Smart Specialization and entrepreneurial discovery

Theory and reality behind the concept

Jaime del Castillo

May 23rd 2013
INDEX OF CONTENTS

0 INTRODUCTION

1 SMART SPECIALIZATION AND TERRITORY

2 ENTREPRENEURIAL DISCOVERY (I): Theoretical approach
   - The concept: process and initiatives
   - Identification: discovering the discovery
   - RIS3: mechanisms for structural change

3 ENTREPRENEURIAL DISCOVERY(II): On field approach

4 CONCLUSIONS AND RECOMENDATIONS
INTRODUCTION

Recently, a model of development has spread that answers the issues related to the actual competitive context throughout the search of smart specialisation of the territories.

This model has reached important relevance in the Regional European Policy (ex ante conditionality for Structural Funds).

Importance of the “ENTREPRENEURIAL DISCOVERY” concept as key aspect of the model and its strategies.

However…

…important conceptual gaps….

OBJECTIVE

1. Advance in the clarification of the concept of entrepreneurial discovery both in theoretical terms and on practical terms.

2. Establish a series of recommendations that, linked to the role of the entrepreneurial discovery in a RIS3, will allow those in charge to identify and support initiatives and processes in this field.
SMART SPECIALIZATION AND TERRITORY

WHAT TO CHASE?  Specialised diversification in time

Constant innovation, as a process of combining ideas, experiences etc., to generate new solutions that respond to needs and/or market trends at international level

How to EXTENT AND SYSTEMATIZE these processes of ENTREPRENEURIAL DISCOVERY?

POSSIBLE FOR ALL REGIONS
SMART SPECIALIZATION AND TERRITORY

How is specialization inserted in a global perspective?
Search of the differentiating elements that, given the window of opportunities in the global context constitute a comparative advantage.

What specialization characterises the region?
Those activities and/or technology domains to prioritize as part of the bet to reach a competitive advantage.

SMART SPECIALIZATION as a continuous process generator of employment and wealth for the territories.

+ JOBS
+ WEALTH

THE MECHANISM OF THE SPECIALISED DIVERSIFICATION
How do the entrepreneurial discoveries contribute to the process of smart specialization?

What if the range of the smart specialization in the region?
The areas of specialization mean a related variety which intersection may house entrepreneurial discoveries.

What if the range of the smart specialization in the region?
The areas of specialization mean a related variety which intersection may house entrepreneurial discoveries.

GLOBAL PERSPECTIVE

SPECIALIZED DIVERSIFICATION
...through ENTREPRENEURIAL DISCOVERIES

SPECIALIZATION

RELATED DIVERSITY
The systematization of these innovations that throughout the entrepreneurial processes generate wealth and employment contributing to the economic development of the region, should be the core of the RIS3:

- **How to generate elements of the environment** that facilitate and promote them.
- **How to discover/identify them** through time,
- **How to identify the leaders** of such processes and hidden innovators that may shelter entrepreneurial discoveries, and
- **How to support them** so that they consolidate and are constituted as activities of the future.

**HOW TO ACHIEVE IT?**

The importance of the process and its planning

SMART SPECIALIZATION AND TERRITORY
ENTREPRENEURIAL DISCOVERY (I):
Theoretical approximation

What is entrepreneurial discovery? (I)

“the creative combinations of different knowledge (technological and/or no technological), transverse to various economic sectors and that, from a window of opportunity, generate a new market activity susceptible of being exploited commercially, that contribute to a specialized diversification.”

Who are those entrepreneurs?

Entrepreneurial in a “wide” sense and as result of the interrelations between:

- Enterprises
- Associations and clusters
- Science and Technological Parks

- Technological Centres
- Social Agents
- etc.
The **entrepreneurial discovery** may appear both in the “**initiative**” (the opportunity **already takes place**) or in the “**process**” (the opportunity is already **latent**) and the **RIS3 should already act on both**

**INITIATIVE**

*It is already taking place, it has been identified and the discovery is being consolidated*

**PROCESS**

*It is latent, or is taking place but is not identified or known as an entrepreneurial discovery and goes unnoticed.*

**“Known innovators”**

Enterprises, entrepreneurs, etc. that are known innovators at a national and international level, that know the support frames and have access to them.

