

"Support organizations for entrepreneurship in the university"

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Introduction

To create an enterprise we need at least two elements: people and ideas. To promote spin-offs from a technological university it seems obvious that we have to discover entrepreneurial people and match them with technological ideas, or said otherwise, technological opportunities. Sometimes the entrepreneur and the technological opportunity come together, sometimes they do not. Sometimes the professors, students or researchers know that they have the right competences to be entrepreneurs, sometimes they do not. Sometimes the laboratories produce technological entrepreneurial opportunities, sometimes they do not either. Finally, sometimes there are people and ideas but there is not enough to set up an enterprise.

The classic university spin-off programs deal with:

- discovering entrepreneurs and helping them to discover their skill as entrepreneurs
- helping to create and discover technological opportunities
- matching opportunities and people, and eventually going along with them into the market.

Whenever a university manager (either academic or professional) realises that its own university creates less (and worst) spin-offs than another concurrent university, he can blame his spin-off program, or he can ask himself whether his university is teaching properly and creating the relevant knowledge.

The University Spin-off Programs (USOPs): Is it really important for a university to create enterprises?

For universities, the importance of creating enterprises can become significant. The reasons are different:

- The experience demonstrates that an enterprise creation university creates a network of technological SMEs around the university itself which grants a transference both via agreements and by informal means.
- The spin-offs are important for the empowerment of the research management culture. The research groups learn how the innovation sequence works, learn how to exchange ideas with competitors, how to compete, etc. and they become more realistic.

- The universities spin-offs support and broaden other university objectives. USOPs help to obtain resources (agreements, patents, environment network, transversal programs, etc.). They help to increase the quality of student practical training in enterprises, improve the quality of the job placements of university graduates, and empower the use of the university services with new costumers.
- The university enterprise creation activity is becoming a fundamental output, and it can be on a university evaluation systems.

But it is also important for its Region:

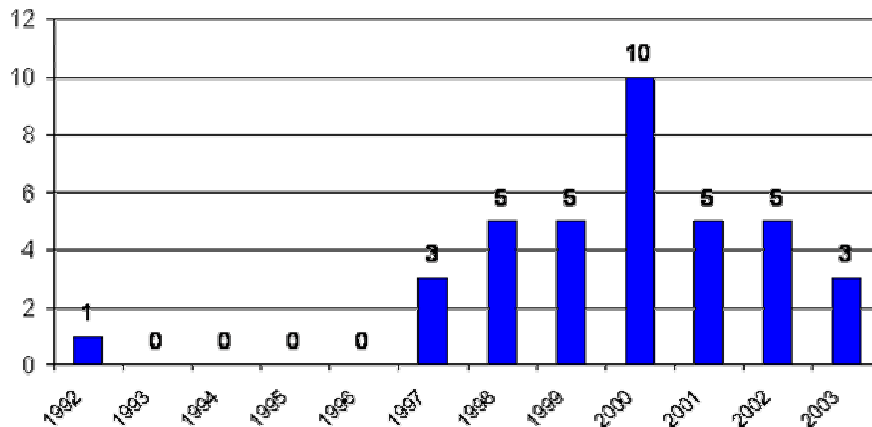
- For helping the technology transference from University to the society. Not all the research made in universities can be exploited through contracts or patents. The University acts like a bridge between the world knowledge stock and the regional environment of the university. When the nexus between research groups and the created technological enterprises is granted, part of the world knowledge stock acquired by professors (research, congresses, stages, etc.) goes to spin-off, and then to the regional productive system.
- For helping in transferring the resources that university uses for training the researchers to the society. Doctors, professors, young researchers, etc. does not find easily the professional opportunities they need and spin-off companies provide this kind of jobs.
- To help increasing the number of technological based enterprises in the country and the number of professional researchers in the labour market.
- To increase the permeability of the researchers community between the university and the local production system. It is known that researcher's mobility increase considerably their competences. This mobility is granted with a network of spin-off, created or linked to university research groups.
- Time after time university spin-off activities have been the key factor of the country's development, creating an industrial matrix, which consequently results in a lot of quality jobs. Some universities deserve to have created an enterprises network in their environment that has created a real industrial network and so new jobs. Scientific and technological parks are often the result of university spin-offs activity. Some paradigmatic examples are Stanford, which seeded the Silicon Valley, Cambridge and the "École des Mines d'Alès" etc.

All these contributions have become so important that the universities and the regional agencies aware of them would have to promote universities spin-off programs. Obviously universities spin-off programs have been set up while the third role of the universities has spread following the incorporation of the regions into the knowledge society.

