



*Innovative Entrepreneurship for Increased Employability,
New Business Creation and Economic Growth*

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REPORT ON INNOVATIVE ENTREPRENEURSHIP IN SPAIN

Prepared by: Knowledge Innovation Market (KIM) – P3

Authors: Andrea Mari

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TABLE OF CONTENTS

1.	INTRODUCTION	2
2.	RESEARCH METHODOLOGY.....	3
2.1	INNOVATIVE SMES AND STARTUPS.....	3
2.1.1	Profile of Companies	3
2.1.2	Innovation in Companies.....	3
2.2	INNOVATIVE ENTREPRENEURIAL AND INTRAPRENEURIAL CHARACTERISTICS.....	4
2.2.1	Innovative Entrepreneurial Characteristics.....	4
2.2.1.1	Education Background.....	4
2.2.1.2	Prior Work Experience and Story of Company Establishment.....	4
2.2.1.3	Traits.....	5
2.2.1.4	Motives.....	5
2.2.2	Innovative Intrapreneurial Characteristics.....	6
2.2.2.1	Education Background.....	6
2.2.2.2	Prior Work Experience and Story of Company Establishment.....	6
2.2.2.3	Traits.....	6
2.2.2.4	Motives.....	7
2.3	INNOVATIVE ENTREPRENEURSHIP AND INTRAPRENEURSHIP COMPETENCES.....	7
2.3.1	Innovative Entrepreneurship Competences.....	7
2.3.2	Innovative Intrapreneurship Competences.....	10
2.4	ANECTODES FROM INTERVIEWS	12

1. INTRODUCTION

Knowledge Innovation Market (KIM) is a private company, founded by the joint effort of LEITAT Technological Centre and the Chamber of Commerce of Barcelona. KIM can count nowadays on a young and qualified multidisciplinary team of 30 people and on a strong network of collaborators. Headquartered in Barcelona (Spain), KIM has consolidated its expertise with developed projects in Barcelona, Madrid, Galicia, Andalusia and other regions of Spain. KIM is also growing worldwide, boosting its activities in European countries, Latin American and Asian countries.

KIM positions itself as a reference entity in Innovation, Knowledge transfer and implementation of scientific technological structures worldwide, whose mission is to improve the competitiveness and the technological progress of companies through specialized services, positioning and consolidating a knowledge transfer model at global level.

In that sense, KIM has developed a portfolio of services focused on satisfying the needs of all actors in the innovation system of the regions in which it operates, from science and technology parks, companies and business associations, to universities, research centers, including public institutions and public administrations. The aim of KIM and its network of collaborators are to cover all phases of the value chain of implementation of dynamization models on innovation, internationalization, infrastructures, business growth and knowledge transfer.

KIM offers expertise in a variety of roles in such project collaborations including project coordination, research valorization and exploitation, design management, market development and commercialization activities.

KIM's role in the INNOGROW project is defined as:

- The coordination of O1- Competence Profile of an Innovative Entrepreneur, highlighting the development of the research methodology/guidelines and survey for in-depth interviews with SMEs on innovative entrepreneurship in collaboration with all partners.
- The management of the Dissemination activity, including the development of the Communication and dissemination strategy for the innogrow project in collaboration with all partners, the development of press release articles, the monitoring and reporting of the Dissemination activities, the management and implementation of a seminar in Spain.
- The management and implementation of the 3rd project meeting.
- The development and testing of training modules.
- Other common activities.

2. RESEARCH METHODOLOGY

The interview process had comprised around **a month and a half period**. The SMEs to be interviewed had been approached by **direct email or phone call** to the contact of interest to be interviewed. Due to the innovative SMEs location around Spain, **the interviews had been conducted by phone, only one had been conducted face-to-face**.

2.1 INNOVATIVE SMES AND STARTUPS

2.1.1 Profile of Companies

The companies that have been interviewed are **innovative SMEs** whose activity belongs to several sectors, such as **security, ICT, energy and green technologies, biomedical, e-commerce, telecommunications, consultancy, water management, medical, waste management, pharma, mobility and transportation**. The majority of them were established between **2010-2016 (40% - 9 companies)**, followed by the ones established between **2000-2010 (30% - 7 companies)**, **1980-1990 (25% 6 companies)** and lastly **1990-2000 (5% - 1 company)**.

