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The socio-economic role of Universities through the academic spin-offs

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AIM

An empirical contribution in order to understand the nature of “university” spin-offs: origin, potential growth and impact.

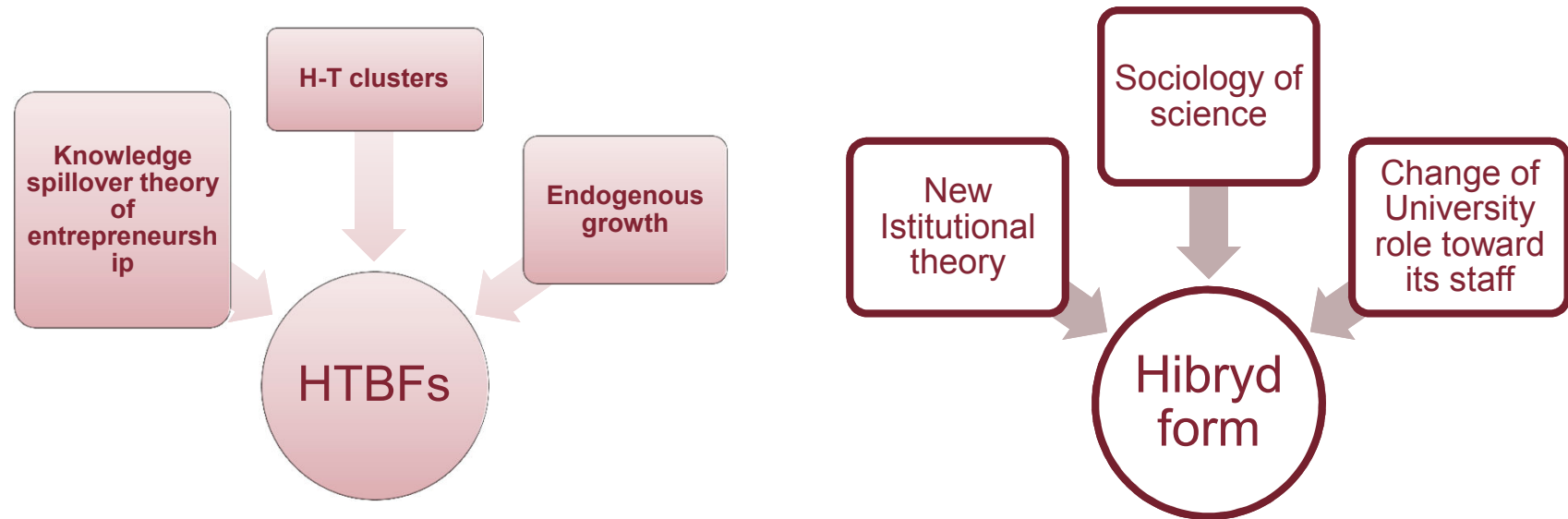
We intend to explore what are they and which is their entrepreneurial performances.

Definition of University spin-offs

- a new high-tech ventures established by academic and/or researchers that are employed by University institutions;
- a company created to exploit a technological knowledge originated within universities;
- a company participated by their parent university



Analytical framework



RESEARCH QUESTIONS

Is academic entrepreneur close to the technical entrepreneur (Oakey, 2003), witnessed by Silicon Valley and other high-tech clusters or is it an “hybrid” academic entrepreneur (LAM, 2010)?

Two theory based concepts to arrive to a synthetic frame for “university” spin off

“business activities”

Druihle and Garnsey (2004)

- five different types of business activities, linearly differentiated according to their nature and degree of difficulty for academic entrepreneurs.

“planned behavior”

Wiklund and Sheperd (2003)

- The theory models the behavioral outcome as a joint function of motivation and individual ability (the capacity of realizing a volitional behavior).
- The theory is composed of five elements: three predictors of the intention, intention to behave and the behavior itself.

The three predictors of planned behavior theory

- Motivation, or task specific attitudes, toward the entrepreneurial behavior (risk, growth);
- Subjective perceived norms, i.e. the perceived social pressure to perform or not the behaviour. Subjective norms develop from the normative beliefs people hold about their relevant others” (Fini et al, 2010);
- Perceived behavior control: personal beliefs on how easy the enactment of the behavior is.