As can be seen in table 1, the first Spanish enterprise creation university program appeared in the Technical University of Valencia in 1992 (Program "IDEAS"), which is the first of the university enterprise creation programs in

Spain¹. The other programs have been created between 1997 and 2003. Similar to this is the European situation, where two-thirds EU university incubators have been created between 1998 and 2002².

Table 1. Year of Spanish university enterprise creation support units

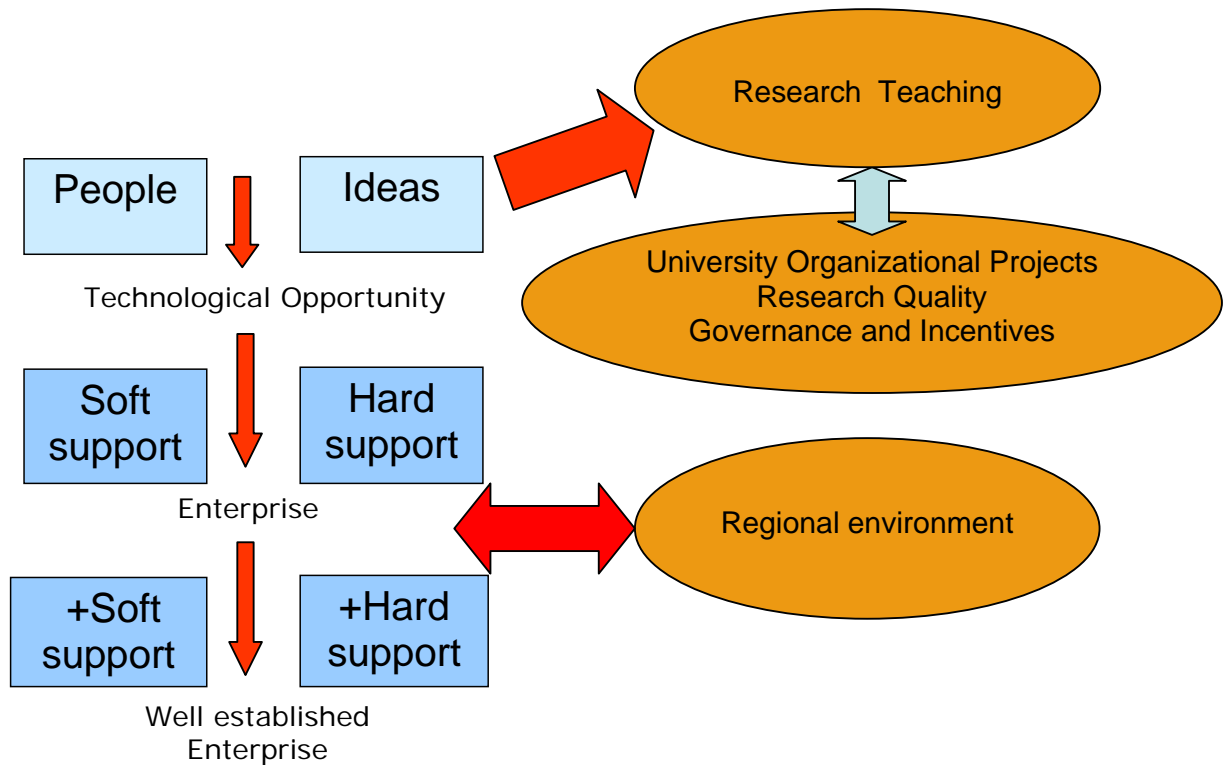


The connexion between university incubators exists in different levels, as examples :

- In Barcelona, there is Barcelona Activa and Forum Nord, two incubators prompted by City Council of Barcelona (www.barcelonanetactiva.com)
- In a lot of cities, the city council promote incubators, related to the nearest university as in Manresa, Girona,....
- In Catalonia, there is the Technological Trampolines Network promoted by CIDEM (www.cidem.com/cidem/cat/comunitats/xtrampolins/index)
- In Spain, there is the Technological Park Network (<http://www.apte.org/>)
- In Europe, there is Incubator Forum in the framework of Gate 2 Growth (www.gate2growth.com/incubatorforum.asp) and European Business and Innovation Centre Network EBN (www.ebn.be)

But is a University spin-off program necessary? If it is, what is the approach of a University Spin-Off Unit? The six square picture 1 shows a possible USOP

approach. University programs search people and ideas, provide soft support through coaching and hard support, together with money and space and when the project becomes an enterprise they often continue offering hard and soft support to the new born enterprise.