Among the companies that have been interviewed, the majority of them are **medium-size enterprises (40% - 9 companies)** having between **50-249 employees**, followed by companies with between **10-49 employees (30% - 7 companies)** and **1-9 employees (30% - 7 companies)**.

2.1.2 Innovation in Companies

95% (22 companies) **of the SMEs** that have been interviewed stand out that they **'are innovative'**, only one has considered they are 'not innovative', unless the statement of this company was the same as others that considered them as 'innovative SMEs'. The company considers they are 'not innovative' because they "develop and look for products and services to solve customers' needs".

The **innovation field in which the companies stand out** is related to:

- 1st: differentiated product in the market of application.
- 2nd: innovative technology.
- 3rd: Innovative business model, R&D and know-how specialisation, new markets.
- 4th: Innovation in management.

The **innovation projects** are mainly related with the **development of an innovative technology** or the **application of existing technology to new markets**. The R&D projects are commonly **financed with R&D funding's**, generally under **national funding** schemes.

The **innovation project leader** is the **CEO-entrepreneur in start-ups and small companies** and the **Innovation Manager/R&D Manager/Technology Manager or Director in medium size companies**.

In general terms, in start-ups and small companies, the CEO-entrepreneur is the figure who negotiates and closes agreements, has a higher knowledge of the market and defines the

product or service to be developed. Once the project is defined and advances to the implementation phase, the CEO-entrepreneur acts as advisor and controller.

If there is a CEO-non entrepreneur in a start-up or a small company, the projects are promoted and led by the 'experts in the field' not prepared and not interested in leading the company.

In medium-size companies, the projects are ideated by the Commercial department and implemented by the R&D or technology department, in general terms.

On the other hand, **other innovation projects** are related to the **fostering of innovation culture** to develop new products and services. This type of projects are **led by the Innovation manager in medium-size enterprises**. In Start-ups and small SMEs, is not their issue yet.

2.2 INNOVATIVE ENTREPRENEURIAL AND INTRAPRENEURIAL CHARACTERISTICS

2.2.1 Innovative Entrepreneurial Characteristics

2.2.1.1 Education Background

100% of the interviewed entrepreneurs (10 entrepreneurs) have a **technical-scientific background**, dominated by **engineers** from different disciplines, highlighting industrial, chemical and telecommunication engineering, followed by **bio-** background, highlighting biology, and other scientific areas such as physics.

Common patterns repeated are the **Ph.D. Degree** and the **MBA Degree**.

The company activity is related to the academical background of the entrepreneurs in general terms. It is noted that, although the academical background is related to engineering or bio-, **dominates the application** of these educational fields **in the medical sector**.

2.2.1.2 Prior Work Experience and Story of Company Establishment

All of the interviewed entrepreneurs have **prior work experience**, less than 10 years experience in general, highlighting the experience in the **R&D area**, developing technologies in case of researcher profiles and managing or working in R&D projects or the R&D department in non-research profiles. Both profiles had **prior work experience in Research Centers and in small-medium size companies**. On the other hand, the entrepreneurs interviewed do **not have previous experience in company set up** and management. They **decided to set up their own business** due to the **passion** they have on a specific scientific area, the **inquietude** they have of developing their own business and have success, and the **detection of a necessity and a business opportunity**.

Regarding the **funding resources for the company establishment**, as the companies develop technology in general terms, they obtain funding from **national organisations that support technology-based companies via equity loans** that must be reimbursed when companies increase revenue. Once established, the **R&D projects are funded by R&D funding's**, as mentioned above.

2.2.1.3 Traits

During the interviews, several **common patterns** have been identified regarding the traits that innovative entrepreneurs have. A list in sequence of most common to least common is included as follows:

- 1) The entrepreneurs show **inquietude and curiosity**, they like to **go beyond the things** they usually do. They are **energetic** and **proactive**.
- 2) Entrepreneurs are **persistent**, as they need to manage with several difficulties daily.
- 3) They declare they are **continuously learning**, learning from errors, learning from what they observe, and learning from others. So, in consequence, entrepreneurs are **observers** and are interested in **listening to others**.
- 4) Entrepreneurs provide a **holistic view**, of the company and of the different issues they are involved and need to manage daily.
- 5) They need to be **persuasive**, necessary for selling your products or motivating your team and involving partners.
- 6) Entrepreneurs **manage resources**, they need to develop the activity and achieve objectives with the resources the company has.
- 7) Entrepreneurs are continuously **looking for new business opportunities**.
- 8) They are **operative**, and **discern between 'the urgent' and 'the important'**.
- 9) Entrepreneurs are **confident**.