Empirical Methodology

- Case study on 25 founders out of 39 spin-offs of the three public, multidisciplinary universities of Rome (Sapienza, Tor Vergata, Roma Tre).
- Data collection: managed open – ended questionnaire through face to face interview
- The questionnaire is organized in three parts:
 - (i) the origin of the university spin-offs;
 - (ii) the orientation towards growth;
 - (iii) the individual founders' perception of local opportunities and constraints.
- Data analysis: descriptive analysis

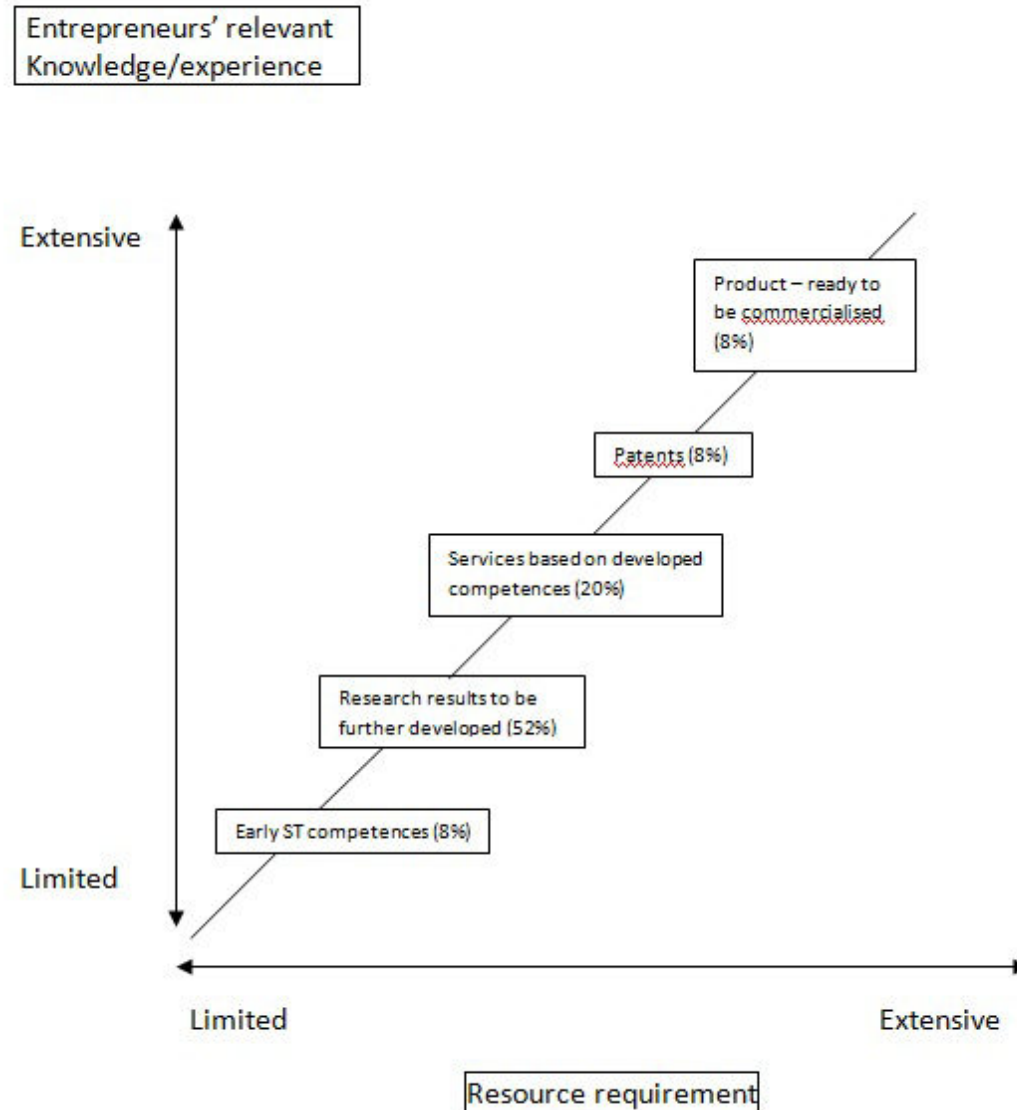
Motivation toward entrepreneurial behaviour

Relevance	Risk and enterprise as central activity		Monetary reward	
	%	% cumulated frequencies	%	% cumulated frequencies
No relevance	12,0	12,0	16,0	16,0
Low	20,0	32,0	28,0	44,0
Medium	20,0	52,0	16,0	60,0
High	36,0	88%	32,0	92,0
Fundamental	12,0	100,0	8,0	100,0
Total	100,0		100,0	

A more diffused high and fundamental interest concern the aspect of job satisfaction, autonomy and competence valorisation (between 50 – 70 %). This is a more general motivation toward spin-off creation.