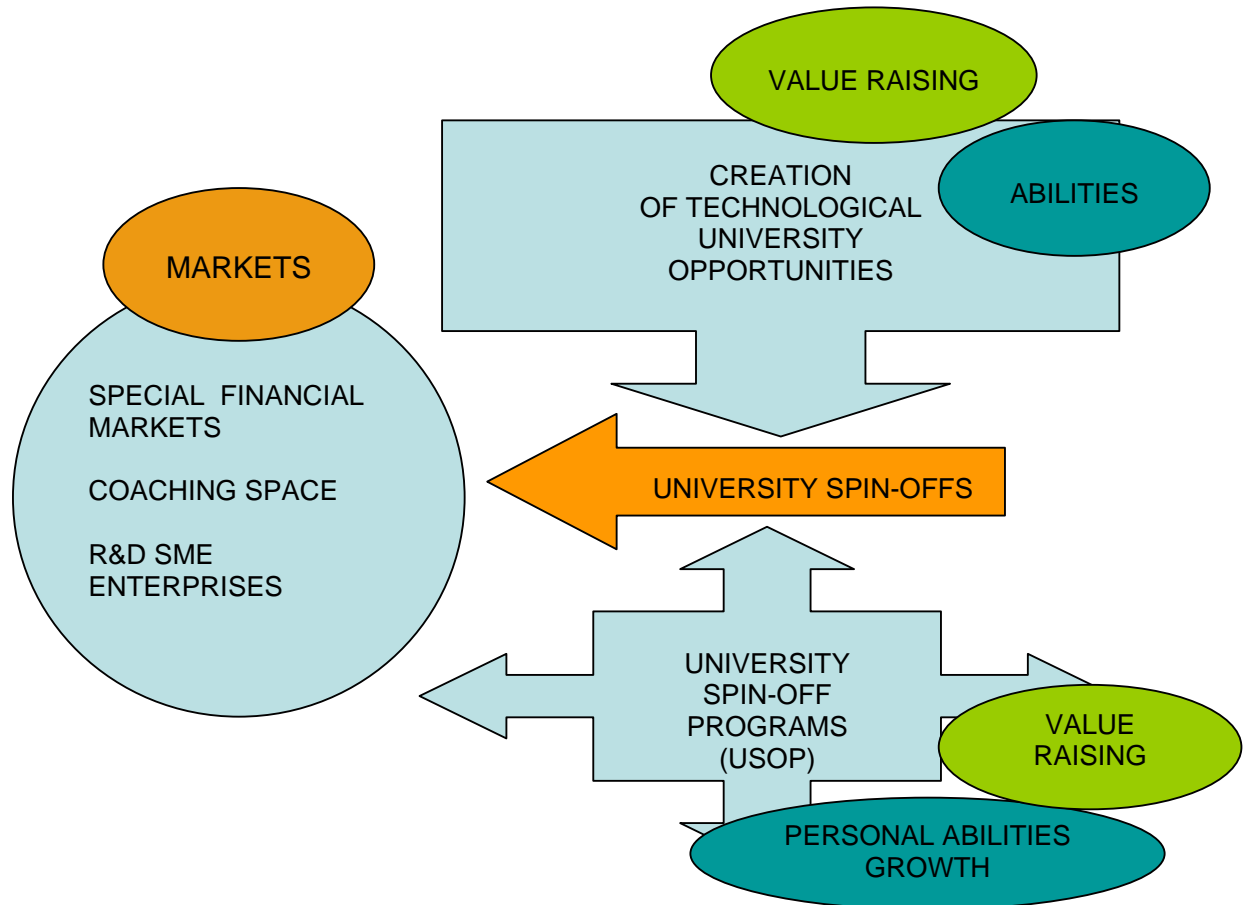


Picture 1. The six square model, the USOPs function and its relationship with the University and the environment (Sole, F)

With reference to the six square model (picture 1) and analysis of the two first squares: People and Ideas, it is obvious that, without a good research and a good teaching there is not a sustainable contribution of technological opportunities, as a result of the addition of people and ideas, neither it exists without good organisation design and good governance.