Finally, it is noted that the entrepreneurs who have a **research profile**, they stand out the importance of having a **strong technological knowledge**.

2.2.1.4 Motives

It has been identified 2 patterns related to **the motives for the company establishment**. On the one hand, the decision to start a company when being a

researcher comes from the recommendations of the research center they work in, as they **need to commercialize the technologies** they develop and **support the patents costs**. On the other hand, **non-researchers** set up the company due to the **passion and inquietude** they have regarding the field of activity.

A common motive that the interviewed entrepreneurs highlighted is the **persistence**, not given up when facing difficulties, trying again and again, **learning** from the actions and decisions they make, **not being afraid of failure**, failure is part of learning.

2.2.2 Innovative Intrapreneurial Characteristics

2.2.1 Education Background

Regarding the profile of the intrapreneurs interviewed, a 70% of them are **engineers** (13 intrapreneurs) , 15% are **biologist and chemist** (3 intrapreneurs) and the rest 15% (3 intrapreneurs) belong to **economics, international politics, business and law, and ICT**.

The number of **Ph.D. Degrees decreases** in this case, only 25% (5 intrapreneurs) of the interviewed intrapreneurs are Ph.D. The **MBA Degree** is common to entrepreneurs.

The work they develop is related to their academical background regarding the technological area, however **they need to acquire business knowledge** and develop business competences to promote in the company and be responsible for the management of a company department.

Within the intrapreneurs interviewed, dominates the position of **R&D Director, Technology and Innovation Director and Business Manager**.

2.2.2 Prior Work Experience and Story of Company Establishment

All intrapreneurs **have prior work experience**, in this case, more than 10 years **experience related to the company activity sector** in the 80% of the interviewed (15 intrapreneurs).

Common patterns when starting working in the current company are the getting of a **training grant** to start working in the company as the first step for promotion in the company. On the other hand, the starting as **Project Manager** being promoted to **R&D Manager or Innovation Director**.

2.2.3 Traits

During the interviews, several **common patterns** have been identify regarding the traits that innovative intrapreneurs have. A list in sequence of most common to least common is included as follows:

- 1) The intrapreneurs have **attitude**, they are **motivated** and **have inquietude** to find new solutions which are different to those already in use, they have attitude of evolution, **they move forward to their responsibilities**, they provide new ideas/solutions.
- 2) Intrapreneurs are '**updated**', they care to be updated in the last technological developments, trends, new market applications, etc.
- 3) Intrapreneurs stand out the **leadership** you need to bring out the skills of subordinates, providing high level of confidence and freedom to inspire subordinates. They are '**capacity builders**'.
- 4) They are **flexible**, they adapt to different situations easily, they **manage uncertainty**.
- 5) Intrapreneurs are **analytical and operative**.
- 6) They are focused on **solving market needs, detecting business opportunities**.
- 7) Intrapreneurs are **team workers**, they **share knowledge** with others.

2.2.4 Motives

The interviewed intrapreneurs consider that having **attitude** is essential for having success in business. They consider it important to **be motivated and proactive**, being **committed** with the company and looking forward to find new solutions.

2.3 INNOVATIVE ENTREPRENEURSHIP AND INTRAPRENEURSHIP COMPETENCES

2.3.1 Innovative Entrepreneurship Competences

The entrepreneurs interviewed defend that **entrepreneurship is an attitude, skills are mostly innate**. However, these skills and competences can also be developed or improved. The **business point of view** is commonly obtained by an **MBA or business related courses**, and entrepreneurship programs, whose topics comprises financial, marketing, operations, communication, etc.

The **entrepreneurship profile** of the interviewed entrepreneurs have been developed by the **professional experience (70% - 7 entrepreneurs) and training (40% - 4 entrepreneurs)**.

