs who would volunteer their time to provide guidance to would-be faculty entrepreneurs
- Reach a *shared vision* and *coordinated strategy* among the key actors for generating and nurturing spin-offs.

*Leadership is critically needed
to initiate this process!!*





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