Business Activities

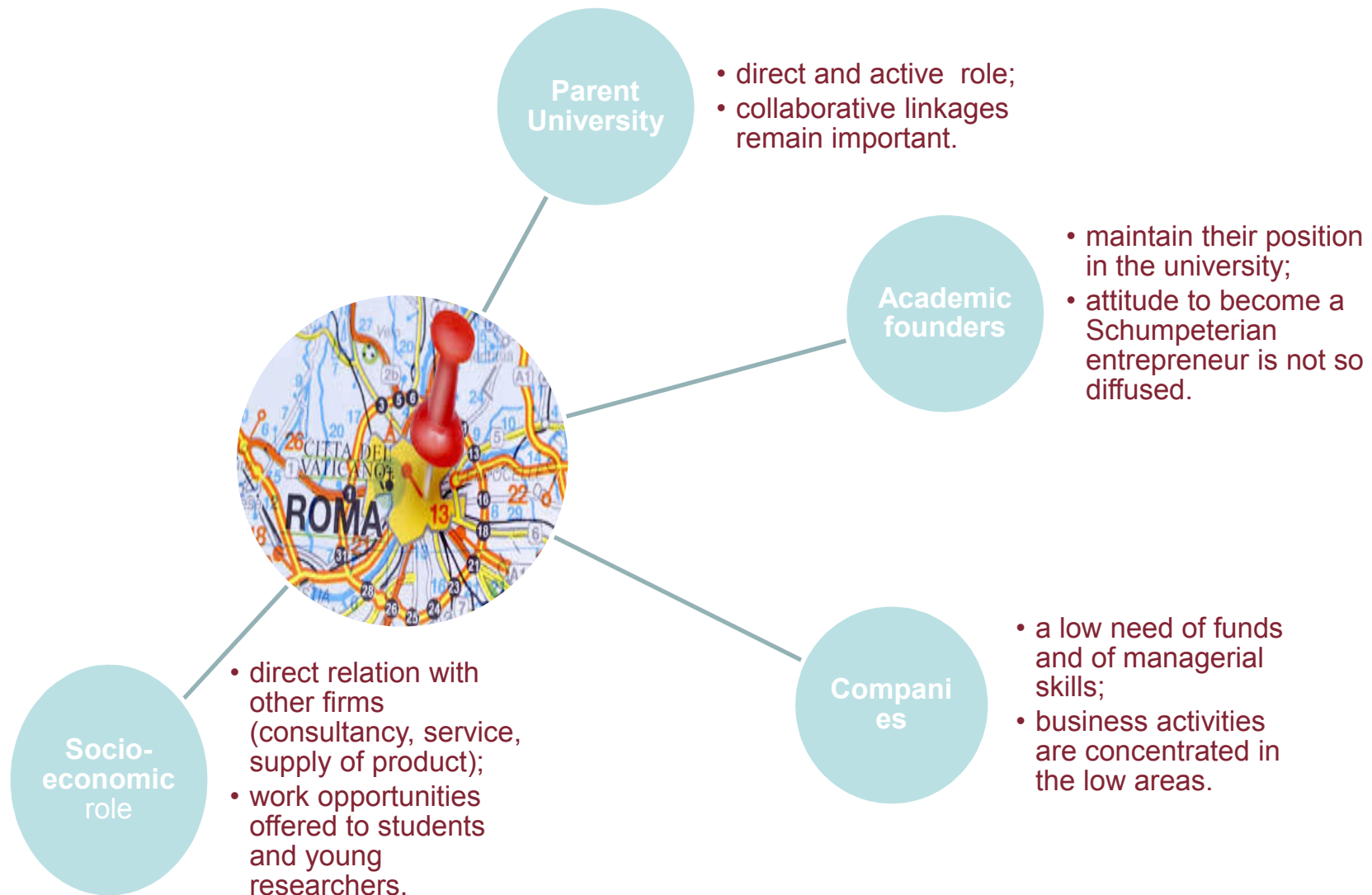
- The business activities are linearly differentiated according to their nature and the degree of difficulty for academic entrepreneurs.
- Business activities of the university spin offs are concentrated in the low areas, where scientists' competence are more diffused (or entrepreneurial knowledge and experience is less important) and there are less resources required.



Other main results:

- **Perception of opportunities and constraints:** It is evident that these academic entrepreneurs are mainly confident in the necessity of reinvesting their economic returns and on their own effort more than on the external environment. The social network to which they refer is fundamentally restricted to two types of partners: first of all there is the link with their parent university and then the linkages with firms, which are diffused and identified as relevant.
- **Role of universities:** *parent university* had a role of shareholder and *the spin-offs* had active formal research agreements with some unit of the parent university. The original relations with the university don't change significantly over time.
- **Behavior:** behavioral changes over time had the following order of relevance:
 - Acquisition of managerial skills
 - Joint ventures with other companies
 - Growth in terms of employees
 - Introduction of new organizational functions
 - Creation of new localization

Conclusion: “Hybrid” and “soft” companies



Future traks of research

- University spin-off as an extension of the traditional activities of university (**boundary works**).
- Behavior in relation to **local norms**.
- **Social aspects**: to supply services to a local (private and public) demand ; job opportunities for skilled young people (students; researchers); technical development for local firms (knowledge transfer) .
- Management of **conflicts** with the parent universities.
- Analysis of the spin offs trajectories of development (growth vs. survival), **performance and impact** on local environment.





THANK YOU FOR YOUR ATTENTION

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