**“Hidden innovators”**

Enterprises, entrepreneurs, etc. that may contain entrepreneurial discoveries without knowing and that do not know the frames of support and do not access them.
ENTREPRENEURIAL DISCOVERY (I):
*Theoretical approximation*

**ENTREPRENEURIAL DISCOVERY**

*How does it work?*

1. **DOMAIN A**
   - **SECTOR 1**
   - **SECTOR 2**
   - **DOMAIN B**
   - **SECTOR 3**
   - **DOMAIN C**

**ENTREPRENEURIAL DISCOVERY PROCESS** (EDP)

**ENTREPRENEURIAL DISCOVERY INNITIATIVE (EDI)**

**WINDOW OF OPPORTUNITY**

**NEW ACTIVITY**

- EDI CONSOLIDATION
  - CASE STUDY
  - BUSINESS STRATEGY
  - FINANCIAL PLAN

**COMERCIALIZATION**

- Process of creative combination linked to a window of opportunity
- "entrepreneur" in a wide sense that includes whoever is in the best position to combine different solutions in a creative way that will generate a new market opportunity

**ENTREPRENEUR**
# ENTREPRENEURIAL DISCOVERY (I):
Theoretical approximation

## CRITICAL POINTS of an entrepreneurial discovery

### What to search?

<table>
<thead>
<tr>
<th>CRITICAL POINTS</th>
<th>KEY POINTS TO CARRY OUT</th>
<th>ASPECTS TO CONSIDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window of opportunity</td>
<td>Do you have a clear market orientation at international level?</td>
<td>• Period of commercialisation at the short, medium and long term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Geographic reach: national, European or international</td>
</tr>
<tr>
<td>Regional helix</td>
<td>Does the entrepreneur arises and/or is supported by the quadruple helix?</td>
<td>• Enterprises</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• R&amp;D+i Agents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Government</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Users</td>
</tr>
<tr>
<td>Technological hybridization</td>
<td>Do different knowledge/technology domains combine?</td>
<td>• Sector-Sector (Non technological innovation)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sector-Technology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Technology-Technology (technological innovation)</td>
</tr>
<tr>
<td>Specialised diversification</td>
<td>Does it contribute to the diversification of the actual regional specialization pattern?</td>
<td>• Incremental Improvement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• New product/service generator of new activities</td>
</tr>
</tbody>
</table>
ENTREPRENEURIAL DISCOVERY (I): Theoretical approximation

PHASES of an entrepreneurial discovery
The “cycle of life” and its phases.

1. SPECIALISED DIVERSIFICATION
   - It produces an initial estimation of the extent the idea could have in terms of new business niches

2. TECHNOLOGICAL HYBRIDIZATION
   - The need of a development to materialise the idea arises and it requires the combination of different solutions (technological or not)
   - Leaders of the process (generally enterprises or R&D entities) look for the necessary support of other agents of the helix

3. REGIONAL HELIX
   - The window of opportunity is sensed as an idea that may be moved to a business, due to the combination of strengths and opportunities.

4. WINDOW OF OPPORTUNITY
   - As the process initiative formalizes, the uncertainty about the scope in new niches reduces
   - The project is developed (investment, R&D, planning, etc.) that allows to start setting the process in a formal initiative
   - Other agents support the discovery so that it can turn into a formal entrepreneurial initiative
   - New agents are incorporated (users, society etc) and they complete the regional helix and allow the initiative to consolidate.