Relevant **competences** identified in the interviewed entrepreneurs are listed in sequence to most common to less common:

- 1) The ability to abstract and **think 'out of the box'**, having a **global vision** that enables them **problem solving** and **decision making**.
- 2) The ability to **face difficulties**.
- 3) The ability to **manage resources**.
- 4) The **market knowledge**.
- 5) All the mentioned above.

Entrepreneurs consider that a **40% of their teams are intrapreneurs**, they identified them as they provide the following characteristics:

- Intrapreneurs **participate** in decision making, are **flexible and multitasking**.
- They **promote new things** in the company.
- They are **curious**.
- They are **committed** with the work they do and with the company.
- They are **'active' persons**.
- They **have initiative**.
- They have the **ability to find solutions**.
- They **question their daily work**: 'This can be done better? Faster? Cheaper? With a better design?'

The entrepreneurial skills identified within the interview process has contributed to the development and consolidation of several company areas such as the **organization of the operation** in the company, the **commercial area** as you develop **better and faster ways to achieve customers**, the **sales** as the entrepreneur believe in what they are selling, the **R&D** as the information flows better.

Key aspects that contributed to business growth are **creativity, the team involvement, the effectiveness and speed to respond to new challenges**.

The above mentioned competences **can be trainable**, however it is considered that part of the entrepreneurship competences and traits are innate.

On the other hand, the interviewed entrepreneurs think that the following **topics** are important to develop entrepreneurship skills:

- Methodologies to achieve the market.
- Marketing and finance.
- Innovation methodologies, including problem management and problem solving, defending not having fear to failure.
- Methodologies to canalize, explain and focus ideas, in order to select the best ones and evolve them into a project.

In regard to the competences given in Q.13. of the questionnaires, it is included below the **priorization of the aptitudes** ranked by the entrepreneurs interviewed, and a short answer of each competence commonly provided by the interviewees:

Ranking	Competences	How would you define the competences you rated 1 to 5 with a couple of words?
1	<ul style="list-style-type: none"> • Innovation management • Problem solving 	<p>Adoption of new ideas that can evolve to innovation projects.</p> <p>Unlock bottlenecks.</p>
2	<ul style="list-style-type: none"> • Business model generation • Agile management • Leadership, motivation and team management 	<p>Business Model Canvas. Create an ecosystem around the product to sell it. Find where the business opportunity is.</p> <p>Do not bureaucratize the management system of the company.</p> <p>Ability to align and empower the team around a mission.</p>
3	<ul style="list-style-type: none"> • Creative thinking • Rapid experimentation 	<p>Ability to develop and / or identify new solutions to existing problems.</p> <p>Lean StartUp, test ideas or prototypes.</p>
4	<ul style="list-style-type: none"> • Risk management • Strategic planning 	<p>Ability to identify critical assumptions in the business model and take the risk.</p> <p>Definition of objectives and the roadmap to achieve them.</p>

In terms of the **desired features that the eLearning platform** should provide and include, the entrepreneurs provide the following ideas and considerations:

- The platform could include a test to evaluate/measure the entrepreneurship skills, according to the data collected, providing an adapted 'training roadmap'.
- Create real environments and different scenarios to develop entrepreneurship skills.
- Simulate real environments, perhaps with virtual reality.
- Enable 'Learning by doing'.
- User-friendly tool.
- Interactive tool, it could include a forum or community to exchange knowledge or to develop ideas.
- Provide practical training with positive and negative real cases, and how they were solved and the tool used. Provided (if possible) from entrepreneurs.
- Treat with customers. Imagine that the customers provide their needs and the learner should satisfy the needs by given a solution provided with the tools defined.
- Enable Project management.

Regarding the **topics** that are of interest:

- R&D, IP protection, patent management, funding instruments.
- How to raise fundings.
- How to get ideas to market.
- How to select the right human resources to achieve the objectives.
- How to transmit your idea/product.
- How to obtain the resource you need.
- Selling methodologies.
- Financial basis.
- Digital and social media basis.

2.3.2 Innovative Intrapreneurship Competences

As well as the entrepreneurs interviewed, the intrapreneurs think that **entrepreneurship is an attitude**. However, they consider these skills and competences can also be developed or improved by means of an **MBA** or **internal company training**.