The success of the other four squares depends on the regional environment. The regional environment can provide the fundamental markets to make the creation of the spin-off possible. When these markets are inexistent then the university spin-off program acts as a supplementary actor supplying what the environment cannot supply. Therefore the spin-off programs are the best ways to discover the hollows of the regional economic system in order to become an innovative milieu. The great contribution of the university spin-off programs is to help the regional development units to create regional markets that increase the transaction cost

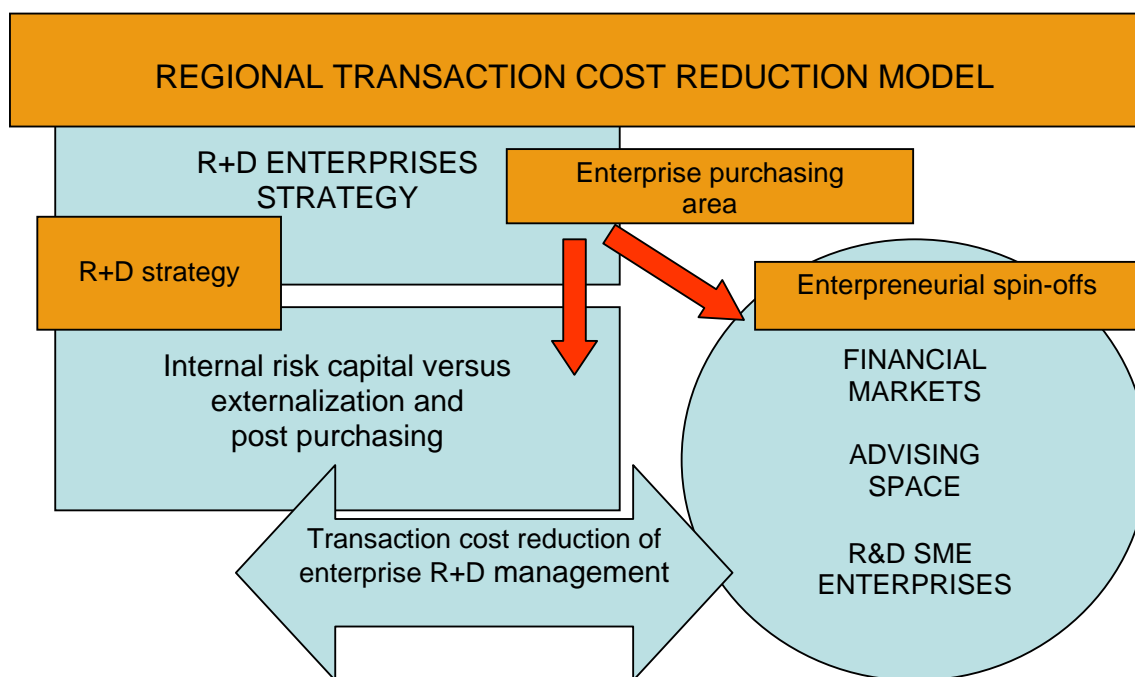
to create a technological enterprise and enable it to grow. But, which kind of market is needed? There are two direct markets that university spin-offs deal with: the market of professional advisors and the financial market. The features needed could be very sophisticated and complex. When a spin-off program does not find these markets in the territory, then university has to create them.



Picture 2. Regional markets and the USOPs function

The job of the university spin-off programs does not end with the university internal work. Often, the spin-off programs when supplementing the region markets creating advise professional markets and business angels programs, even risk capital companies (helped by the regional development units), discovers that in spite of all these complements, the spin off have great problems to survive and to grow. Then the problem is not only financial or coaching related, it lies in the lack of intermediate technological markets or in the innovative behaviour of the regional production system. For the medium regions there is no other way that to change the innovative behaviour of the enterprises of the territorial productive system, specially the big ones. Whether the first contractors and the innovative behaviour of the big enterprises are too conservative, the spin-offs do not have the most appropriate environment to grow, they do not have a subcontracting market in close proximity to offer their products to, and even the risk capital enterprises have problems selling the companies. In this situation the most important USOPs and the regional development units task is to make enterprises change their innovation behaviour

to lower their R+D transaction cost setting up “enterprises buying units” and to convince them to externalise part of the internal R+D. When in a territorial environment the productive system has a complex R+D behaviour the spin-off companies have fewer problems to grow and the supplementing job of the Universities spin-off programs becomes easier



Picture 3. The USOPs job and the R+D territorial enterprises strategies

In the regional environments of middle rent regions or in regional environments of low industrial density the next USOPs step to be done has to relate to:

- Help their universities to develop their potential in the field of technological opportunities detection.
- Learn how to help enterprises grow. They have already learnt how to create them.
- To become a piece of the regional industrial and technological policy USOPs need resources. Detecting and substituting the gaps in the system that presents barriers to enterprise growth

Related to the science-technology system

- The regional system reacts to the promotion actions of spin-offs units
- A decisive contribution to the system is the creation of inexistent complex markets like business angels, training, capital risk etc.
- A decisive contribution is made when we talk about the increasing of critical dimensions of financial markets.
- The USOPs contribute to the management changing of I+D in the **territory**.

- The USOPs contribute to change the culture of the institutions that promote the development of science and technology.