5. PHASES
   - As the process formalises into an initiative the uncertainty about the window of opportunity is reduced.
ENTREPRENEURIAL DISCOVERY (II): Practical approximation

TYPES OF ENTREPRENEURIAL DISCOVERY
*Paths for structural change through specialized diversification*

1. **REDESIGNING** actions ("retooling" or modernization of an existing activity) would be based on the support of the improvement of the environmental assets that act directly upon the competitiveness of such activity.

2. The actions oriented to the **DIVERSIFICATION BY SYNERGIES** ("emerging") generate business by combining R&D and innovation and related business activities.

3. The actions of **ACTIVITY EXTENSION** ("extending" or transition from an activity to another new one) consist on the access to a new niche by exploiting economies of scope.

4. The actions of **RADICAL FOUNDATION** ("cross-sectoral" or exploitation of related variety generators of radical innovations) that are seen as new combinations of sectors / technology domains that help generate innovative ideas for new products and services.
ENTREPRENEURIAL DISCOVERY (II): Practical approximation

PAPER OF THE PUBLIC ADMINISTRATION

What is expected from the public Administration as facilitator of the discovery?

The discovery process should consist on the identification of those activities in which a territory should specialize leaving the leading role to "entrepreneurs". The role of governments should not consist on bureaucratically selecting areas of expertise and boost the chosen development, but to facilitate environmental conditions for it (Foray et al. 2009)

1. provide incentives to entrepreneurs and other organisations so that they get involved with the discovery.

2. evaluate and value the effectivity of such support, so the the aids are directed to economical sectors with a relevant weight and possibilities of improvement;

3. provide with complementary investments of emerging specialisations

4. provide with information and facilitate the coordination and connections, both between the different actors of the territory and between this and other territories.
ENTREPRENEURIAL DISCOVERY (II): Practical approximation

Phases of an entrepreneurial discovery and policies/mechanisms of support

<table>
<thead>
<tr>
<th>PHASES</th>
<th>PROCESS of Entrepreneurial Discovery (EDP)</th>
<th>FORMALIZATION of Entrepreneurial Discovery (EDF)</th>
<th>INITIATIVE of Entrepreneurial Discovery (EDI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEGAL FRAMEWORK</td>
<td>Public Purchase (innovating / sustainable)</td>
<td>Employment Legislation Fiscal Legislation</td>
<td>Standardization</td>
</tr>
<tr>
<td>FINANTIAL MECHANISMS</td>
<td>Subsidies Seed Capital</td>
<td>Microcredits Capital risk Collective Finance</td>
<td>IPO (Initial Public Offer) Credits Bonus</td>
</tr>
<tr>
<td>MIXED MECHANISMS</td>
<td>Business angels</td>
<td>Incubators</td>
<td>Mezzanine Corporate Venturing</td>
</tr>
<tr>
<td>NON FINANTIAL MECHANISMS</td>
<td>Tech. Transfer Offices Universities Technological centres Training Centres</td>
<td>BICs S&amp;T Parks Development Agencies Chamber of Commerce</td>
<td>Clusters Business Associations Advanced Services</td>
</tr>
</tbody>
</table>
## Entrepeneurial Discovery (II): Practical Approximation

### Examples of entrepreneurial discoveries in 3 Spanish regions

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Region Type</th>
<th>Typology</th>
<th>Approach</th>
<th>Characteristics</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CASE 1</strong></td>
<td><strong>Basque Country</strong></td>
<td>Initiative</td>
<td>Territorial diversification Strategy in rural territories</td>
<td>High High High High</td>
<td>Radical Foundation</td>
</tr>
<tr>
<td>Rural specialisation</td>
<td>More developed - Competitiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urdaibai Bird Centre</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **CASE 2** | **Basque Country** | Process | Reinventing a traditional activity towards emerging technological niche | High Medium Medium High | Emerging |
| Related variety: metal + health | More developed - Competitiveness | | | | |

| **CASE 3** | **Castilla y León** | Initiative | Access to a related niche through enabling technologies | Medium Low Low Medium | Extent |
| Sectoral modernization: Wealth + high tech | More developed – Phasing-In | | | | |

| **CASE 4** | **Extremadura** | Formalization | Modernization of the activity to increase market share (outside) | Low Low Medium Low | Redesign |
| Exportation Redesign: Food Technology | Less developed - Convergence | | | | |
Urdaibai Bird Centre UBC is an Excellence Innovation Centre (CIE), that favours the exploitation of the Basque related variety.