Relevant **competences** identified in the interviewed intrapreneurs are listed in sequence to most common to less common:

- 1) The ability to **identified market needs**.
- 2) The need to **be updated** on the lasts trends.

- 3) The ability to **work in team, collaborate and participate in company initiatives.**
- 4) All the mentioned above.

Intrapreneurs consider that they work with people having an entrepreneurship profile (intrapreneurs) as they have **common traits and interests**, such as proactivity, curiosity and looking forward to improve and find new solutions.

The **intrapreneurial skills identified within the interview process** has contributed to the development and consolidation of several company areas such as the company brand consolidation, the creation of new business product lines or new business models, the customer relationships and the supply process.

Key aspects that **contributed to business growth** is mainly the **intrapreneurship involvement.**

The above mentioned competences **can be trainable**, however it is considered that part of the entrepreneurship competences and traits are innate.

On the other hand, the interviewed intrapreneurs think that the following **topics** are important to develop intrapreneurship skills:

- Methodologies to canalize and select ideas and evolve them into innovation projects.
- Finance

In regard to the competences given in Q.13. of the questionnaires, it is included below the **priorization of the aptitudes** ranked by the intrapreneurs interviewed, and a short answer of each competence commonly provided by the interviewees:

Ranking	Competences	How would you define the competences you rated 1 to 5 with a couple of words?
1	<ul style="list-style-type: none"> • Leadership, motivation and team management 	Foster the focusing on a common objective over all the organization.
2	<ul style="list-style-type: none"> • Strategic planning 	Define the direction of new solutions and services of the company and the markets of operation.
3	<ul style="list-style-type: none"> • Creative thinking 	Create new services, solutions,

4	<ul style="list-style-type: none"> • Problem solving 	<p>internal improvements.</p> <p>Alternative thinking to solve bottlenecks.</p>
5	<ul style="list-style-type: none"> • Agile management 	<p>Efficiency.</p>
6	<ul style="list-style-type: none"> • Business model generation 	<p>The way of capturing value and the way it is monetized.</p>
7	<ul style="list-style-type: none"> • Risk management 	<p>Minimize uncertainty. Anticipate problems that may arise.</p>
8	<ul style="list-style-type: none"> • Innovation management 	<p>Canalize teams' creativity. Organization and methodologies to carry out innovative ideas around new services / solutions.</p>
9	<ul style="list-style-type: none"> • Rapid experimentation 	<p>Methodology to discard ideas as soon as possible not consuming more resources than the necessities.</p>

In terms of the **desired features** that the **eLearning platform** should provide and include, the intrapreneurs provide the following ideas and considerations:

- The tool should be user-friendly.
- The platform should enable networking, perhaps through discussion forums.
- It can include 'personal profile pages'.
- It should not be static, content must be updated.
- It can include virtual classrooms, simulate real cases and enable team group exercises.
- It can evaluate the entrepreneurial aptitudes by providing a 'photo' of the profile evaluated detecting issues to be improved, and provide the tools to develop these skills. Psychological questions to understand people personality could be interesting to include.
- Provide follow-up of the evolution.
- Have access to real cases.
- Provide tools to work in team.
- Facilitate brainstorming and ideas evolving.

2.4 ANECDOTES FROM INTERVIEWS

Several quotations from the interviews that are considered interesting are including as follows:

- 'Entrepreneur/intrapreneur are mainly innate, are people of action'
- 'Entrepreneurs are non-conformist people'
- 'Entrepreneurs are learners'
- 'People of action, open-minded, adaptable'
- 'Intrapreneurs ideate new solutions out of the ordinary'
- 'The CEO is the bandleader'
- 'Associate with people that complement you'
- 'Learning by doing'
- 'To develop entrepreneurs, it's important to create the adequate environment, providing the tools that enable them to create'
- 'What defines and entrepreneurs is doing, not listening'

It is interesting to highlight several concepts that were repeated in the interviews, as: 'perseverance, learning, detection of needs, curiosity, find new solutions'

In Spain the 'intrapreneur' concept was 'new' in some cases and therefore not been understood in advance.

It has been easy to detect who received entrepreneurship training or use innovation tools, as they focused their speech to 'generating ideas, evolving ideas, identified business opportunities, generate business models, experimenting with customers'.