In its projects of technological hybridization are generated between different domains of knowledge/activities, that count with international projection.

The link of UBC to global chains of value allow such international projection.
### ENTREPRENEURIAL DISCOVERY (II):

**Practical approximation**

#### EXAMPLE OF ENTREPRENEURIAL DISCOVERY (II)

**Technological hybridization metal + wealth – Basque Country**

<table>
<thead>
<tr>
<th>Previous Work: 2 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of matching</td>
</tr>
</tbody>
</table>

#### Work Table (I)

23 assistants: 8 sanity + 15 metal

#### Following: 5 months

- 20 commercial contacts
- 4 collaborations
- 1 technology hybridation project (entrepreneurial discovery)

#### Work Table (II): *project groups*

96% Want to participate again
Located at a rural area, with low critic mass, both with a great historical and cultural heritage

HYBRIDISATION TECHNOLOGY

Application of ICTs to the cycle of life of the heritage: study, restoration, conservation and diffusion

SPECIALIZED DIVERSIFICATION

Construction, energy efficiency, environment and sustainability, tourism, health and well-being.

CUADRUPLE HELIX

Junta Castilla y León, Province, City, University, Enterprises and Art Foundations

Recently launched by the Centre of Innovation and Entrepreneurship “GIROLAB”
ENTREPRENEURIAL DISCOVERY (II): Practical approximation

EXAMPLE OF ENTREPRENEURIAL DISCOVERY (IV)
Centre for Export in the Meat Sector - Extremadura

- Located on a *convergence region* (2014-2020), with an *agrarian economic structure*

- **HYBRIDISATION TECHNOLOGY**
  Application of ICTs to the field of food and food safety, biotechnology and health

- **SPECIALIZED DIVERSIFICATION**
  Farming, tourism, hospitality, health

- **CUADRUPLE HELIX**
  *Government of Extremadura, Ministry of Economy and Competitiveness (MINECO), ERDF, 19 partners and 50 collaborating enterprises, University of Extremadura (UEX)*

Orientation to the *export of high added value* + Pole of Excellence on Food Innovation
CONCLUSIONS

1. Smart specialisation is not a list of technologies/sectors where the region has an advantage, but a process of discovery subject to a cycle of life (process-formalization-initiative) that varies in time according to the regional capabilities and the varying environmental trends.

2. The fundamental core of smart specialization resides in the innovations that arise from the creative combination of technologies and/or sectors where the region has a high level of specialization/competitiveness and that are generators of new business opportunities, employment and wealth.

3. All regions, apart from their dominant sectors and their technological/innovation capability, are potential hosts of these kind of radical innovations, product of processes of entrepreneurial discovery. Smart specialization is an useful way to approach territorial competitiveness.
CONCLUSIONS

4. Entrepreneurial discovery does not respond to a unique pattern, nor sectorial nor technological, but contrary to the random combinations (and practically infinite) that result of the creative ways to take advantage of the windows of opportunity and profiting of the assets that the territory has available.

5. Entrepreneurial discovery can be identified in base to a series of characteristics: specialised diversification, technological hybridization, the role and compromise of the agents of the quadruple helix and the window of opportunity to which it is directed.

6. A RIS3 must be capable of establishing the mechanisms to identify/discover those innovations that through processes of entrepreneurial discovery could end up turning into initiatives. The policy has to support and consolidate the entrepreneurial initiatives, generating the different aspects of an enabling environment.

7. The Administration must act as a facilitator of the conditions that generate and systematize the entrepreneurial discoveries and as limitor of the imperfections of the system (in those regions with less favourable conditions).